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**The mother-daughter relationship in menopause and the aging  
process**

Patsdaughter, Carol A., Ph.D.

University of Washington, 1989

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The Mother-Daughter Relationship  
in Menopause and the Aging Process

by

Carol A. Patsdaughter

A dissertation submitted in partial fulfillment  
of the requirements for the degree of

Doctor of Philosophy

University of Washington

1989

Approved by Marcia Kivimäki  
(Chairperson on Supervisory Committee)

Program Authorized  
to Offer Degree Nursing

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University of Washington

Abstract

The Mother-Daughter Relationship  
in Menopause and the Aging Process

by Carol A. Patsdaughter

Chairperson of the Supervisory Committee: Professor Marcia Killien  
School of Nursing

The goal of this research was to expand understanding of menopausal experiences and women's aging process through a biopsychosocial approach and lifespan perspective. More specifically, the purpose of this study was to explicate contributions of (a) relationship properties, (b) socialization influences, (c) attitudes toward menopause and women's aging process, and (d) symptom experiences toward general health perceptions during menopause and the aging process in mother-daughter dyads. This study was conducted in collaboration with the Tremin Trust, a large scale, longitudinal research program. The sample was recruited from among mother-daughter pairs in the Tremin Trust Research Program who met study criteria and included 50 mothers and 49 daughters (i.e., 99 individuals and 43 dyads). This descriptive study used a correlational survey design which included two time referents: T1 represented a timepoint in the past when the mother was the daughter's present age (i.e., a time at which the mother was perimenopausal and the daughter was in the menstrual and reproductive years), and T2 represented a present timepoint with the daughter in the perimenopausal years and the mother at some stage of the aging process. In addition to existing background and demographic data from the Tremin Trust database, a mailed questionnaire was used to

collect data on major study variables. Descriptive, "longitudinal", cross-sectional, sequential, and developmental-multivariate strategies were used to answer six research questions. Data analysis included descriptive statistics, individual- and dyadic-level correlational methods, and multiple regression techniques. For both mothers and daughters, past general health perceptions were found to be associated with (a) present perceptions of the mother-daughter relationship, and (b) present general health perceptions. Moreover, the single greatest contribution to both mother's and daughter's present general health perceptions was made by the present general health perceptions of the other member of the pair (i.e., daughter or mother). Whereas symptom experiences was a significant contributor to mother's general health perceptions, perceptions of the mother-daughter relationship and socialization influences were major contributors to daughter's general health perceptions. Attitudes toward menopause and the aging process made only minimal contributions to the general health perceptions of perimenopausal daughters and aging mothers.

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Date 22 May 1989

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Dedicated to my grandparents, Rudolph and Ann Furticella  
for their love and my values on family and aging  
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for her guidance and my beliefs in the strength and potentials  
of women

## CHAPTER I

### INTRODUCTION

#### Statement of the Problem and Significance

Nursing science is characterized by a biopsychosocial approach and lifespan perspective. Two rapidly expanding fields within the discipline and practice of nursing which exemplify these paradigms are family adaptations to wellness and illness and women's health.

Boyd (1985) emphasized that nursing research and theory addressing the mother-daughter relationship is a critical intermediary link to future advances in the areas of both family and women's health. The mother-daughter dyad is a unique subsystem within the family that impacts and is affected by other family subsystems as well as the larger family system. Perhaps the most central and enduring of all family bonds, this dyadic relationship is not only a major determinant of health and development of mother and daughter as individuals but (also) has widespread ramifications for family system structure and functioning across the family life cycle (Cohler & Geyer, 1982; Cohler & Grunebaum, 1981; McGoldrick, 1989).

Demographic and social trends indicate that the public which the nursing profession serves will increasingly be comprised of aging women (Boston Women's Health Book Collective, 1987; Butler, 1979; Somers, 1985). However, the least understood phase in the mother-daughter relationship involves middle-aged daughters and their aging mothers (Baruch & Barnett, 1983; Troll, 1986). Therefore, further knowledge of this relationship phase is a prerequisite to proactive and therapeutic nursing interventions at the levels of both the individual and the family.

As a substantive link between social science theories and women's health research on (a) the mother-daughter relationship, and (b) women's individual health and development, studies have documented that mothers are a major source of socialization for daughters' menstruation information (Brooks-Gunn & Ruble, 1980; Weideger, 1977; Whisnant & Zegans, 1975). Parallels between mothers' and daughters' menstrual attitudes and symptom experiences have also been found (Brooks-Gunn & Matthews, 1979; Cain, 1980; Schick, 1980). Likewise, there have been several studies on the mother-daughter relationship and psychophysiologic adaptations to pregnancy, labor and delivery, and the postpartum period (Lederman, 1984; Uddenberg, 1974). However, this line of research has not been systematically extended to the end of women's menstrual cycle experiences and childbearing years: menopause. In addition to social significance indicated by major demographic trends, extension of this body of research is scientifically warranted by (a) conceptualizations and theories of the mother-daughter relationship which extend across the lifespan (Arcana, 1979; Bassoff, 1988; Fischer, 1986; Friday, 1977; Gundlach, 1986; Hammer, 1976; Magrab, 1979; Neisser, 1973), and (b) suggestive anecdotal accounts of socialization and attitudinal influences as well as reports of parallel mother-daughter symptom experiences in the menopause literature (Cohen, Coburn, & Pearlman, 1980; Downing, 1987; Feeley & Pyne, 1975; Greenwood, 1984; Reitz, 1977).

Menopause is "one of the most definitive landmarks of aging in women" (Voda, 1982, p. 136) since distinctive symptom experiences as well as onset or acceleration of many characteristic aging changes

are associated with or consequent to this concrete phenomenon. Given a current average life expectancy of 76 years for women in the United States, menopause has become a relatively universal and invariant physiologic phenomenon that symbolically marks the beginning of a life stage that may span more than 25 years and encompass over one-fourth of these women's lives (Block, Davidson, & Grambs, 1981; Nathanson & Lorenz, 1982; Sloane, 1985; Voda & Eliasson, 1983).

There was little systematic scientific attention to menopause and the female aging process prior to the 1960's, perhaps due to (a) the demographic fact that women did not live as long in the first half of the century as they do now, (b) joint social realities of the secondary status of women and the professional/scientific dominance by men, and (c) a trivialization or disregard for the biopsychosocial changes experienced by aging women (Brown, 1985; Dan, 1982; Dyer, 1979; Flint, 1982a, 1982b; Grossman & Bart, 1980; MacPherson, 1981).

With the advent of mass production of pharmacologic estrogens in the 1960's, the biomedical model became predominant in menopause research and treatment. In reaction to biomedical monopoly, numerous behavioral science and psychiatric models soon emerged as alternative approaches. However, early oppositional models were also overly simplistic in proposing one-to-one relationships between personality or sociocultural factors and women's experiences (Kaufert & Gilbert, 1986; Koeske, 1982a, 1982b; Stimpson, 1982). This bifurcation into two simplistic approaches to menopause and the female aging process has had widespread ramifications, including (a) potentially dangerous, ineffective, and inhumane treatments for women, and

(b) impediment and limitation of scientific developments regarding menopause and the female aging process.

#### Purpose of the Study

The focus of this study was to expand understanding of menopausal experiences and women's aging process through a biopsychosocial approach and lifespan perspective. More specifically, the purpose of this study was to explicate contributions of developmental and contemporaneous (a) relationship properties, (b) socialization influences, (c) individual attitudes, and (d) symptom experiences toward general health perceptions during menopause and the aging process in mother-daughter dyads. The goal of this research was to begin to fill in major gaps in emergent literature on the mother-daughter relationship in the adult years (Baruch & Barnett, 1983; Bromberg, 1983a, 1983b), women's adult development and lifespan socialization (Baruch & Brooks-Gunn, 1984; Gilligan, 1982; Rossi, 1980b), and psychophysiological interfaces in women's health phenomena (Kaufert, 1984, 1985, 1986; McKinlay, McKinlay, & Brambilla, 1987b; Voda & George, 1986; Woods, 1982a, 1982b).

## CHAPTER II

### REVIEW OF THE LITERATURE

#### Lifespan Transitions in the Mother-Daughter Relationship: Implications for Biopsychosocial Health and Development

Mother and daughter represent the fundamental biological unit of our species, "two like bodies, one of which spent nine months inside the other" (Rich, 1976, p. 221). Through psychological and social dynamics, the mother-daughter relationship becomes the most profound and complex of all forms of dyadic bonds (Arcana, 1979; Bassoff, 1988; Chodorow, 1974; Magrab, 1979). Inherent in this relationship are potentials for both supportive and nonsupportive processes, which are determinants of health and development of mother and daughter across the lifespan.

Fischer (1981) conceptualized the mother-daughter relationship as having a "life cycle" marked by several biopsychosocial periods of transition. These transitions represent a major change in state "not just for mothers and daughters as individuals, but (also) for their relationship" (p. 613). The three most frequently studied transitions to date surround (a) the daughter's menarche and adolescent years, (b) the daughter's first pregnancy and motherhood, and (c) the mother's decline in later life.

#### Daughter's Menarche and Adolescent Years

From a pure biogenetic orientation, several studies have documented high mother-daughter correlations for age at menarche as well as parallels in individual traits (e.g., height and weight, cycle interval, duration of menstrual flow) and menstrual symptomatology (e.g., premenstrual tension, dysmenorrhea) during

the adolescent years (Behn & Treloar, 1969; Chern, Gatewood, Bearman, & Anderson, 1977; Kantero & Widholm, 1971).

From a biopsychosocial perspective, Fischer (1986) used the metaphor of "metamorphosis of the daughter" to describe the developmental transition initiated by the onset of menarche and other physical signs of sexual maturation as well as the psychosocial changes that accompany adolescence. One of the main tasks that characterizes this transition is the mother's socialization of the daughter regarding both menstruation and sexuality. For example, it has been documented that a mother is a daughter's major source of information in areas ranging from information on basic hygiene and menstrual practices to birth control techniques (Brooks-Gunn & Ruble, 1980; Fischer, 1986; Koff, Rierdon, & Jacobson, 1981; Weideger, 1977; Whisnant & Zegans, 1975). Other studies have identified parallels in mother's and daughter's menstrual attitudes, beliefs, and symptom experiences (Brooks-Gunn & Matthews, 1979; Cain, 1980; Schick, 1980). In contrast to biogenetic studies based on mothers' retrospective reports, Stoltzman (1986) found that adolescent daughters experienced more somatic menstrual symptoms than did their mothers; however, mother-daughter similarities were found for cognitive/behavioral symptoms. Despite major limitations in this small-scale study, Stoltzman emphasized the importance of developmental as well as psychophysiological interpretations for findings of this study and in related research.

Throughout this transition, the daughter's self-concept and identity are transformed from that of girl-child to emerging woman.

Likewise, the mother's own sense of self and identity are changed as she observes her daughter sexually "winding up" at a time when she is beginning the process of "winding down" (Rossi, 1980a, p. 197). From a biosocial perspective, Rossi attributed these changes to increasing dimorphism in the daughter and decreasing dimorphism in the mother which may result from shifts in androgen:estrogen ratios.

Extreme nonsupportive relationship patterns and maladaptive individual outcomes during this major biopsychosocial transition are exemplified by findings related to a chronic psychophysiological adolescent disorder: anorexia nervosa. In a longitudinal study, Ehrensing and Weitzman (1970) documented parallel eating disorders in mothers and daughters. Ardell & Ardell (1985) identified high attachment and low conflict as properties of the mother-daughter relationship in the case of an anorexic daughter. Chernin (1985) explained young women's unhealthy preoccupations and obsessions with food in terms of the interplay between mother-daughter intimacy struggles (i.e., "the hunger knot") and individual identity and self-development problems (i.e., "the hungry self").

#### Daughter's First Pregnancy and Motherhood

Chodorow's (1978) metaphor of "the reproduction of mothering" aptly summarizes the biopsychosocial transition in the mother-daughter relationship initiated by the daughter's first pregnancy and entry into the motherhood role. This transition clearly demonstrates that developmental transitions are shaped by resolutions of previous transitions in either mother or daughter as individuals or within their relationship. For example, adaptations to the transition

surrounding the daughter's first pregnancy build upon previous adaptations at the time of the mother's pregnancy as well as during the daughter's birth and early years of life.

In a comprehensive investigation focused on the transition of the daughter's first birth perinatal period, Uddenberg (1974) exemplified a biopsychosocial perspective on individual and relationship adaptations in mother-daughter dyads. Uddenberg integrated retrospective interviews of nearly 100 Swedish mother-daughter pairs with a two-occasion prospective design to tap past and present (i.e., transitional) influences in reproductive adaptation. Complex associations between numerous individual and relationship measures of reproductive adaptation included:

1. Individual, past: Mental disturbance in childhood and adolescence was related to mental disturbance during pregnancy but not during the post partum period (daughters only). Menstrual difficulties were related to nausea during pregnancy and post partum mental disturbance (both generations).

2. Individual, transitional: Current mental disturbance in mother was related to mental disturbance during pregnancy and post partum (daughters only). Negative or ambivalent attitudes toward pregnancy were related to mental disturbance during pregnancy and post partum (both generations).

3. Relationship, past: Poor early relations with either parent were related to mental disturbance during pregnancy; only poor early relations with mother were related to post partum mental disturbance (both generations). Poor past mother-daughter relations were related

to high "reproductive conflict (RC)" symptoms (i.e., physical and psychological) in both mother and daughter. Although high social power in the mother, as rated by consensus of both generations, was generally associated with parallel "RC" symptoms between mother and daughter (i.e., either adaptive or maladaptive), stronger associations were found for social power indicators specific to the daughter's childhood than for social power indicators specific to the daughter's adolescence.

4. Relationship, transitional: Poor contemporaneous mother-daughter relations were related to mental disturbance during pregnancy and post partum (daughters only); poor contemporaneous mother-daughter relations were related to high "RC" symptoms (both generations).

In another bi-phasic investigation on this transition that synthesized biopsychosocial and developmental perspectives, Lederman (1984) found that (a) relationship with mother (as measured by a 10-item scale) correlated with an observer rating of stress during labor as well as with self-reports of anxiety during labor, and (b) relationship with mother (but not relationship with husband) was significantly associated with uterine contractility during labor. Relationship with mother was operationalized according to (a) perceived availability of mother during the daughter's infancy and childhood as well as during pregnancy, (b) the mother's reaction to the daughter's pregnancy, (c) the mother's respect for the daughter's autonomy, (d) the mother's willingness to reminisce about her own pregnancy experiences and the daughter's childhood, and

(e) the daughter's development of empathy with the mother. Not only did relationship with mother correlate with physiological indicators of adaptation to labor and delivery but (also) with the daughter's individual psychosocial tasks of identification with a motherhood role and maintenance of self-esteem.

Fischer (1981) found that when daughters become mothers, they become closer to their own mothers, as indicated by various measures of interactional frequency. Moreover, as the daughter develops and demonstrates increased competence in domestic abilities and mothering skills, "the mother may reassess her daughter's maturity and affirm her status as an adult" (Fischer, 1981, p. 617). Reproduction of the mothering role thus serves to minimize age status differences between mother and daughter, making the dyadic relationship more egalitarian as a result of this developmental transition.

On the other hand, Cohler & Grunebaum (1981), using a bi-phasic design to study developmental aspects of intergenerational female relations and childcare attitudes and practices in Italian-American families, systematically differentiated between physical and psychological closeness in the mother-daughter relationship. Whereas the daughter's adolescent years were characterized by a "letting go" by the daughter and a "holding on" by the mother, Cohler and Grunebaum identified a psychological desire for increased closeness by daughters who became mothers, which was met by resistance from "grandmothers" who were preoccupied with their own aging as well as personal independence. However, despite resistance to direct, hands-on childcare assistance (i.e., babysitting), mothers still

played a major role in socialization of daughters in the childcare arena, which was evidenced by mother-daughter similarities in childcare attitudes and practices.

Cohler and Grunebaum (1981) also documented patterns of psychopathology and psychosomatic illness across all three female generations in their study (i.e., grandmothers, mothers, daughters). These researchers noted that aberrations tended to flare up and be spread by rekindled mother-daughter conflicts which were fueled by situational stress when a young adult daughter became a new mother.

#### Mother's Decline in Later Life

A major gap exists in the mother-daughter relationship literature between earlier developmental transitions and a resurgence of interest in the extreme end of the lifespan--when mothers become frail and daughters become caregivers (Baruch & Barnett, 1983). Although the metaphor of a "role reversal" (e.g., Fischer, 1983) has been applied to the transition in the mother-daughter relationship that accompanies the mother's aging process, other scholars (e.g., Bromberg, 1983a, 1983b) have rejected this concept precisely because "half a century or more of adulthood cannot be wiped out" and "the specific instrumental help given by an adult child to . . . older parent cannot be equated with psychological relationship" (Spark & Brody, 1970, p. 200).

Although a vast amount of literature on instrumental aspects of the mother-daughter relationship (i.e., aid, contact, living arrangements, etc.) has accumulated over the past 30 years (e.g., Lang & Brody, 1983; Lopata, 1973; Stueve & O'Donnell, 1984;

Sweetser, 1964; Townsend, 1957), there has been comparatively little research on "quality of relationship" issues. However, two variables that have consistently emerged as correlates or predictors of quality of relationship between aging mothers and adult daughters are (a) attitudes toward aging, and (b) mother's health (Baruch & Barnett, 1983; Kalish & Johnson, 1972; Matheson, 1980; Sharp, 1980). In a study with 90 mother-daughter pairs, Johnson (1978) tested a causal model with attitudes toward aging, finances, mother's health, and living environment as predictors of quality of the relationship. Attitudes toward aging had the largest significant direct effect, whereas mother's health had the highest total indirect effects (TIE) score in predicting the quality of relationship between adult daughters and their aging mothers. Moreover, the four predictor variables combined accounted for 44% of the variance in the affective relationship index.

To reconcile Johnson's (1978) documented association between poor health in the mother and poor quality of later life mother-daughter relationships with Bromberg's (1983a, 1983b) general findings of continued positive connection and mutual positive regard, it must be noted that aging and decline in the mother--in contrast to previous biopsychosocial transitions--are generally slow processes and that only a small percentage of mothers actually become "frail" and physically dependent. Moreover, dependency, if it occurs, is usually limited in time (Baruch & Barnett, 1983; Fischer, 1986). During the longer transition period of the mother's gradual decline, however, an adaptive shift in role patterns takes place within the

mother-daughter relationship. As daughters provide increased instrumental support to aging mothers, mothers tend to reciprocate through ongoing affection and affirmation and to compensate through increased "emotional refueling" (Bromberg, 1983a).

On a methodological note, disparate findings from the related studies of Johnson (1978) and Bromberg (1983a, 1983b) may be a function of ethnic variations in the two samples used. Johnson's (1978) research was conducted with a sample of Italian-American mother-daughter pairs, whereas Bromberg (1983a, 1983b) interviewed Jewish-American mothers and daughters (the problem of sampling bias will be further discussed in a subsequent section on Biases and Limitations in Existing Theory and Research on Women's Biopsychosocial Health and Development).

Another plausible explanation for finding inconsistencies is that Johnson's (1978) causal model did not include daughter's health as a predictor of "the unique relationships that can be present when both parent and child are coping with changes related to the aging process" (Gelfand, Olsen, & Block, 1978). Nor did Johnson's model take into account the possibility of a nonrecursive loop in which quality of relationship has feedback effects on both attitudes toward aging and health.

Consistent with Hess and Waring's (1978) thesis on voluntary bonds in later life, Walker and Thompson (1983) posed the distinction between discretionary and obligatory contact and aid. For example, these researchers found that contact and aid accounted for only 11% of the variance in intradyadic intimacy in later life mother-daughter

relationships. Intimacy was defined as a multidimensional construct comprising elements of mutual emotional closeness such as affection, liking, and love; enjoyment or satisfaction; a feeling that the relationship is important; openness or honesty; respect and acceptance; and a temporal commitment or sense of certainty about the relationship. Perhaps intimacy is related to contact and aid only when the latter role enactments are on a voluntary basis.

In a related study by these researchers, associations between attachment and aid patterns were explored. Attachment was defined as "emotional dependence on a specific person, a preference for the person relative to others, and a need for access or proximity to the person" (Thompson & Walker, 1984, p. 314). A significant association between attachment and high reciprocity of aid (vs. low reciprocity or dependency on the part of either mother or daughter) was found.

Many of the conflicts and problems which do arise in mother-daughter relationships in later life, as reflected by conflicting and inconclusive evidence in the literature, stem from a relative lack of norms regarding appropriate closeness and distance as well as from poorly-defined or unclear role expectations. For example, Bromberg (1983a) found that "Despite the high degree of knowledge about each other's lives, neither the mothers nor the daughters knew what tasks the other considered to be most important" (p. 20). Thus, although socialization is a central component in earlier transitions in the lifecycle and Bromberg (1983a) documented that a degree of reciprocal socialization does, in fact, occur between aging mother and adult daughter, the content and degree of later life socialization are

considerably less standardized and more fluid.

Parallel to findings related to previous developmental transitions, Farrar (1955) documented how extreme nonsupportive processes (e.g., intense conflict, overconcern) in mother-daughter relationships, maladaptive attitudes, and associated psychophysiologic illnesses are not only extended into later life but are (also) magnified by individual changes that accompany the aging process. Moreover, clinical assessment and intervention at both relationship and individual levels were shown to be crucial to resolution of symptom experiences in illustrative cases of aging mother-adult daughter pairs.

#### Summary and Implications

The mother-daughter relationship, which is characterized by several major biopsychosocial periods of transition, is a major determinant of individual health and development of mother and daughter across the lifespan. Fischer (1981, 1983, 1986), a sociologist, has been the only scholar to date to provide preliminary empirical descriptions of multiple life cycle transitions in the mother-daughter relationship. Although Fischer used the term "biopsychosocial" to identify periods of individual and relationship transition, description and analyses were chiefly from a social psychological perspective. Potential contributions from nursing science include further elaboration of psychophysiological as well as psychosocial dimensions of transitions. Moreover, Fischer's sociological work primarily focused on normative aspects of the mother-daughter relationship, whereas nursing science can contribute

to further understanding of both adaptive and maladaptive relationship processes and individual outcomes.

Several studies in this review of literature illuminated methodological advantages of developmental-multivariate paradigms (Baltes, Reese, & Nesselroade, 1977; Lachman, 1984) in mother-daughter research. For example, building time occasions into research designs and/or measures allows the researcher to analyze relationship properties and individual characteristics cross-sectionally, longitudinally, and sequentially in order to examine interindividual differences as well as intraindividual change and to begin to unravel differential developmental influences and adaptations.

It is noteworthy that of the three most frequently studied transitions in the mother-daughter relationship, the first two focus on developmental changes in the daughter, whereas the third leaps to terminal decline in the mother. To extend Rossi's (1980a) analogy down the lifespan, menopause represents a time when the adult daughter begins the process of reproductively "winding down" while the aging mother is also in a gradual, comprehensive process of psychophysiological "winding down". On the other hand, Gutmann's (1980, 1985) biosocial, comparative research suggests that shifts in androgen:estrogen ratios in mid- and later-life women can have either deteriorating/destructive or developmental outcomes. Gutmann's concept of the "vital older woman" reflects promotion and actualization of developmental and growth possibilities. Thus, major gaps and inconclusiveness in the literature on the relationship

between middle-aged daughters and their aging mothers provided one impetus for the present study.

## Menopause and the Female Aging Process

### General Overview

#### Definitions and Distinctions

Menopause, the cessation of menstruation and end of reproductive potential in women, occurs at an average age of 50 (Treloar, 1974, 1982). Although menopause as a discrete event is dated on a post hoc basis after a year of continuous amenorrhea, the natural closure of reproductive life is typically not abrupt but rather is preceded by a transitional period in hormonal and menstrual functioning. This period, referred to as the "transition to menopause" by Woods (1982b) and the "approach to menopause" by Treloar (1982) is most commonly termed the premenopausal phase of the perimenopause or the climacteric. Menstrual cycle changes such as variations in menstrual intervals or in quantity or quality of menstrual flow may begin 10 to 15 years prior to the last menstrual period (LMP), and symptom experiences such as hot flashes can occur four to eight years prior to menopause (Treloar, 1981; Voda & Eliasson, 1983). Associations between these bodily changes and women's self-definitions of menopausal status have recently been documented; moreover, differences between "subjective" (i.e., women's self-definitions based on personal changes and experiences) and "objective" (i.e., standardized classifications based on clinical data and/or menstrual criteria used by physicians and researchers) definitions of menopausal status were also found (Kaufert, 1986).

Despite theoretical validity in the French adage that "nous étions déjà si vieux quand nous sommes nés" (i.e., we were already old when we are born), menopause is a biologic and symbolic marker of aging in women since distinctive symptom experiences (e.g., hot flashes) as well as onset or acceleration of many characteristic aging changes (e.g., osteoporosis) are associated with or consequent to the concrete phenomenon (Flint, 1975, 1982a; Kaufert, 1982; Lock, 1982; Voda, 1982). While the term "postmenopausal phase" of the perimenopause specifically refers to three to five years of dramatic hormonal fluctuations that follow one full year of amenorrhea, women may accurately be described as postmenopausal for the remainder of the lifespan since many neuroendocrine alterations that occur with menopause do not revert back to premenopausal levels (Dyrenfurth, 1982; Greenblatt, Natrajan, & Karpas, 1985; Henrik, 1982; Kaufert, 1980; McKinlay & Jefferys, 1974; Sherman, West, & Korenman, 1976).

Although menopause has been referred to as a relatively universal and invariant phenomenon in women (Nathanson & Lorenz, 1982), there are several major factors that can alter not only age at menopause but (also) women's menopausal and aging process experiences. For example, about eight percent of all women experience what is termed "natural premature menopause" (i.e., menopause before the age of 40), and there evidently is a strong genetic component to this phenomenon (Greenwood, 1984; Sloane, 1985). Artificial menopause is the premature and often abrupt permanent cessation of menstruation induced by chemotherapy, radiation, or surgery. On the other hand, use of estrogenic preparations (i.e., oral contraceptive pills,

"preventive" estrogen replacement therapy) can delay the onset of menopause and associated psychophysiologic changes (Treloar, 1982). Recently, smoking behavior and related lifestyle factors have been associated with an acceleration of menopause and sequelae (Hill, 1982; McKinlay, Bifano, & McKinlay, 1985). Although often ignored in descriptive research or studies of normative (i.e., non-clinical) samples, attention to these factors is crucial to a more accurate and fuller understanding of women's menopausal and aging experiences.

Across the lifespan, women's symptoms and responses have been primarily defined on the basis of hormonal processes and reproductive events (Parlee, 1976). One consequence of this practice is that there has been a blurring between (a) menopausal symptoms and experiences, and (b) changes and responses associated with the normal female aging process. While there has been a lack of distinction between (a) menopause as a period of rapid flux and disequilibrium, and (b) the aging process as a series of gradual shifts to new levels of equilibrium in the menopause literature, male and female changes and responses have also generally been confounded in the literature on aging. Therefore, there is not only a need to conceptually and empirically differentiate perimenopausal women from women in various later stages of the aging process but (also) to begin to document experiences and adaptive responses that are unique to aging women (Bungay, Vessey, & McPherson, 1980; Dyrenfurth, 1982; Greenblatt, Natrajan, & Karpas, 1985; McKinlay & McKinlay, 1973).

#### Deterrents and Directions

Although clear definitions and distinctions are important,

Cartesian dualism and other forms of reductionism have been the biggest deterrents to scientific advances in the literature on menopause and the female aging process to date (Voda & George, 1986). In part, these problems arose from struggles to define and defend disciplinary domains as well as other vested interests. For example, in a critique of past menopause research, Goodman (1982) described how "invention had become the mother of necessity" with the advent of mass production of pharmacologic estrogens (p. 276). To create a market demand by patients for prescriptions, Wilson (a gynecologist who, in 1966, challenged women to stay "Feminine Forever" and to "escape the horrors of living decay") and Ayerst (the pharmaceutical company that patented Premarin and sponsored Wilson's "research") also supplied the diagnosis of "estrogen deficiency disease", which estrogen preparations could assertively alleviate or cure (Grossman & Bart, 1979; MacPherson, 1981). In subsequent years, the literature was filled with hundreds of reports of clinical observations and experiences as well as clinical trials that were attempts to document the effects of estrogen treatment on "the menopausal syndrome" (McKinlay & McKinlay, 1973). Once estrogens became a widely prescribed treatment for physical symptoms, tranquilizers were added to the pharmaceutical arsenal for control of psychological symptoms; thus, a new avenue for biomedical research was manufactured (Forman, 1968). Most recently, estrogens and tranquilizers have been combined (e.g. Menrium = esterified estrogens + librium; FMB = conjugated estrogens + meprobamate) for a double-barreled assault on women's menopausal symptoms (Greenwood, 1984). Although

body and mind have been synthesized in biomedical treatment and control, physiological and psychological variables still have not been combined and integrated into basic biomedical research aimed at description, explanation, and prediction.

In reaction to biomedical monopoly over menopause and the female aging process, numerous behavioral science and psychiatric models (e.g., premorbid personality model, coincidental stress model, cultural relativism model) soon emerged as alternative approaches (Koeske, 1982a, 1982b). Whereas biomedical models have perpetuated the "fallacy of bodily reductionism", behavioral science/psychiatric models have typically been guilty of the "fallacy of bodily forgetfulness" (Stimpson, 1982). Consistent with the biomedical model, these various models have also been overly simplistic in proposing one-to-one relationships between personality or sociocultural factors and women's experience.

To rectify past gaps and problems in diverse bodies of literature on menopause and the female aging process, Koeske (1982a) has called for a move beyond oppositional analysis toward a biopsychosocial perspective. One heuristic for this new paradigm is the development of complex theoretical models and research designs that reflect interactions among physiological, psychological, and social factors (Koeske, 1982b). In response to this recommendation, the concepts of socialization influences, attitudes toward menopause and women's aging process, and symptom experiences were selected to represent these three levels of analysis within this present study.

As a step in a direction away from the "menopause as disease" and

"aging as deterioration" models which have played dominant roles in the literature to date, the concept of general health perceptions was adopted to reflect views of "the normalcy of menopause" and "aging as developmental phase" in women's broader life contexts (Voda & Eliasson, 1983; Voda & George, 1986), two health-oriented feminist and nursing assumptions upon which this study was based.

#### Socialization Influences

In exploratory interviews with peri- and postmenopausal women, Neugarten, Wood, Kraines, & Loomis (1963) documented that (a) many of women's fears and misconceptions regarding menopause are related to not knowing what to expect, and (b) women were willing and eager to discuss menopause and wanted more information even though they also admitted that they seldom discussed the subject with others. However, anecdotal accounts indicated that some degree of socialization to menopause and women's aging does occur through both direct communication (e.g., "I can remember my mother saying that after her menopause she really got her vigor")(p. 150) and indirect observations (e.g., "I would think of my mother and the trouble she went through, and I wondered if I would come through it whole or in pieces. . .")(p. 141). Likewise, suggestive anecdotal accounts of the role of talking to and observing one's own mother in a daughter's socialization to menopause have also appeared in the lay literature on menopause (Cohen, Coburn, & Pearlman, 1980; Downing, 1987; Greenwood, 1984; Reitz, 1977).

In a study of women's attitudes toward menopause and symptom experiences (N = 78), Frey (1982) documented that 9.1% of the sample

reported by recall that their mothers had serious problems with menopause; 42.9% indicated that their mothers had some difficulties, 27.3% indicated that their mothers had no difficulties, and 2.1% reported that they didn't know anything about their mothers' experiences. Statistically significant associations between participants' recollections of their mothers' experiences with menopause and the number of symptoms that participants reported were found. Women who perceived that their mothers had no difficulties reported the highest number of symptoms, whereas women who reported no knowledge of their mother's menopausal experiences reported the lowest number of symptoms. These unexpected findings remained uninterpretable in light of meaningless patterns for women who perceived that their mothers had either serious problems or some difficulties during menopause.

Although LaRocco & Polit (1980) found that a sample (N = 167) of contemporary women felt free to discuss menopause and its consequences with other women, a considerable degree of inaccurate information about menopause was displayed by these women on a test of "factual knowledge".

There has been relatively little systematic inquiry to date into how "old wives tales" are actually perpetuated or how and to what extent women are socialized to menopause. Grossman and Bart (1979) reported on two unpublished large-scale surveys that made preliminary attempts to address contributions of various socialization influences and sources of support:

1. The Seattle "Women in Midstream" survey (N = 250) found that

75% of the women discussed menopause with female friends or relatives and that 66% discussed menopause with husbands or male friends and relatives. Of the women who sought help from non-medical sources, about half evaluated these sources as helpful. Only about half of the total sample reported satisfaction with the information received from doctors.

2. A survey of almost 500 women conducted by the Boston Women's Health Collective found that five-sixths of the respondents discussed menopause with female friends, whereas two-thirds talked about menopause with relatives (gender not specified) and husbands. One-sixth of this sample reported receiving information and emotional support from women's groups.

Although menopausal peer support groups have been described and discussed in the literature (Greenwood, 1984; MacPherson, 1981; Reitz, 1977), there has been a paucity of research to document the socialization influences or effects of these groups.

Kaufert (1980) included a set of questions about the levels and sources of socialization to menopause in a pilot study of 148 pre-, peri-, and postmenopausal women who were patients of a single family physician. Approximately 50% of the sample reported that they had been given information about menopause by their doctor, whereas 83% cited magazines and books and 73% cited their friends as sources of information. These women were "less likely to name their mother as a source of information than they were to name their doctor" (p. 201). In a subsequent large-scale study (N = 2500), Kaufert and Gilbert (1986) found that 65% of the women who responded to survey questions

"had been given some or a little information on menopause by their physician", and 54% "had discussed their menopausal status with a physician". Although these researchers noted that findings came from a question in which "your doctor" was listed along with the media, women' friends, relatives, and a woman's own mother, findings on the socialization influence of physicians in comparison to other sources were not presented.

Kresovich (1980) emphasized that "the nurse practitioner is in a key position to give support [to perimenopausal women] through guidance, counseling, and health teaching" (p. 61). However, no investigation of the socialization influence of nurses and other non-physician health care providers could be found in the literature to date.

While the literature on socialization to menopause has been scanty, literature on women's socialization influences during the aging process has been virtually nonexistent with the exception of attention to general effects of negative societal-level stereotypes (Giesen & Datan, 1980; Lesnoff-Caravaglia, 1984; Troll, 1977). However, in a survey of 841 middle-aged women, Cohen, Coburn, and Pearlman (1980) specifically found that 69% of the sample reported that their mothers had the greatest influence on their expectations and feelings toward growing older.

#### Attitudes Toward Menopause and Women's Aging Process

Following a two-phase instrument development procedure, Neugarten, Wood, Kraines, and Loomis (1963) administered the 35-item Attitudes-Toward-Menopause Checklist (ATM) to 267 women in four age

groups: (a) 21-30 year olds (n = 50), (b) 31-44 year olds (n = 52), (c) 45-55 year olds (n = 100), and (d) 56-65 year olds (n = 65). In general, most significant age group differences were found between the first two groups (i.e., nonmenopausal and premenopausal) and the last two (i.e., menopausal and postmenopausal) groups. On the seven subscales, few age differences were found for "negative affect" or "unpredictability" items; however, younger women displayed more negative attitudes regarding "postmenopausal recovery", "extent of continuity", "control of symptoms", "psychological losses", and "sexuality" in comparison to menopausal and postmenopausal women. A significant percentage of women in only the 21-30 year old group indicated that "menopause is one of the biggest changes that happens in a woman's life". The researchers' interpretation that experience with menopause influences attitudes toward menopause is questionable, however, in view of the cross-sectional and univariate nature of the research design. Although the ATM was a significant methodological contribution to this area of research, it is unfortunate that this descriptive study did not include an age 65 and older subsample to provide normative data for aging women.

In a more recent administration of Neugarten et al.'s (1963) ATM Checklist to a gynecology clinic sample of perimenopausal women (N = 94), Kresovich (1980) found a significant difference between menopausal and postmenopausal women on the sexuality subscale; this finding was attributed by the researcher to more liberal sexual attitudes among younger women than among older women as a result of the "sexual revolution" that has been taking place since the late

1960s. No differences in attitudes were found between premenopausal, menopausal, and postmenopausal women on any of the other six subscales. In contrast to findings of Neugarten et al., premenopausal and menopausal women in this study did not agree that "menopause is a unpleasant experience", and the postmenopausal group in this study did not display attitudes indicative of a belief in postmenopausal recovery. These finding inconsistencies may be due to (a) sample differences (i.e., community vs. clinic) between the two studies, (b) intracohort attitudinal stability which cannot be tapped by two cross-sectional studies but rather requires longitudinal analysis, or (c) a true change over time in women's attitudes toward menopause as a function of recent sociohistorical trends. Another important finding of this study was that of attitudinal differences between women without and with some college education, consistent with Friedan's (1963) notion that higher education gives a woman a broader outlook on life and makes her more open and adaptive to new experiences.

More recently, Leiblum and Swartzman (1986) developed a 10-item Menopause Attitude Questionnaire (MAQ), which incorporated three items from the Neugarten et al.'s (1963) ATM, and administered this instrument to a community sample of 244 perimenopausal women. These researchers found that menopausal and postmenopausal women were more likely to agree with attitudinal statements that endorse a medical model view of menopause (e.g., "Menopause should be viewed as a medical condition.") than were premenopausal women; paradoxically, however, they were also more likely than the premenopausal group to

agree that "Natural approaches . . . for menopausal problems are better than estrogen replacement." In contrast to Kresovich's (1980) finding only half a decade earlier, no differences by menopausal status were found on a single sexuality item: all three groups generally agreed that "Sexual interest and comfort increase following the menopause . . .". However, consistent with Kresovich's (1980) findings, less attitude polarization on the ATM items by menopausal status was found in this study in comparison to Neugarten et al.'s 1963 research, again suggesting the influence of sociohistorical changes on women's attitudes over time. Leiblum and Schwartzman also reported attitudinal differences between non-college-educated and college-educated women (i.e., associate, baccalaureate, and graduate-level degrees) that were similar to the findings documented by Kresovich (1980).

Guided by the developmental hypothesis that attitudes toward menopause would be influenced by earlier "psychosexual events", Maoz, Dowty, Antonovsky, & Wijsenbeek (1970) conducted semi-structured interviews with women ages 40 to 55 of European (n = 30), Oriental (n = 17), and Israeli (n = 8) origins who were living in Jerusalem. With attitudes toward menopause as the dependent variable, 11 independent variables were explored: menopausal status, attitude toward menstruation, information about menarche, recollection of adolescence, pregnancy and childbirth, general behavior of husband, sexual relations, desire for more children, serious trauma in the past, serious current problems, and emotional disturbance. Strong ethnic differences were found: only 21% of the European women but

over half of the Oriental and Israeli women expressed generally positive attitudes toward menopause. However, the only independent variable found to be associated with positive attitudes was lack of desire for more children, and this finding only held for Oriental women. Although specific findings on attitudes toward menopause must be viewed with caution due to major design and analytic limitations, this study served to highlight (a) potential associations among past as well as present socialization influences, attitudes toward related phenomena (e.g. menstruation, childbearing), and women's symptom experiences; and (b) the need for attention to cultural factors and ethnic variations in finding generalization and interpretation in research on menopause and the female aging process.

In a "preliminary" study with a sample of 9 "menopausal" women (four of the women had hysterectomies, and the mean age for the low education group was 41.6 in contrast to a mean age of 50.2 for the high education group), their husbands, and 15 adolescent children, Dege and Gretzinger (1982) provided perhaps the only attempt to date to document attitudes toward menopause within families. Using a revised version of the ATM (Neugarten et al., 1963) in combination with the Menopause Attitudes and Beliefs Interview (MABI) schedule constructed for their study, attitudes of families toward menopause were found to be generally negative. Consistent with the earlier findings of Neugarten et al. (1963), menopausal mothers had the least negative and adolescents the most negative attitudes. Attitudinal agreement was manifested in four out of five mother-daughter pairs but only in two out of ten mother-son pairs. In general, a trend

toward greater intra- versus inter-family attitudinal agreement was noted, although there was more open communication and discussion about menopause in "more educated" families. In a series of questions regarding socialization influences in the MABI, women reported that they talked and learned about menopause with other women (relationships not specified); husbands reported that they did not talk about menopause or that they learned from the media; and adolescents reported learning about menopause primarily from the mother and within the family, although peer and school influences were also cited. With respect to perceived family relationships, mothers perceived no menopause-related changes, whereas husbands and adolescents reported that the women treated them "differently" and "negatively". However, associations among socialization influences, perceived family relationships, and attitudes toward menopause were not specifically explored in this small descriptive study.

There has been inconclusive and conflicting evidence in the literature regarding associations between women's attitudes toward women's roles and (a) attitudes toward menopause and women's aging, and (b) actual menopausal and aging experiences. Meltzer (1974) found that women who accepted traditional feminine (versus masculine) attitudes and interests were more likely to experience menopausal distress. This finding may be related to the association identified by Maoz et al. (1970) between desire for more children and attitudes toward menopause. More recently, Engel (1987) found no associations between women's attitudes toward women's roles and perceived health status in a sample of 249 women between the ages of 40 and 55. Engel

operationalized attitudes toward women's roles using the Index of Sex Role Orientation (ISRO), which taps conflict between childcare and career responsibilities, division of household labor, and work outside the home (Dreyer, Woods, & James, 1981). Although Engel reported that 205 out of 249 women were married and 74% of the study sample worked outside the home, demographic data related to number, ages, and living at home status of children was not provided; therefore, it is possible that the ISRO, with an emphasis on conflict between childcare and career is not an appropriate measure for perimenopausal women whose "nests may be empty". Moreover, Engel attributed the observed high feminist (vs. traditional) orientation to the fact that "the sample was unusually well-educated, affluent, and ethnically homogeneous, and few of the women were full-time homemakers" (p. 356). On the other hand, inconsistencies between Metzger's (1974) and Engel's (1987) findings may reflect sociohistorical influences associated with the contemporary women's movement over more than a decade.

In the validation phase of an instrument development study, Bowles (1986) administered the 20-scale semantic differential Menopause Attitude Scale (MAS) to 419 adult women over the age of 18 (including 61 women over the age of 65). To establish construct validity of the MAS using convergent and discriminant procedures, three subsamples were administered either (a) the ATM (Neugarten et al., 1963) (n = 138), (b) the Attitudes Toward Women Scale (AWS) (Spence, Helmreich, & Stapp, 1973) (n = 146), or (c) the Attitudes Toward Old People (OP) scale (Kogan, 1961) (n = 135). The researcher

concluded that convergent validity was demonstrated by a correlation of  $r = .63$  between the MAS and ATM, although this moderate positive correlation also probably reflected method variance between the semantic differential MAS and the rating scale ATM. The researcher also concluded that discriminant validity was demonstrated by correlations of (a)  $r = -.04$  between the MAS and AWS, and (b)  $r = .42$  between the MAS and OP. Although some degree of association between attitudes toward menopause and both (a) attitudes toward women, and (b) attitudes toward aging was theoretically expected, the observed association between the MAS and AWS was lower than expected, and the observed association between the MAS and OP was higher than expected. Unfortunately, descriptive analyses were not provided for the AWS or OP, but it is plausible that sample biases (e.g., high educational level, high proportions of single and divorced women) and/or method variance (i.e., perhaps there is more method variance between the 4-point Likert response scale of the AWS and the bipolar format of the MAS than between the true/false response format of the OP and the bipolar opposite format of the MAS) contributed to unanticipated results. With total sample ( $N = 419$ ) MAS scores as the criterion variable, age was found to be the strongest predictor of attitudes toward menopause, although many of the other variables (e.g., marital status, menopausal status) were substantially related to age (i.e., there was a high degree of multicollinearity). Consistent with the findings of other studies that used samples with a wide age range (Dege & Gretzinger, 1982; Neugarten et al., 1963), younger women in this study, especially those under the age of 35, expressed more

negative attitudes toward menopause than did menopausal or postmenopausal women.

#### Symptom Experiences

The first large scale (N = 1000) study to document the menopausal symptom experiences in a nonclinical sample was conducted by the Medical Women's Federation (1933). This survey found that only 10% of the women reported incapacity due to symptoms, whereas 16% of the women reported being completely symptom-free. The most frequently reported symptom (62%) was menopausal hot flash (MHF). Another major finding of this study was a positive association between past history of dysmenorrhea and menopausal symptoms. Since all respondents were postmenopausal (i.e., menstruation had ceased at least 5 years prior to the study), recall bias has been cited as the major methodological limitation of this descriptive study (McKinlay & McKinlay, 1973).

In a classic study in this area, Neugarten and Kraines (1965) documented the frequency of "menopausal symptoms" in women of various ages. The 28-item Menopause Symptom Checklist (MSC), which is inclusive of the 11 symptoms of the Blatt Menopause Index (BMI) (Kuppenman, Welcher, & Blatt, 1959), was administered to five groups of women (N = 460): (a) an adolescent group ages 13-18; (b) a group of young women ages 20-29; (c) a premenopausal group ages 30-44; (d) a menopausal group ages 45-54 (which was further subdivided into premenopausal, menopausal, and postmenopausal subgroups); and (e) a postmenopausal group ages 55-64. Findings showed that the adolescent group had the highest frequency of psychological symptoms, whereas the menopausal subgroup reported the highest frequency of somatic and

psychosomatic symptoms. In general, the 55-64 year old women in the postmenopausal group reported significantly fewer symptoms in comparison to the other four groups. The most frequently reported symptoms in this latter group were "trouble sleeping" and "forgetfulness". The researchers interpreted these findings in terms of (a) possible differential meanings of symptoms at different ages, (b) physiological and psychological similarities and differences between the adolescent and menopausal groups, and (c) the development of adaptive responses with age. However, methodological critiques of symptom reports suggest that various types of bias must also be considered (e.g., an overreporting of symptoms specified on the list and an underreporting of nonlisted symptoms) since no other symptom report measures or alternative methods (e.g., diaries, interviews, open-ended questions) were used to provide tests of convergent and discriminant validity or to estimate the degree of method variance associated with the symptom checklist (Kaufert, Gilbert, & Hassard, 1988; Kaufert & Syrotuik, 1981; Woods, 1982a).

In an extension of Neugarten and Kraines' (1965) comparative work, Bungay, Vessey, & McPherson (1980) conducted a postal survey in Great Britain of 1120 women and 510 men between the ages of 30 and 64 to analyze patterns of "menopausal symptoms" by both gender and age. Parallel symptom-by-age curves were found for women and men for most physical, psychological, and sexual symptoms (e.g., loss of appetite, indigestion, constipation/diarrhea, shortness of breath, coldness of hands and feet, crawling or tingling sensations, aching muscles and joints, headaches, feelings of panic, depression, and difficulty with

intercourse). A peak for vasomotor symptoms (e.g., flushing, sweating) was identified for women around the mean age of menopause, and minor psychological symptoms (e.g., difficulty in making decisions, loss of confidence) peaked in women slightly before the mean age of menopause and then gradually declined with increasing age. Moreover, symptoms of irritability, low backache, and aching breasts were dramatically decreased in women after the age of menopause. Consistent with a finding of Neugarten and Kraines (1965), older women reported more sleep difficulties than did either younger women or men; they also reported higher rates of loss of interest in sexual relations. In comparison to both younger men and women, however, older men reported more urinary symptoms. In contrast to theoretical speculations, no evidence of an increase in stressful life events in women's lives around the mean age of menopause was found in this large-scale, cross-sectional study.

However, to further clarify hypothesized associations between stressful life events and menopausal symptoms, Ballinger (1985) matched two groups of Australian postmenopausal women on geographic and socioeconomic variables: (a) women who attended menopause clinics (n = 123), and (b) women from various community settings (n = 164). Clinic patients not only reported a significantly greater number of stressful life events than did community participants but (also) scored higher on clinical depression and anxiety scales; clinician ratings of psychosocial stress; and reports of both physiological and psychological symptoms. However, no significant differences were found between the two groups for the "classic"

menopausal symptoms of hot flashes and vaginal atrophy.

From both lifespan developmental and family perspectives, Crawford and Hooper (1973) conducted a unique study with a British sample of 106 middle-aged women to explore associations among family roles/relationships, individual variables, and menopausal symptom experiences. Menopausal symptoms were elicited by women's responses to an open-ended question and classified by the researchers as either (a) physiological symptoms (i.e., hot flashes, aches and pains, blood loss, lack of energy, and sweating), or (b) psychological symptoms (i.e., depression, mood changes, or irritability). Comparisons were made between a postparental subsample ( $n = 43$ ) (i.e., women whose first child was about to get married) and a grandparental subsample ( $n = 63$ ) (i.e., women who were expecting their first grandchild). Postparental women reported proportionately more psychological symptoms, whereas grandparental women reported more physiological symptoms. Within the postparental subsample, significantly more symptoms were reported by women who had a daughter getting married than women anticipating the marriage of a son; however, no significant differences in menopausal symptoms were associated with birth order or age of the child about to be married or with expected post-marriage contact. No associations were found between either chronological age or age identity (i.e., whether women described themselves as young, middle-aged, or old) and presence or type of reported symptoms. Consistent with Meltzer's (1974) findings, there was a trend, although non-significant, for symptom reporting to be associated with feminine sex role identity as measured by an index of

normative femininity that was specifically constructed for the study.

In an early integration of biopsychosocial and developmental perspectives in research on menopause and women's aging process, van Keep and Kelleraals (1973, 1976) conducted a large-scale (N = 448) investigation in Switzerland that was guided by models which included physiological, psychological, and social concepts. Menopausal symptom experiences were measured by a 17-symptom rating scale, and adaptation to the aging process was operationalized by a six-item index of subjective adaptation to daily life (e.g., "I feel full of energy", "I look forward with pleasure to the future", "I find myself attractive and am satisfied with my body"). These researchers found that menopausal symptoms peaked during the menopausal stage of the perimenopause, dropped off during the first few postmenopausal years, but increased slightly again between the ages of 56-60. Thus, it is possible that the measure (items not specified) of "menopausal symptoms" used in this study was also tapping changes related to the aging process. A reverse pattern was identified for subjective adaptation, with menopausal women and women ages 56-60 found to be less well adapted than either women ages 41-45 or women in the immediate pre- and postmenopausal phases. Clear social class differences were also identified: women in lower social classes demonstrated poor postmenopausal recovery in terms of both symptoms and subjective adaptation in comparison to women in higher social classes. Likewise, absence of children in the home and poor relational integration (i.e., having infrequent contact with friends) were associated both with more menopausal symptoms and low levels of

were associated both with more menopausal symptoms and low levels of subjective adaptation. There appeared to be an interaction between work situation and social class in observed effects on menopausal symptoms and subjective adaptation to the aging process. These early findings on the mediating effects of social support, employment status, and social class on symptom experiences have been supported and elaborated by subsequent research (Cooke, 1985; Hunter, Battersby, & Whitehead, 1986).

Along similar lines, Uphold and Susman (1985) investigated relationships between childrearing, marital, recreational, and work roles and menopausal symptoms in a sample of 185 women between the ages of 40 and 60. Menopausal symptoms were measured using Neugarten & Kraines' (1965) MSC. Adjustment to marital role and an active recreational role were the two best predictors of menopausal symptoms, with inverse relationships found between each of these variables and both number and severity of symptoms. Although number of hours worked was negatively correlated with both marital adjustment and active recreation, no direct relationship was found between work role and menopausal symptoms. Also in contrast to the findings of van Keep & Kellerhals (1973, 1976), childrearing role, which was operationalized by presence and number of children in the home, was not found to be related to menopausal symptoms.

Cooke (1985) investigated the effects of stressful life events, employment, family relationships, and social support on symptom reports of 78 Scottish women between the ages of 35 to 54. Consistent with Ballinger's (1985) findings, strong associations

between stressful life events and women's symptom experiences were documented. This researcher also found that between one-third to one-half of the variability in physiological (i.e., somatic) and psychological symptoms could be explained by a combination of life events and relationship variables. In contrast to findings from related studies (Crawford & Hooper, 1973; van Keep & Kellerhals, 1973, 1976; Uphold & Sussman, 1985), variables related to spouse or children were not found to be significant mediators between life events and symptoms. Consistent with prior findings, however, employment status and number of confidants were found to have important mediating effects. Moreover, early loss or separation from mother before the age of 11 also increased the prediction of symptoms above the amount of variance explained by life events alone.

In a multivariate study of 68 mothers ages 36-50 (i.e., 37 were premenopausal and 31 were menopausal or postmenopausal) with adolescent children, Rossi (1980a) documented major differences between various indicators of women's aging process (i.e., chronological age, psychological/subjective age, desired age, social age, and aging symptoms). Aging symptoms were operationalized by a 9-item index which asked women in the sample, "How would you rate yourself today (i.e., worse now, no change, better now) compared to 5 years ago on the following": eyesight, shape of body, teeth, energy level, weight, sex life, health, hearing, and hair condition. Although there was a significant correlation between aging symptoms and chronological age, aging symptoms proved to be a much stronger predictor of parenting and family variables. For example, mother's

aging symptoms score was found to be a significant predictor of emotional closeness in the mother-adolescent relationship, with higher symptoms associated with a lower degree of perceived emotional closeness. Aging symptoms score was also positively correlated with maternal stress and stress in the marital relationship, and indirect effects of aging symptoms were also found for parenting indicators such as maternal criticism and limit testing. At the individual level of analysis, aging symptoms score was the best predictor (i.e., over chronological age, family size, and age of youngest child) of mother's daily exhaustion score. Based on the number and strength of study findings, Rossi concluded that the Aging Symptoms Index (ASI) "may be used as it was intended, as a measure of physiologically based change in the aging process" (p. 183). However, in view of (a) the general nature of items (i.e., global physical characteristics and functional/sensory abilities), (b) similarities between the ASI and van Keep and Kellera's (1973, 1976) index of subjective adaptation in daily life, and (c) the observed high correlation between the ASI and daily exhaustion score, it is possible that the Aging Symptoms Index may have been misnamed since it appears by face validity to a measure of general health perceptions rather than an index of specific symptoms.

A further cautionary note to Rossi's (1980) statement lies in Koeske's (1982b) clarification of the limitations of symptom reports in research on menopause and women's aging process:

It should be recognized that "symptom" reports are analytically midway between physiology and social environment and are not best

thought of as simple reflections of underlying biological processes, although they are influenced by such processes in complex ways. (p. 11)

Indeed, a complex set of findings from a recent study of relationships between hormonal profiles and symptom reports (Ballinger, Browning, & Smith, 1987) lends empirical support to Koeske's thesis. Thus, symptom experiences may be conceptualized as reflections of underlying physiologic processes that are influenced by such social and psychological factors as socialization influences and women's attitudinal dispositions.

#### General Health Perceptions

In contrast to Wilson's (1966) marketed metaphor of menopause as "a deficiency disease" and misogynous descriptions of women's aging process in terms of "the horrors of living decay" and "threat of extreme suffering and incapacity" are Mead's (1975) acronym of "PMZ" (i.e., postmenopausal zest) as well as Giesen and Datan's (1980) portrayal of the "competent older woman" and Gutmann's (1980, 1985) theory of the "vital older woman". In accordance with these recent reconceptualizations, there have been calls in the nursing and women's health literature for research on menopause and women's aging process that is based on a health-oriented perspective (Hochner, 1980; MacPherson, 1981; Voda & Eliasson, 1983; Voda & George, 1986).

In response to this dictum, Engel (1987) included perceived health status as the dependent variable in a study of menopausal stage, recent life change, and attitudes toward women's roles among 40 to 55 year old women (N = 249). A Perceived Health Status (PHS)

instrument was devised by the researcher by combining and weighting three existing instruments that separately tapped physical, psychological, and social domains of health. Descriptive findings on the total PHS and components scales indicated that perimenopausal women in this study perceived themselves to be quite healthy. Contrary to the researcher's hypothesis, a small but significant inverse relationship was found between menopausal stage and PHS scores. As expected, however, a significant inverse relationship was found between recent life events and PHS scores. Individual demographic characteristics and research variables accounted for 15% of the variance in PHS scores in this cross-sectional study.

In a pilot study that was specifically designed "to focus the attention of the respondents on their general health rather than on the menopause" (p. 196), Kaufert (1980) collected data on self-defined health status and self-reported health behavior. A large majority of the sample (N = 148) of women ages 40 to 60 rated their health status as excellent or good, whereas only 13% reported health status ratings of fair or poor. Over one-third of these women rated themselves as healthier than other women their age, whereas only 4% indicated that their health status was comparatively worse. In contrast to findings from other studies (Engel, 1987; van Keep and Kellerales, 1973, 1976), health status ratings were found to be unrelated to menopausal status. Although there was no association between perceived health status and vasomotor symptoms, a significant association was found between health ratings and psychological symptoms. Other noteworthy findings of this study were the lack of

congruence between women's perceived health status and (a) current health behaviors and practices, and (b) concerns about future health.

Kaufert (1984, 1985) has extended this health-oriented perspective into a three-stage investigation, "Women and Their Health in the Middle Years: A Manitoba Project", that includes a cross-sectional survey (N = 2,500), longitudinal follow-up contacts (N = 500), and in-depth interviews (N = 100). Data are presently being collected and analyzed on (a) health status and health behavior (e.g., chronic conditions, symptom profiles, medication use, and patterns of physician contact), (b) changes in physical and psychological health across the menopausal transition, (c) women's perceptions of menopause and the female aging process, and (d) midlife changes in women's family relationships and social roles.

In collaboration with the Manitoba project, a similar large-scale cross-sectional (N = 8,050) and 6-occasion prospective (N = 2,500) project is being conducted in Massachusetts (McKinlay et al., 1985; McKinlay et al., 1987a, 1987b). This study has included five indicators of women's health status: self-assessed health, restricted activity days, physical symptoms, psychologic symptoms, and new chronic conditions. As of the third measurement occasion (T3), surgical menopause was the only menstrual/menopausal status variable found to be related to any health status indicator (i.e., only to restricted activity days). Most of the explained variance in health status indicators at T3 was attributable to prior (i.e., baseline, or T0) health status scores, with only small independent contributions made by education, employment, and marital status variables.

### Summary and Implications

Review of the literature reveals a major gap in knowledge and understanding of how and to what extent women are socialized to menopause and the aging process and the effects of socialization on both (a) attitudes toward menopause and women's aging process, and (b) women's symptom experiences.

Although several studies have addressed associations between women's attitudes toward menopause and symptom experiences as well as associations among women's attitudes toward menopause, aging, and women's roles, finding inconsistencies warrant further explication of these associations, particularly in view of relevant sociohistorical changes over the past two decades.

While several studies have explored associations between various family roles and relationships (i.e., marital, parental, grandparental) and women's menopausal and aging symptom experiences, the literature is relatively devoid of systematic inquiry into past and present contributions of the mother-daughter relationship to daughters' menopausal experiences and mothers' aging experiences. Whereas other family relationships are primarily psychological and social, the mother-daughter relationship is uniquely biopsychosocial in nature and, thus, provides fertile ground for the study of interactions among physiological, psychological, and social factors.

In contrast to the literature on the mother-daughter relationship, most studies in this review of literature on menopause and the female aging process have suffered from methodological limitations related to purely cross-sectional designs. As

preliminary findings from the Manitoba and Massachusetts projects indicate, incorporation of temporal components into research on socialization influences, attitudes toward menopause and women's aging process, symptom experiences, and general health perceptions is crucial to fuller understanding of menopausal experiences and women's aging process.

Biases and Limitations in Existing Theory and Research  
on Women's Biopsychosocial Health and Development

Prior to conclusion of this review of the literature chapter, it is important to emphasize that most existing theory and research on women's biopsychosocial health and development across the lifespan has been culturally and socially biased. For example, Fischer's (1981, 1983, 1986) descriptive work on the mother-daughter relationship, although the most comprehensive to date, was conducted using primarily white middle-class samples drawn from western Massachusetts and Minnesota. Other studies of the mother-daughter relationship have exemplified similar sampling biases (e.g., Baruch & Barnett, 1983; Lederman, 1984; Stoltzman, 1986; Thompson & Walker, 1984, 1987; Walker & Thompson, 1983, 1987). On the other hand, the few studies which have focused on mother-daughter relationships within unique cultural or social groups (e.g., Bromberg, 1983a, 1983b; Cohler & Grunebaum, 1981; Fox & Inazu, 1982; Johnson, 1978; Uddenberg, 1974) as well as other pluralistic autobiographical, biographical, and literary accounts (e.g., Adler, 1981; Bannan, 1979; Davidson & Broner, 1980; Gundlach, 1986; Nivert, 1983; Olson, 1984; Payne, 1983; Rafkin, 1987) suggest major areas of differences in

mother-daughter relationships along with universal issues and themes.

Although there has been more attention to description and explanation of cultural and social variations in women's menopausal and aging experiences (e.g., Beyene, 1986; Brown, 1982; Flint & Garcia, 1979; George, 1988; Griffen, 1982; Kaufert, 1982; Lock, 1982, 1986; Rosenberger, 1986; Wright, 1982), most large-scale surveys using standardized instruments have exemplified not only white middle-class sampling bias (e.g., Engel, 1987; McKinlay et al., 1985; McKinlay et al., 1987a, 1987b; Neugarten, Wood, Kraines, & Loomis, 1963; Uphold & Susman, 1985) but (also) definitional and methodological biases of the male-dominated medical and epidemiological cultures (Kaufert, 1986; Voda, 1985).

Thus, the literature to date on women's health and development has told a partial story primarily of a select group of women due, in part, to convenience and feasibility concerns of researchers as well as perhaps a greater willingness on the part of white middle-class women in comparison to other groups of women to participate in research endeavors. These concerns and constraints were also influential in design decisions for this descriptive research, so this study shared many of the same cultural and social biases and limitations that have characterized previous related works. Therefore, the focus of this study, which was broadly stated in Chapter I, should be qualified and restated, as follows: to expand understanding of menopausal experiences and women's aging process in a select sociocultural slice of the population of women through a biopsychosocial approach and lifespan perspective.

### Specific Aims of the Study

The specific aims of this study were to address the following six research questions:

1. What are the (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions of mothers and daughters at T1 and T2?

2. What is the association between T1 and T2 reports of (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions for mothers? For daughters?

3. What is the association between mother's and daughter's reports of (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions at T1? At T2?

4. What is the association between mother's (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions at T1 and daughter's (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions at T2?

5. What is the contribution of (a) mother's perception of the mother-daughter relationship at T1; (b) mother's perception of the mother-daughter relationship at T2; (c) mother's socialization influences at T2; (d) mother's attitudes toward menopause and women's aging process at T1; (e) mother's attitudes toward menopause and women's aging process at T2; (f) mother's symptom experiences at T1; (g) mother's general health perceptions at T1; (h) daughter's symptom experiences at T2; (i) daughter's general health perceptions at T2; and (j) mother's symptom experiences at T2 to mother's general health perceptions at T2?

6. What is the contribution of (a) daughter's perception of the mother-daughter relationship at T1; (b) daughter's perception of the mother-daughter relationship at T2; (c) daughter's socialization influences at T2; (d) daughter's attitudes toward menopause and women's aging process at T1; (e) daughter's attitudes toward menopause and women's aging process at T2; (f) mother's symptom experiences at T1; (g) daughter's symptom experiences at T1; (h) daughter's general health perceptions at T1; (i) mother's symptom experiences at T2; (j) daughter's symptom experiences at T2; and (k) mother's general health perceptions at T2 to daughter's general health perceptions at T2?

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<sup>1</sup>T1 represents a timepoint in the past when the mother was the daughter's present age (i.e., a time at which the mother was perimenopausal and the daughter was in the menstrual and reproductive years); T2 represents a present timepoint when the daughter is perimenopausal and the mother is in some stage of the aging process.

Although no formal hypotheses were formulated from these exploratory questions, a general conceptual model served as the framework for this study (see Figure 1). Based on review of the literature as well as logical inferences, it was postulated that socialization influences would affect attitudes, which would influence symptom experiences, which would determine general health perceptions (see Figure 1). The mother-daughter relationship was conceptualized as an overriding influence on all major study variables, including general health perceptions. Likewise, past general health perceptions was conceptualized as an underlying influence on all major study variables. Given assumptions of mutual influence and reciprocal socialization in the mother-daughter relationship, the same general model was thought to be applicable to both aging mothers and perimenopausal daughters.

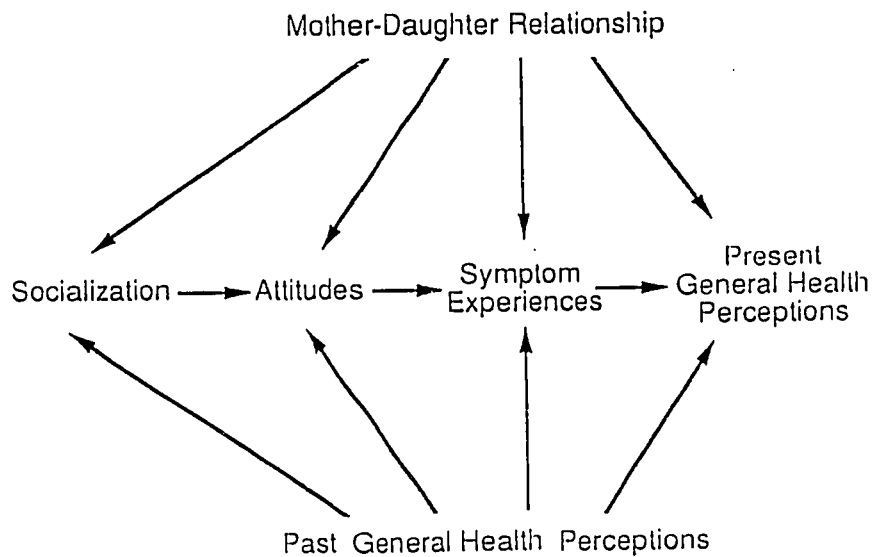


Figure 1. Conceptual model:

Contributions to mother's and daughter's general health perceptions.

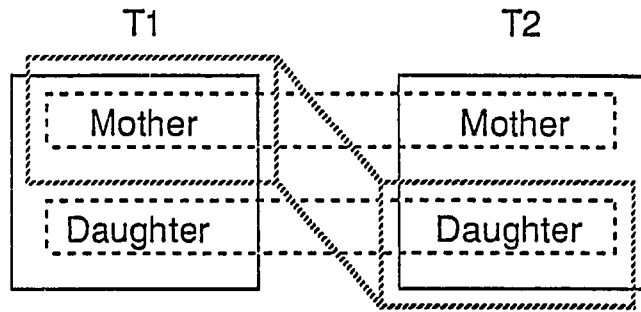
## CHAPTER III

### METHODOLOGY

The foundation for this study was a large scale, longitudinal database, the Tremin Trust Research Program. Formerly entitled the Menstruation Reproductive History (MRH) Research Program (Treloar, 1979), the Tremin Trust is one of two research projects in the world designed to collect prospective data on events associated with women's menstrual and reproductive lives. The program was initiated in 1934 at the University of Minnesota as a statistical endeavor to demonstrate menstrual cycle variability among women and has not only been continued but (also) expanded over the years (see Appendix A for program overview). Although about half of the active participants still reside in Minnesota, the remainder are spread throughout the United States and foreign countries. In addition to breadth and scope, a unique aspect of the Tremin Trust is the intergenerational nature of the data. There are 836 (313 active) mother-daughter pairs and 72 (22 active) mother-daughter-granddaughter triads in the database. In 1984, the database was gifted to the University of Utah College of Nursing with the appointment of Dr. Ann M. Voda as director. The sample for this study was drawn from active Tremin Trust record keepers and alumni, and some data for this study were derived from the Tremin Trust database.

#### Research Design

This descriptive study used a correlational survey design (see Figure 2). The design included two time referents: (a) T1 represented a timepoint in the past when the mother was the daughter's present age (i.e., a time at which the mother was



Question 1: Descriptive  
 Question 2: "Longitudinal"    - - - - -  
 Question 3: Cross-sectional    \_\_\_\_\_   
 Question 4: Sequential         - - - - -

	CONSTANT	VARIABLE
Q2	Individual	Developmental Stage Sociohistorical Influences
Q3	Sociohistorical Influences	Individual Developmental Stage
Q4	Developmental Stage	Individual Sociohistorical Influences

Question 5: Developmental-Multivariate  
 Question 6: Developmental-Multivariate

Figure 2. Diagrammatic representation of research design:  
 Associations with research questions and control of individual,  
 sociohistorical, and developmental effects.

perimenopausal and the daughter was in the menstrual and reproductive years), and (b) T2 represented a present timepoint with the daughter in the perimenopausal years and the mother in some stage of the aging process. T1 and T2 data for variables of interest were collected through a special mailing of study survey materials. Demographic and background information and symptom reliability data were obtained from the Tremin Trust database, primarily data from the 1987 Health Report Form.

The selection of a correlational survey design was dictated primarily by the purpose of this study. Description and explanation are important prerequisites to experimental manipulation of or intervention in complex biopsychosocial phenomena and processes (Koeske, 1982b). Inclusion of both mother and daughter as data sources in the research design was not only consistent with conceptual interest in both relationship properties and individual characteristics but (also) permitted appropriate use of intradyadic and individual-level correlational techniques to answer research questions (Huston & Robins, 1982; Thompson & Walker, 1982).

The two-occasion research design reflected the developmental perspective of this study. In reality, true developmental designs are extremely time-consuming and costly. As a reconciliation between the purpose of this study and feasibility and practicality constraints, past and present time referents were employed as design adaptations. Although the problem of recall bias in retrospective reports has received widespread attention and general admonitions in the methodological and review literature (e.g., Campbell & Stanley,

1963; McKinlay & McKinlay, 1973), there have been various tests of reliability and validity of retrospective data which suggest that certain individual characteristics and contextual/situational factors (e.g., saliency of event) may serve to attenuate the effects of recall bias (Bahrick, Bahrick, & Wittlinger, 1975; Finlay-Jones, Scott, Duncan-Jones, Byrne, & Henderson, 1981; Madow, 1967; Robins et al., 1985; Ross, McFarland, & Fletcher, 1981; Spanier, 1970; Wolkind & Coleman, 1983; Yarrow, Campbell, & Burton, 1970). Baltes and Goulet (1971) contended that retrospective methods are particularly appropriate for the study of age-related development and naturally occurring long-term processes and for tapping individual and environmental antecedents of change in a relatively short period of time. Also, based on a critique of true developmental designs and review of literature on recall measures, Fitzgerald and Surra (1981) concluded that retrospective techniques provide viable solutions in research on development of and change in dyadic relationships.

Relevant to the sample and retrospective time referent in this study, Chernin (1985) reported clinical observations from responses to a standard interview question which lend support to design adaptations:

What was your mother doing when she was your age? . . . The women always know . . . This unexpected question leads them . . . to describe their mothers' lives in amazing detail, as if they have been listening with concentration to all her stories and . . . have been measuring their own lives against their mothers'.

(p. 54)

In accordance with Fowler's (1988) recommendation of using a large

number of questions to reduce recall bias about an event (i.e., through stimulation of associations) in retrospective surveys, each concept in this study was measured by multi-item instruments. Thus, while potential biases and limitations related to retrospective reports were considered, the design that was adopted and adapted permitted use of descriptive, "longitudinal", cross-sectional, sequential, and developmental-multivariate analytic strategies to address the six research questions of this study (Baltes, Reese, & Nesselroade, 1977; Lachman, 1984; Weekes & Rankin, 1988).

#### Sample

##### Selection Criteria and Recruitment Procedures

The sample for this study was recruited from among mother-daughter pairs who were enrolled as part of the original panel of the Tremin Trust Research Program. During a site visit to the University of Utah on November 30, 1987, 76 pairs who met the following criteria were identified: (a) daughter's current age between 40 and 55, (b) active record-keeper status of the daughter and active alumni status of the mother.

By the time of mailing list preparation more than half a year later (i.e., early July, 1988), almost a third of the identified pairs no longer qualified for this study primarily due to changes from active to inactive status of either daughters or mothers, some of the latter due to poor health or death; a few inaccurately specified intergenerational relationships were also discovered at this time (e.g., unrelated mothers and daughters, an aunt-niece pair). Since there were no daughters above the age of 50 who met

study criteria, the decision was made to decrease the lower range of the age criteria for daughters to 38 years in an attempt to increase the potential sample size. This decision seemed justifiable given documented ranges for age at natural menopause of 38 to 55 in the literature (see Table 3 of McKinlay et al., 1985, for a summary of studies on age at menopause; Treloar, 1974). Since one mother had two daughters who met the study age criteria, the total potential sample size was 57 mother-daughter pairs and 113 individuals (i.e., 56 mothers and 57 daughters).

Recruitment procedures were coordinated by the principal investigator and conducted by members of the Tremin Trust Research Team. Sample recruitment consisted of a three-stage process:

1. July 15, 1988

Packets including informational letters from the Director of the Tremin Trust (Ann Voda, Ph.D.) and study materials were mailed out to all mothers and daughters who met study criteria (n = 113).

2. August 19, 1988

Follow-up postcards were sent to all nonrespondents to date (n = 50).

3. October 10, 1988

Follow-up telephone calls were made only to mother/daughter nonrespondents whose mother/daughter responded (n = 22).

The closing date for sample recruitment was November 1, 1988.

#### Protection of Human Subjects

This research received approval from (a) the Human Subjects Review Committee at the University of Washington, and (b) the Tremin Trust Scientific Advisory Committee. An informational letter and

statement of implied consent was drafted in collaboration with Dr. Ann Voda (see Appendix B for a copy of this informational letter). This letter, which was sent out in the packets of study materials, was written on University of Utah/Tremin Trust letterhead paper and signed by the Director of the Tremin Trust. It included (a) an introduction of the principal investigator, (b) a description of the purpose and nature of this special study, (c) a request to use supplemental Tremin Trust data, (d) a statement that data from this special study would become a permanent part of Tremin Trust records, and (e) enumerations of participants' rights as well as safeguards for anonymity and confidentiality. In particular, potential participants were guaranteed that mothers and daughters would not have access to each other's responses and that the Tremin Trust would not release names or addresses (i.e., all materials were sent out from and returned to the Tremin Trust office, and data released to the principal investigator were only identifiable by identification numbers). Potential participants were also assured that non-participation in this special study would in no way affect their future participation in the Tremin Trust Research Program. Completion and return of study materials were regarded as indications of voluntary participation in this study.

Descriptive findings pertaining to the sample (i.e., individual and dyadic response rates, tests for representativeness, demographic profile, menstrual/reproductive and menopausal profile, and lifestyle and risk factor profile) will be presented in Chapter IV.

## Research Measures

### Demographic and Background Variables

Data for demographic and background variables were primarily obtained from Tremin Trust data files for the 1987 Health Report Form. This form was mailed out by the Tremin Trust to all active record-keepers and alumni in February 1988; similar to income tax reports, the Health Report Form requested information for the entire year of 1987 (see Appendix C for a copy of the 1987 Health Report Form). Health Report Forms were returned by participants between February and November 1988; thus, there was an overlap between collection of demographic and background data by the Tremin Trust and data collection for this special study. Although the time referent for the 1987 Health Report Form was actually the calendar year prior to this study, this slight temporal incongruence between demographic and background data and other study data was offset by the minimization of redundancy and time requirements for participants as well as a maximization of available research resources. Data for women who elected to participate in the special study but did not return the 1987 Health Report Form were collected from different sources including (a) other recent Tremin Trust records, and (b) telephone interviews.

Demographic variables included chronological age, geographic residence (i.e., variable created by recoding states according to regional classifications in Aylesworth & Aylesworth, 1987), marital status, education, total family income, employment outside the home (i.e., dichotomous variable created from data on occupation), number

of persons in participant's household, and major caregiver role.

Background variables for this study consisted of (a) menstrual/reproductive and menopausal variables (i.e., menstrual cycle variations, menopausal status, postmenopausal status, use of estrogen replacement therapy, and history of use of oral contraceptives) and (b) lifestyle and risk factor variables (i.e., regular exercise, smoking history, chronic conditions/illness, regular prescription drug use, regular over-the-counter drug use, major stress in past year). Data values parallel to codes entered in Tremin Trust 1987 Health Report Form data files were used for some of these variables. Other background variables for this study were uniquely defined by data modification procedures (i.e., recoded values for a variable or creation of a new variable from several existing variables). For example, Item 1 in the Menstrual Information section of the 1987 Health Report Form asked women to report whether they were (a) still menstruating, (b) in the menopausal transition, or (c) postmenopausal; data from this item were used as values for the variable, menopausal status (i.e., premenopausal, menopausal transition, postmenopausal). Menstrual cycle variations was a dichotomous variable (i.e., no or yes) that was generated from 14 distinct Tremin Trust event codes for changes in menstrual flow or intervals and other atypical bleeding patterns. Chronic conditions/illnesses was a dichotomous variable that summarized 13 different Tremin Trust codes. Major stress in past year was a dichotomous variable created not only from 16 family-, physical-, and psychological-related Tremin Trust stress codes but (also) from codes

for (a) changes in marital status, (b) atypical menstrual pattern connected with stress/life event, and (c) major and minor surgeries.

Since Tremin Trust data from the 1987 Health Report Form were stored in CLINFO files on a MicroVAX computer in the Clinical Research Center at the University of Utah, data were transported via ASCII files and reformatted into SPSS/PC+ V3.0 (Norusis, 1988) system files for articulation and compatibility with data from other study measures.

### Relationship Measures

#### Psychological Closeness

Psychological closeness in the mother-daughter relationship was measured by Walker and Thompson's 50-item General Intimacy Scale for Female Intergenerational Relationships. Content, criterion-related, and construct validity of this relationship scale were initially maximized in a multiphasic research study which examined similarities and differences in same-gender and opposite-gender intimate and non-intimate relationships (Walker, 1979). This scale was further refined for use in several studies of mother-daughter relationships, including studies of aging mothers and adult daughters (Walker & Thompson, 1983; Thompson & Walker, 1984; Thompson & Walker, 1987; Walker & Thompson, 1987). Thus, age and gender appropriateness were major validity considerations in selection of the Walker and Thompson scale over other existing measures of either (a) parent-child relationships, which are more generally more relevant for younger parents and children (e.g., Cohler & Grunebaum, 1981; see critique in Hagestad, 1986), or (b) adult dyadic relationships, which are

generally more specific to age-equivalent, opposite-gender pairs (e.g., Spanier, 1976; Spanier & Thompson, 1982).

This multidimensional scale consists of five noteworthy and unique factors (i.e., item loadings of at least .5 on one factor and less than .25 on all other factors): (a) attachment (9 items), (b) intimacy (17 items), (c) tension (2 items), (d) disclosure (3 items), and (e) worry and concern (2 items). Seventeen other items do not align with any one factor but conceptually tap relationship dimensions such as open communication, endurance, mutuality, similarity, sensitivity, solidarity, support, tolerance, and understanding. Reliability estimates based on administrations to mother-daughter samples, however, have only been reported for the attachment subscale (i.e., Cronbach's alphas of .86 to .91 across relationship reports) and intimacy subscale (i.e., Cronbach's alphas of .91 to .96).

The General Intimacy Scale for Female Intergenerational Relationships consists of a 7-point Likert-type response system ranging from not true (1) to always true (7). Participants in this study were asked to rate the 50 relationship items in reference to two time frames: (1) as recalled from the time when the mother was the age that the daughter is now (i.e., T1, or past), and (2) as perceived at the present time (i.e., T2, or present) (see Items 1-50 in Section 1 of Appendix D). Scores were computed for the total relationship scale as well as the attachment and intimacy subscales (see Table 1 for subscale items); theoretical scale/subscale ranges were 0 to 350, 0 to 63, and 0 to 119, respectively.

Table 1

Items in the Attachment and Intimacy Subscales of the  
General Intimacy Scale for Female Intergenerational Relationships

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Attachment Subscale Items

Item  
No.

- 7. We're dependent on each other.
- 27. We anticipate each other's moods.
- 28. We nurture each other.
- 29. I feel like I want to support her.
- 30. She is closer to me than others.
- 36. We're emotionally dependent on each other.
- 39. When we anticipate being apart, our relationship intensifies.
- 40. We anticipate each other's needs.
- 44. Our best times are with each other.

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Intimacy Subscale Items

Item  
No.

- 1. We want to spend time together.
  - 3. She shows me that she loves me.
  - 4. We're honest with each other.
  - 5. We can accept each other's criticism of our faults and mistakes.
  - 11. We like each other.
  - 12. We respect each other.
  - 18. We enjoy our relationship.
  - 19. Our lives are better because of each other.
  - 20. We feel like we're a unit.
  - 21. There's a great amount of unselfishness in our relationship.
  - 23. She always thinks of my best interest.
  - 33. She cares about the way I feel.
  - 34. I'm lucky to have her in my life.
  - 35. She always makes me feel better.
  - 47. She's important to me.
  - 49. We love each other.
  - 50. I'm sure of this relationship.
-

Physical Closeness. Consistent with related studies (Cohler & Grunebaum, 1981; Fischer, 1981; Nivert, 1983; Walker & Thompson, 1983), physical closeness and contact in the mother-daughter relationship were measured in this study by questions on (a) residential proximity, and (b) frequency of three modes of contact (i.e., visits, telephone calls, and letter writing). Participants were asked to respond to these items for both the past and present (see Items 51-54 in Section 1 of Appendix D). Although questions consisted of ordinal-level response formats, data on residential proximity were dichotomized [e.g., lived together vs. lived apart (T1); live < or = 100 miles apart vs. live > 100 miles apart (T2)]; visiting and telephoning were combined to form a measure of direct contact, and letter writing was used as a measure of indirect contact.

#### Individual Measures

##### Socialization Measures

Since standardized instruments for measurement of socialization influences for major events, processes, and stages in women's adult lives could not be found in the literature, socialization measures were developed for this study based on questions used by Kaufert (1980) and Kaufert and Gilbert (1986) in their inquiries into levels and sources of information on menopause.

Participants in this study were asked to rate to what extent and how [i.e., very negatively (-2) to very positively (+2)] 10 direct and indirect sources have influenced their expectations, experiences, and knowledge regarding major events and stages in their lives. The

sources that were listed were physician; other health care providers; mother (i.e., talking with and observing); female relatives (i.e., talking with and observing); female friends (i.e., talking with and observing); listening to radio or watching television/movies; and reading books, magazines, or newspapers. An open-ended item was also included for participants to write in and rate three additional socialization sources to provide supplemental data not only for this study but (also) for future development and refinement of these socialization measures (see Section 2 of Appendix D).

Participants were asked to complete separate socialization measures for (a) menstruation (i.e., daughters at T1), (b) pregnancy and reproductive processes (i.e., daughters at T1), (c) menopause (i.e., mothers at T1 and daughters at T2), and (d) postmenopause and aging (i.e., mothers at T2). For each of these events/stages, ratings were summed across the 10 listed sources to provide a standard overall measure of socialization influence; thus, the theoretical range for socialization influence scores was -20 to +20.

#### Attitudinal Measures

Attitudes Toward Menopause. Mothers' and daughters' present (i.e., T2) attitudes toward menopause were measured with the widely-used Attitudes Toward Menopause (ATM) Checklist (Neugarten et al., 1963). This instrument consists of 35 items which are rated on a 4-point Likert scale from agree strongly (1) to disagree strongly (4) (see Section 3 of Appendix D). Although other studies have used interviews (Maoz et al., 1970) or vignettes (Muhlenkamp, Waller, & Bourne, 1983) to study attitudes toward menopause, these methods

were deemed to be either infeasible or too complicated for data collection by mail from the large, diverse sample for this study. Despite Bowles' (1986) case against the ATM due to its specificity and lack of published reliability and validity estimates, the ATM was selected over Bowles' "general" semantic differential Menopause Attitude Scale (MAS) since a specific measure of attitudes toward menopause was needed in this study for purposes of comparison with attitudes toward both women and aging. Moreover, the "bipolar opposites" procedure of the semantic differential, which was developed by Osgood and colleagues (1957) using male samples, is of questionable appropriateness for use with female samples; this methodological consideration was based on Gilligan's (1977, 1982) work which suggests that dichotomization and universalism are dominant modes of male cognition, whereas particularism and relativism are characteristic modes of female thought. The decision to use the longer ATM over Leiblum and Swartzman's (1986) 10-item Menopause Attitude Questionnaire (MAQ) was based not only on the paucity of psychometric data for the newer MAQ but (also) on the preponderant medical model emphasis in the shorter instrument.

The ATM was initially developed through a process of (a) preliminary interviews, (b) a pilot test on 50 perimenopausal women, (c) revisions to include 35 unique items in 4-point Likert format, and (d) readministration to a criterion sample of 100 perimenopausal women as well as comparative samples. Thus, content and criterion-related validity were maximized throughout the instrument development process. Eight dimensions of the instrument

(i.e., negative affect, postmenopausal recovery, extent of continuity, control of symptoms, psychological losses, unpredictability, sexuality, and miscellaneous) were identified through factor analysis of data obtained from the criterion group. Although subscale analysis of attitudinal measures was not a specific aim of this research, these dimensions indicated that the ATM taps positive as well as negative aspects of the menopausal experience, a desired feature for study attitudinal measures. Positive items were reverse-scored prior to analyses so that a high total ATM score represented positive attitudes toward menopause, and a low total scale score indicated negative attitudes. Bowles (1986) documented an internal consistency reliability estimate (Cronbach's alpha) of .80 from administration of the ATM to a sample of 138 women; a significant concurrent-validity coefficient (Pearson  $r = .63$ ) was reported between the ATM and Bowles' MAS.

Past (i.e., T1) attitudes toward menopause were tapped by a single item asking mothers and daughters to compare present attitudes with attitudes recalled from the time when the mother was experiencing menopause and to indicate whether attitudes have generally (a) become more negative over time, (b) stayed about the same, or (c) become more positive over time. Although sensitivity and specificity were sacrificed, this global form of measurement was deemed to be a reasonably valid and reliable indicator of retrospective attitudes. Moreover, the comparative element of the measure was methodologically consistent with relativism as a characteristic mode of cognition in women.

Attitudes Toward Women. The short 25-item version of the Spence-Helmreich Attitudes Toward Women Scale (AWS) was used to measure mothers' and daughters' present (i.e., T2) attitudes toward women. Items in this instrument are rated on 4-point Likert scale from agree strongly (1) to disagree strongly (4) (see Section 4 of Appendix D). Twelve of the items were reverse-scored prior to analyses so that a total AWS score of 25 represented maximal traditional attitudes, and a total scale score of 100 represented maximal contemporary attitudes.

Although the short version of the AWS scale has not been subjected to as rigorous instrument development and psychometric testing procedures as has the more recent Inventory of Sex-Role Orientation (ISRO) (Dreyer, Woods, & James, 1981), the emphasis on childcare and women's work outside the home in the ISRO made the AWS more suitable than the ISRO for use with a sample of middle-aged daughters and aging mothers.

Spence, Helmreich, & Stapp (1973) reported normative data from samples of college students and their parents which showed that the scale was able to adequately discriminate by both generation and sex. Correlations between the 25-item short version and the original 55-item scale ranged from .96 to .97. Factor analysis indicated that the AWS is essentially unidimensional. Bowles (1986) reported a internal consistency reliability estimate (Cronbach's alpha) of .85 based on administration of the AWS to a sample of 146 women; discriminant validity of the AWS was further supported by a low inverse correlation (Pearson  $r = -.04$ ) between the AWS and the

Menopause Attitude Scale (MAS).

Parallel to the T1 attitudes toward menopause measure, past attitudes toward women were tapped by a single item asking mothers and daughters to compare present attitudes with attitudes recalled from the time when the mother was the age that the daughter is now and to indicate whether attitudes have been more negative, stayed the same, or become more positive over time.

Attitudes Toward Aging. One major gap in the gerontology literature has been a lack of scales designed to measure attitudes toward the aging process per se; most existing scales address attitudes toward old people as stimulus objects and, thus, indirectly tap attitudes toward aging (Bennett & Eckman, 1973; Palmore, 1982). Consistent with the approach to this problem taken by Kilty and Feld (1976), an Attitudes Toward Aging (ATA) scale was eclectically developed for this study to measure mothers' and daughters' present (i.e., T2) attitudes toward aging (Patsdaughter & Killien, 1988). This scale included items derived from (a) Kogan's (1961) Attitudes Toward Old People (OP) Scale; (b) Neugarten and Garron's (1959) qualitative study of attitudes of middle-aged persons toward aging, and (c) Tuckman and Lorge's (1953) classic Attitudes Toward Old People Questionnaire. Parallel to the other two attitudinal measures of this study, the 22 items of the ATA were rated on a 4-point Likert scale from strongly agree (1) to strongly disagree (4) (see Section 5 of Appendix D).

Kogan's (1961) Attitudes Toward Old People (OP) Scale was originally developed from diverse bodies of literature and pilot

tested on college student samples, but it has since been used in various research contexts and found to have "good content validity" (Ivester & King, 1977). The total scale consists of 34 items--matched pairs of 17 negative and 17 positive items--scored on a 6-point Likert scale from strongly disagree (1) to strongly agree (6), with reverse coding indicated for negative items. For the total scale, odd-even reliability estimates (Spearman-Brown coefficients) ranged from .65 to .85; higher reliability coefficients were reported for the negative subscale than for the positive subscale. Bowles (1986) reported an internal consistency reliability estimate (Cronbach's alpha) of .90 based on administration of the total OP scale to 135 women. On the basis of item content, item-sum correlations, and matched pair correlations, 7 pairs (i.e., 14 items) were eliminated from the OP scale in the first stage of development of the ATA. Thus, 10 OP item pairs (i.e., 20 items) were included in the initial version of the ATA.

In an interview study of middle-aged persons' (N = 625) attitudes toward aging, Neugarten & Garron (1959) found that a triad of dependency, loss of health, and loss of income was a frequently-repeated, recurrent theme. Since related items are also contained in Tuckman and Lorge's (1953) questionnaire, 3 pairs of negative and positive items (i.e., 6 items) were included in the initial version of the ATA scale to tap these concepts.

The Tuckman and Lorge (1953) Attitude Toward Old People Questionnaire has been widely used in various modified forms in research on aging, particularly in studies of family relationships

(Tuckman, Lorge, & Spooner, 1953) and in studies of personal experiences and symptom projection (Tuckman & Lorge, 1958a, 1958b). The original questionnaire consists of 137 true/false statements classified into 13 different categories. Eighteen items derived from five categories (i.e., physical, mental, sexual, family, and life satisfaction) were included in the initial version of the ATA.

Consistent with Kogan's OP scale, the initial 44-item version of the ATA contained matched pairs of negative and positive items. However, in consideration of (a) feasibility and practicality constraints related to the total volume of questionnaire data requested from participants in this study, and (b) the relative lengths of other two attitudinal measures, the initial version of the ATA was deemed to be too long. Moreover, matched pairs in an instrument of this length gave a strong impression of redundancy. Thus, the decision was made to eliminate either the negative or positive item from each matched pair. Item elimination procedures were based on a critical review of item content and wording; the process was conducted by two reviewers who reached agreement through a process of consensual validation. Thus, the revised version of the ATA used in this study consisted of 22 items (i.e., 11 negative and 11 positive). Ten of these items were derived from Kogan's OP scale; three items tapped Neugarten & Garron's (1959) triad of dependency, health, and finances; and seven items represented five dimensions of the Tuckman and Lorge (1953) questionnaire. Moreover, the 4-point Likert format of the ATA, which was maintained for consistency with the response format of the other two standardized attitudinal

measures of the study, represented a balance between the 6-point Likert format of the Kogan OP scale and the dichotomous format of the Tuckman and Lorge questionnaire. As with the other two attitudinal measures, positive ATA items were reverse-scored so that a high score indicated positive attitudes toward aging. While attempts were made to preserve and maximize content validity throughout the two-stage instrument development process, a secondary aim of this study was to obtain data for further assessment of reliability and validity of the newly-developed and revised ATA scale.

As with attitudes toward menopause and women, past (i.e., T1) attitudes toward aging were tapped by a single past comparative recall item.

#### Symptom Experience Measures

Menopause Symptom Checklist. Symptoms experiences were measured in this study by the Neugarten and Kraines' (1965) 28-item Menopause Symptom Checklist (MSC), which is inclusive of symptoms in the Blatt Menopause Index (BMI) (Kupperman, Wetchler, & Blatt, 1959). Non-BMI symptoms were added to this instrument on the basis of extensive interviews with women as well as a review of clinical and research literature.

From an administration of the checklist to 460 women across five age groups (i.e., ages 13-18, 20-29, 30-34, 45-54 [premenopausal/menopausal/postmenopausal], and 55-64), Neugarten and Kraines (1965) found that adolescents had the highest level of psychological symptoms, whereas menopausal women had the highest level of physical symptoms; in general, aging women reported significantly fewer

symptoms in comparison to the other four groups. With the exception of a significantly higher incidence of BMI symptoms in menopausal women, findings of this study suggested that the "menopausal symptoms" on the checklist are not necessarily unique to perimenopausal women. Thus, despite inaccuracy of its title, the MSC can appropriately be used as general measure of symptom experiences. Additionally, the Neugarten and Kraines (1963) study demonstrated that the MSC can provide adequate discrimination among women of various age groups.

Reported test-retest reliability coefficients from one- to six-month intervals were .79 for the total checklist and .70 for the BMI. The somatic, psychosomatic, and psychologic dimensions of the checklist were arbitrarily assigned and have not been subjected to factor analytic verification, although Green (1976) reported a three-factor solution for a similar set of symptom items.

The MSC consists of a 4-point Likert scale in which the experience and severity of each symptom are rated from not at all (0) to severe (3). Participants in this study were asked to rate each of the symptoms on the MSC in reference to two time frames: (a) as recalled from the time when the mother was in the perimenopausal years (i.e., T1), and (b) as experienced at the present time with the daughter in the perimenopausal years (i.e., T2) (see Section 6 of Appendix D). Scores were computed for the total symptom scale and BMI as well as for the somatic, psychosomatic, and psychologic symptom subscales (see Table 2 for symptom items in each of these subscales). Theoretical scale/subscale ranges were 0 to 84 for the

Table 2

Symptom Items in the Somatic, Psychosomatic, and Psychologic  
Subscales of the Menopause Symptom Checklist

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Somatic Symptoms

hot flushes<sup>b</sup>  
 cold sweats<sup>b</sup>  
 weight gain  
 flooding  
 rheumatic pains<sup>b</sup>  
 aches in back of neck  
 cold hands and feet  
 numbness and tingling<sup>b</sup>  
 breast pains  
 constipation  
 diarrhea  
 skin crawls<sup>b</sup>

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Psychosomatic Symptoms

tired feelings<sup>b</sup>  
 headaches<sup>b</sup>  
 pounding of heart<sup>b</sup>  
 dizzy spells<sup>b</sup>  
 blind spots before eyes

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Psychologic Symptoms

irritable and nervous<sup>b</sup>  
 feel blue and depressed<sup>b</sup>  
 forgetfulness  
 excitable  
 trouble sleeping<sup>b</sup>  
 can't concentrate  
 crying spells  
 feeling of suffocation  
 worry about body  
 feeling of fright/panic  
 worry about nervous breakdown

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Note. <sup>b</sup> indicates symptoms in the Blatt  
Menopause Index (BMI).

28-symptom total scale, 0 to 36 for the 12-symptom BMI, 0 to 36 for the 12-symptom somatic subscale, 0 to 15 for the 5-symptom psychosomatic subscale, and 0 to 33 for the 11-symptom psychologic subscale.

Symptom Reliability Data. A 34-symptom checklist, which included symptoms in the MSC as well as several other symptoms associated with postmenopause and aging (e.g., periodontal disease, vaginal infections, urinary leakage), was included in the Tremin Trust 1987 Health Report Form (see Item 28 in Appendix C). Symptom data from the 1987 Health Report Form were obtained and used as a basis for assessment of the test-retest reliability of the symptom experience measure (MSC) used in this study.

#### General Health Perceptions Measure

General health perceptions were measured in this study with a modified version of Rossi's (1980a) 9-item Aging Symptoms Index (ASI). In contrast to the specific symptoms in the Menopause Symptom Checklist (MSC), this index consists of nine global physical characteristics and functional/sensory abilities: eyesight, shape of body, teeth, energy level, weight, sex life, health, hearing, and hair condition.

The ASI was initially developed for use in a multivariate study of 68 mothers ages 36-50 (i.e., 37 were premenopausal and 31 were menopausal or postmenopausal) in which women were asked to provide a past comparative rating of themselves on each of the nine dimensions ("How would you rate yourself today [i.e., worse now, no change, better now] compared to 5 years ago?"). ASI scores were found to

be one of the best predictors of both relationship and individual criteria in this study. For example, mother's ASI score was a significant predictor of emotional closeness in the mother-adolescent relationship, with higher ASI scores associated with a lower degree of perceived emotional closeness. Mother's ASI score was also the best predictor of maternal stress and mother's daily exhaustion score.

The decision to use the ASI as a measure of general health perceptions in this study was based the fact that the ASI offered a desirable combination of predictive power and parsimony (i.e., simplicity, shortness). Moreover, the ASI represented an attractive methodological compromise between single-item general health ratings (e.g., Baruch & Barnett, 1983) and longer, more specific tools (e.g., Engel's, 1987, Perceived Health Status [PHS] instrument).

Although the stem in the original version of the ASI was a comparative question, Rossi recommended use of direct ratings on a 10-point Likert scale with a larger sample characterized by age variability (A. Rossi, written communication, January 14, 1988). Thus, mother and daughter participants in this study were asked to rate themselves on each of the nine items on a scale from poor (0) to excellent (10) for both the past (i.e., T1) and present (i.e., T2) time frames (see Section 7 of Appendix D). Items were reverse-scored prior to analyses so that high total scores were associated with positive general health perceptions.

### Questionnaire Design

Following recommendations of Dillman (1978) and Fowler (1988), careful attention was paid to questionnaire design in attempt to avoid problems of missing data and nonresponse that are frequently associated with mail survey research. The questionnaire was divided into seven major sections which proceeded from interpersonal to personal questions (i.e., Section 1: Relationship Measures; Section 2: Socialization Measures; Sections 3: Attitudes Toward Menopause; Section 4: Attitudes Toward Women; Section 5: Attitudes Toward Aging; Section 6: Symptom Experiences; Section 7: General Health Perceptions). Self-explanatory directions were included at the beginning of each major section. Response formats were kept as consistent as possible (e.g., all attitudinal measures included a 4-point Likert scale which ranged from strongly agree [1] to strongly disagree [4]) for purposes of clarity and ease. Although the potential for response set biases was recognized, most study measures had built-in features (e.g., alternately scored items; counter-balanced negatively and positively worded statements) to help avert or minimize response sets. Items were highlighted with bold print, and response options were repeated under each item to prevent confusion within and between sections as well as to reduce the number of missed or skipped items and responses.

To accommodate visual changes in this sample of middle-aged and aging women, questionnaire items were typed in large print (the sample questionnaire in Appendix D was reduced by 12%), and the questionnaire was printed on non-glare, light grey paper. Given the

length of the questionnaire, every effort was made to present participants with an appealing and attractive product. The cover design, format, and layout of the questionnaire were professionally prepared by the Graphics Illustration Department at the University of Washington. For participants' ease of handling as well as to avoid lost or out-of-order pages, the questionnaire was bound in booklet form. To encourage and facilitate return, questionnaires were accompanied by prestamped envelopes which were preaddressed to the Tremin Trust Research Program.

#### Pilot Study

A pilot study was conducted with five adult daughter-aging mother pairs to (a) identify any difficulties with or problems in the questionnaire prior to final printing and production, and (b) obtain an estimate of the amount of time required for questionnaire completion for inclusion in the informational letter to potential study participants. None of the 10 women in the pilot study reported any difficulties in understanding directions, items, or response formats; nor did they have any other problems in completing the questionnaire. A few minor typographical errors were discovered in the pilot study, and corrections were made. Completion times ranged from 20 minutes to 1 1/2 hours; in all five pairs, completion time was shorter for the daughter than for the mother. Although not analyzed, pilot study data were useful in planning the structure and format of both individual-level and dyadic data files while data collection for the main study was in progress.

### Approaches to Data Analysis

Qualitative data obtained in this study (i.e., additional sources listed in Item 11 of the socialization measures as well as anecdotal notes written by participants) were recorded in Notebook II Text Database Manager (Pro/Tem Software, 1986). These data were not analyzed using systematic qualitative techniques but rather were used as supplemental information in interpretation of quantitative findings. All quantitative data were entered using SPSS/PC+ Data Entry II and stored in SPSS/PC+ V3.0 system files (Norusis, 1988).

#### Preliminary Procedures

Prior to data analysis, the accuracy of data entry was verified using the Cleaning Branch in Data Entry II. Item frequencies were then run on all variables as an additional check for illegal or out-of-range values as well as for identification of missing data. There were more missing data for demographic and background variables (e.g., income, employment) than for study variables, and missing data for the former variables will be presented as not reported. One mother and one daughter (i.e., unrelated to each other) reported that they were unable complete the relationship measure by recall for T1; moreover, that same daughter also indicated that she was unable to provide T1 data for symptom experiences since she was "too young to remember". These participants with missing data for entire scales were deleted from analyses for respective measures. In order to maximize use of all available data and yet minimize distortion, each participant's own scale or subscale mean score (i.e., vs. group mean) was substituted for missing data on isolated items. Overall,

however, there was very little missing data on study measures.

Data analysis was primarily directed by the specific aims of this study. The individual was the unit of analysis in the first two research questions, whereas the dyad was the unit of analysis in questions three through six. Thus, two types of data files were required: (a) files with the individual as "case" for the subsample of all mothers and the subsample of all daughters, and (b) files with the dyad as "case" for the subsample of mother-daughter pairs. Dyadic files consisted of mother and daughter variables defined in parallel form (e.g., M2RELTOT for mother's T2 total relationship score and D2RELTOT for daughter's T2 total relationship score); these files were created by selecting cases from individual data files and merging mother and daughter cases by dyad identification number.

#### Analysis of Individual Data

Demographic and background data were analyzed using descriptive statistics (i.e., frequencies, percents, measures of central tendency and variability). Chi-square statistics and t-tests were used to assess the representativeness of the sample (i.e., to test for differences between nonparticipant and participants as well as between individual participants and dyadic participants). Next, reliability procedures were conducted to (a) identify items that performed poorly (i.e., via item means and variances, interitem and item-total correlation matrices, and Cronbach's alpha) prior to computation of scale scores for use in subsequent analyses, and (b) obtain reliability estimates (i.e., internal consistency, split-half, test-retest) for the study measures.

Descriptive statistics (i.e., frequencies and percents as well as measures of central tendency and variability) were used to address the first research question: What are the (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions of mothers and daughters at T1 and T2?

Appropriate correlational techniques were used to answer the second (i.e., "longitudinal") research question on associations between T1 and T2 measures for mothers and for daughters. Pearson product-moment correlations were used in analyses of interval-level variables (i.e., relationship, socialization, symptom experience, and general health perception scores). Eta and  $R^2$  were used to analyze associations between nominal-level T1 attitudinal measures and interval-level T2 attitudinal scores. Whereas correlational techniques measured the degree of intraindividual consistency or stability, information was also sought on T1 to T2 change, or differences between the two time frames. Thus, paired t-tests (i.e., for T1 and T2 interval-level relationship, symptom experience, and general health perceptions measures), Hotelling's  $T^2$  (i.e., for daughters' multiple T1 socialization measures), and repeated measures analysis of variance (MANOVA) (i.e., for nominal-level T1 and interval-level T2 attitudinal measures) were computed to extend and supplement correlational findings.

### Analysis of Dyadic Data

Appropriate contingency and correlational techniques were used to answer the third (i.e., cross-sectional) research question on associations between mother's and daughter's measures at T1 and at T2. Again, Pearson correlation coefficients were used for interval-level variables (i.e., relationship, socialization, symptom experience, and general health perception scores at both T1 and T2; attitudinal measures at T2). Wilcoxon matched-pairs signed rank tests were used to determine the association between mother's T1 attitudes and daughter's T1 attitudes. While measures of association were used to assess the degree of intradyadic consistency or congruence, paired t-tests, Hotelling's  $T^2$  (i.e., to accommodate daughter's multiple T1 socialization measures; see Mendoza & Graziano, 1982), and Chi-square tests for differences in proportions (i.e., for T1 attitude measures) were used to test for mother-daughter differences.

Similar correlational techniques were used to answer the fourth (i.e., sequential) research question on associations between mother's T1 measures and daughter's T2 measures, with the exception that eta and  $R^2$  were used for mother's nominal-level T1 attitudinal measures and daughter's interval-level T2 attitudinal measures. Differences between mother's T1 measures and daughter's T2 measures were tested using paired t-tests and repeated measures MANOVA (i.e., to accommodate intradyadic nominal- and interval-level attitudinal measures; see Ball, McKenry, & Price-Bonham, 1983).

Questions five and six, which addressed the contributions of study variables to mother's and daughter's general health perceptions, were answered using a combination of correlational and multiple regression techniques (Cohen & Cohen, 1983; Pedhazur, 1982). As written in the Specific Aims of the Study section in Chapter II, these questions included all study variables that were deemed to be theoretically-relevant predictors of general health perceptions. Since these were too many variables to include in regression equations given the size of the dyadic sample in this study, the total number of variables was reduced on the basis of (a) findings from prior analyses, (b) methodological concerns regarding some T1 measures, and (c) preliminary bivariate correlational analyses.

Findings related to sample description and measurement assessments will be presented in Chapter IV. Results from analyses to answer the six research questions of this study will then be presented in Chapter V.

## CHAPTER IV

### SAMPLE DESCRIPTION AND MEASUREMENT ASSESSMENTS

#### Sample Description

##### Response Rates

One hundred and thirteen Tremin Trust active record-keepers and alumni were eligible for participation in this study. Since one mother had two daughters who met eligibility criteria, the potential sample for this study consisted of 56 mothers and 57 daughters, with 57 possible mother-daughter pairs.

Response rates for the total sample of individuals as well as the dyadic subsample are presented in Table 3. The overall response rate for the total sample was 87.6% (i.e., 89.3% for mothers and 86% for daughters), which was well above average for mail survey research (e.g., Fowler, 1988, reported that response rates of 20-30% are typical in general population surveys and that a 75% return represents an acceptable rate). This high response rate may be attributed to several factors including (a) the personal approach and appeals by the Tremin Trust director in the informational letter, (b) questionnaire design and provisions to promote return, (c) the three-stage recruitment process, and (d) high levels of commitment and motivation of Tremin Trust participants (i.e., return rates for Tremin Trust mailings have consistently been about 90%).

There were both similarities and differences in reasons for nonparticipation of mothers and daughters. Of the six mothers who did not participate in this study, one indicated an intent to participate during the telephone follow-up but never returned the questionnaire, and two (i.e., one by letter and one by telephone)

Table 3

Response Rates for Total Sample of Individuals and Dyadic Subsample

	Mothers		Daughters	
	<u>n</u>	<u>%</u>	<u>n</u>	<u>%</u>
Total Sample				
Individuals	56	100.0	57	100.0
Nonparticipants	6	10.7	8	14.0
Participants	50	89.3	49	86.0
Dyadic Subsample				
Participants	50	100.0	49	100.0
Individual Participants	7	14.0	6	12.2
Dyadic Participants	43	86.0	43	87.8

indicated that they were "too sick" and did not feel up to completing the questionnaire. Three mothers were unable to be reached during telephone follow-up attempts; thus, it was uncertain whether or not they received either the initial packets or follow-up postcards, and reasons for nonparticipation remained unknown. Of the eight eligible daughters who did not participate, one indicated an intent to participate upon telephone follow-up but did not return the questionnaire, one stated that she "didn't want to because she couldn't see the practical application of the survey", and two reported that they were "too busy". Four daughters were unable to be reached despite multiple telephone follow-up attempts.

The dyadic subsample consisted of 43 dyads, or 75.4% of the 57 possible mother-daughter pairs. This response rate is quite acceptable in view of the compounded difficulties in obtaining samples of dyads (Huston & Robins, 1982; Thompson & Walker, 1982; Uphold & Harper, 1986). Eighty-six percent of the mothers in the study were dyadic participants, and 87.8% of the daughters participated as members of dyads.

Representativeness. Estimates of sample representativeness were obtained by comparisons of mother and daughter (a) nonparticipants and participants, and (b) individual participants and dyadic participants on measures from the Tremin Trust 1987 Health Report Form. Tests for differences were conducted for (a) demographic variables (i.e., chronological age, total number of persons in participant's household, geographic residence, marital status, education, income, employment outside of home, major caregiver role); (b) background variables (i.e., menstrual cycle variations, menopausal status, postmenopausal status, estrogen replacement therapy, history of oral contraceptive use, regular exercise, smoking history, chronic conditions/illnesses, regular prescription drug use, regular over-the-counter drug use, major stress in past year); and (c) dyadic age difference (i.e., mother's age minus daughter's age) (see Tables E.1 through E.4 in Appendix E). Independent t-tests with use of pooled variance estimates to account for considerable differences in group sizes (Clayton, 1984) were used to test for differences on interval-level variables. Chi-square tests with Yates' correction formula for small cell sizes were used to test

for differences on nominal-level variables.

Proportionately more mother nonparticipants than mother participants had graduate/professional degrees ( $\chi^2 = 5.1139$ , 1,  $N = 56$ ,  $p < .05$ ). Although statistically significant, this difference may not have been empirically relevant since (a) all mothers had at least an undergraduate college degree, and (b) prior studies on women's attitudes and health suggest that the important distinction is between women without and with some college education rather than between women with undergraduate degrees and women with graduate/professional degrees (Antonucci, 1982; Block et al., 1981; Dege & Gretzinger, 1982; Kresovich, 1980; Leiblum & Swartzman, 1986). Although level of statistical significance (i.e.,  $p < .05$ ) was not reached, mother nonparticipants were also more likely than mother participants to report major stress in the past year. Otherwise, mother nonparticipants and participants did not significantly differ on any other demographic or background variables or on the dyadic age difference variable.

There were no significant differences between daughter nonparticipants and daughter participants on any of the major demographic or background variables or on the variable of dyadic age difference. Nor were there any significant differences between individual and dyadic participants on any of the selected variables for either mothers or daughters.

However, there was a nonsignificant but notable trend for individual daughter participants to be slightly older ( $M = 45.0$  years) than dyadic daughter participants ( $M = 42.7$  years). The

initial interpretation that older daughters were likely to have older mothers who were possibly less likely to participate due to ill health was not supported, though, given the parallel trend for a lower dyadic age difference ( $\bar{M} = 25.8$  years) for individual daughter participants in comparison to dyadic daughter participants ( $\bar{M} = 28.3$  years).

In further support of representativeness of the study sample, mean age of mothers in this study (i.e.,  $\bar{M} = 70.96$  for all mothers participants,  $\bar{M} = 70.88$  for mother dyadic participants) corresponded with the Panel I age peak reported for Panel I mothers by the Tremin Trust Research Team (1988). Moreover, distribution of study participants by state generally mirrored the geographical distribution of Tremin Trust Participants (cf. Figure A.1 in Appendix A with Figure F.1 in Appendix F), with the exceptions of Alaska and foreign countries.

Thus, the total sample of individuals and dyadic subsample were deemed to have been representative of the sampling unit selected for this study (i.e., Panel I mothers and daughters who have been longitudinal participants in the Tremin Trust Research Program) given (a) the overall high response rates for this study, (b) minimal differences between nonparticipants and participants as well as between individual participants and dyadic participants, and (c) age and geographic similarities between the study sample and the parent Tremin Trust sample. As noted by Woods (1988a), however, favorable assessments of sample representativeness do not eliminate or repair biases that are inherent in the larger sampling unit. Thus, while

findings can be validly generalized from this representative sample to the sampling unit, caution must be exerted in further generalization to the population of interest (i.e., all menopausal and aging women in the United States and U.S.-born women living in adjacent countries).

#### Demographic Characteristics of the Sample

Demographic characteristics of the sample are presented in Tables 4, 5, and 6. Mothers ranged in age from 68 to 78 years, with a modal age of 69 years. Thus, most of the mother participants fell into Neugarten's (1974) classification of "young-old", the period of life when aging and health-related changes are increasingly manifested but before dependency and frailty occur. Daughters ranged in age from 38 to 50 years, with a modal age of 44. However, according to Neugarten (1968b) and successive scholars (Brooks-Gunn & Kirsh, 1984; McGoldrick, 1989; Notman, 1980), chronological age is a relatively less important marker for middle-aged women than are (a) bodily changes such as menopause, and (b) external social cues, particularly changes and events within the family context.

Related to this latter distinction, mother participants in this study lived in households with significantly fewer other persons than did daughter participants ( $t(97) = -6.29, p < .001$ ). Mothers who did not live alone primarily lived with only a spouse. However, three mothers lived with adult daughters (i.e., but not the daughter who participated in this study), and one mother shared a home with her 92 year-old mother. Only nine daughters lived alone. Most daughters lived with not only spouses (or significant others) but (also) with

Table 4

Age in Years of Mother and Daughter Samples

	<u>n</u>	<u>M</u>	<u>SD</u>	<u>Range</u>
Mothers	50	70.96	2.14	68 - 78
Daughters	49	42.96	3.01	38 - 50

Table 5

Total Number of Persons in Participants' Households

	<u>n</u>	<u>M</u>	<u>SD</u>	<u>Range</u>
Mothers	50	.78	.55	0 - 3
Daughters	49	2.14	1.43	0 - 5

Table 6

Demographic Profile of the Sample

	Mothers ( $\underline{n} = 50$ )		Daughters ( $\underline{n} = 49$ )	
	n	%	n	%
<b>Marital Status</b>				
Single	1	2.0	10	20.4
Married	37	74.0	35	71.4
Widowed	7	14.0	1	2.0
Divorced	5	10.0	3	6.1
<b>Education</b>				
High School Diploma	0	0.0	3	6.1
Undergraduate Degree	49	98.0	31	63.3
Graduate/Professional Degree	1	2.0	15	30.6
<b>Income<sup>a</sup></b>				
less than \$10,000	1	2.0	3	6.1
\$10,000 - 20,000	5	10.0	5	10.2
\$21,000 - 30,000	11	22.0	5	10.2
\$31,000 - 40,000	6	12.0	7	14.3
\$41,000 - 50,000	6	12.0	4	8.2
over \$50,000	14	28.0	23	46.9
not reported	7	14.0	2	4.1
<b>Employed Outside Home</b>				
No	29	58.0	8	16.3
Yes	1	5.0	40	81.6
not reported	16	32.0	1	2.0
<b>Major Caregiver Role</b>				
No	45	90.0	18	36.7
Yes	5	10.0	31	63.3
<b>Geographic Residence</b>				
Northeast	5	10.0	7	14.3
Southeast	1	2.0	1	2.0
North Central	22	44.0	11	22.4
Mid Central	2	4.0	6	12.2
Northwest	5	10.0	8	16.3
Southwest	14	28.0	14	28.6
Other	1	2.0	2	4.1

<sup>a</sup>Total Family Income recorded in non-mutually exclusive categories on Tremin Trust 1987 Health Report Form.

one or more children. In contrast to findings for mothers in this study as well as the small but consistent percentages reported in the literature on middle-aged women (Brody, 1981; Cohler & Grunebaum, 1981; Lopata, 1973; Stueve & O'Donnell, 1984; Sweetser, 1964), none of the daughter participants in this study lived with an aging parent or parent-in-law.

There was also a significant difference between mothers and daughters in this study in terms of marital status ( $\chi^2 = 12.41, 3, N = 99, p < .01$ ). The majority of both mothers (74%) and daughters (71%) were married. However, proportionately more daughters than mothers were single (in fact, it was somewhat unusual to find even one single mother from a 1930s-1940s parenting cohort in a sample of this size; see Hareven, 1977), and proportionately more mothers than daughters were widowed. Probably more of a reflection of sequential effects than cross-sectional trends, proportionately more mothers than daughters were divorced (Hennon, 1983).

The unusually high level of education of the study sample is, in part, a methodological artifact of bias created from the sampling unit for the Tremin Trust Panel I sample (i.e., all women entering the University of Minnesota between the 1934 and 1938). Thus, 49 (98%) of the mothers had undergraduate degrees, and one mother had a graduate/professional degree. Enrolled in the Tremin Trust sample at menarche, daughter study participants displayed more educational variation than did mother participants ( $\chi^2 = 19.29, 2, N = 99, p < .001$ ); proportionately more daughters than mothers had high school diplomas (6%) as well as graduate/professional degrees (31%).

In comparison to middle-aged and aging women in the general population, (Allan, 1975; Block et al., 1981), the study sample was a fairly affluent group of women. Only 2% of mothers and 6% of daughters reported a total family income of less than \$10,000 per year. In contrast, 28% of the mother participants and 47% of the daughter participants reported an annual family income of over \$50,000 a year. There were no significant differences between mothers and daughters in reported income. Moreover, there were highly significant associations between marital status and income for both mothers ( $\chi^2 = 87.35, 21, N = 43, p < .001$ ) and daughters ( $\chi^2 = 43.09, 18, N = 47, p < .001$ ), with proportionately more married women in the over \$50,000 category than unmarried women. Marital status and number of persons in household were almost equivalent variables for mothers; however, there was no significant association between the total number of persons in household and reported total family income for daughters.

As a methodological note, some major difficulties in obtaining a valid measure of socioeconomic status for women, particularly aging women, were highlighted in this study. Initially, attempts were made to compute Nam-Powers Socioeconomic Status (SES) scores since the Nam-Powers Scale is one of the few indices that includes occupational scores for both men and women (Miller, 1983). Most SES indices such as the Nam-Powers Scale are based on weighted contributions of education, income, and occupation. However, income is a poor SES indicator for women in general (i.e., personal income for women is not commensurate with education; total family income is highly

correlated with marital status and complicated by number of dependents); income is an even worse indicator for aging women in particular due to such confounding factors as social security benefits, pensions, investments, and inheritance monies (Allen, 1975; Trager, 1984). Even indices that do include occupational codes for women only provide scores based on full-time employment, and, as found in this sample, many women work part-time. Moreover, no standardized score provisions are made for homemakers, caregivers, retirees, or volunteers. Thus, the intent to use an SES descriptor in this study was aborted, and women's responses to the occupation question on the Tremin Trust 1987 Health Report Form (see item F in Appendix C) were recoded into a dichotomous variable, employment outside the home.

As expected by virtue of age differentials, there was a significant difference in proportions of mothers and daughters who were employed outside the home ( $\chi^2 = 35.13, 1, N = 82, p < .001$ ). Only one mother reported outside employment. It is noteworthy that 32% of the aging mothers chose not to respond to the question on employment. Eighty-two percent of daughters were employed outside the home, whereas 16% were not; one daughter did not respond to the employment question. For daughters, there were no associations between employment and (a) chronological age, (b) marital status, (c) total family income, (d) education, or (e) major caregiver role.

Consistent with Brody's (1981) concept of "women in the middle", a significantly greater proportion of daughter participants (63%) than mother participants (10%) reported that they were a major

caregiver and/or source of support for an older or younger person ( $\chi^2 = 26.79, 1, N = 99, p < .001$ ). In fact, middle-aged daughters in this study not only indicated that they were often major caregivers for children and aging parents simultaneously but (also), albeit less frequently, for spouses, in-laws, and other relatives. Proportionately more married daughters reported that they were major caregivers in comparison to single, widowed, or divorced daughters ( $\chi^2 = 8.33, 3, N = 49, p < .05$ ). Moreover, daughters with undergraduate degrees were more likely to be major caregivers than daughters with either high school diplomas or graduate/professional degrees ( $\chi^2 = 9.06, 2, N = 49, p < .01$ ). In contrast to education, there were no associations between daughters' reports of a major caregiver role and either their income or employment outside the home. All five mothers in this study who reported having a major caregiver role provided care for an elderly and/or disabled spouse.

The geographic distribution of the sample reflected both the historical roots of the Tremin Trust as well as increased demographic variability over time and by cohort. Whereas 38% of the mother participants still resided in Minnesota, less than half this percentage (16%) of daughter participants were nested in this North Central state. A notably large percentage of daughters (20%) lived in California at the time of this study, whereas only 12% of the mothers had migrated to this Southwest state. Although far from being geographically representative of the population of U.S. women, the sample consisted of participants from all regions of the country. Moreover, one mother and her daughter lived in Canada, and one

daughter resided in Mexico.

Since all Tremin Trust participants were white, race was not a demographic variable in this sample. Although specific data on ethnicity were not available for this sample, a majority of Panel I Tremin Trust participants were of Scandinavian descent (Tremin Trust Research Team, 1988). Thus, these two major sampling biases were recognized as additional limitations to generalization beyond this well-educated, economically-advantaged group of women. However, somewhat along the lines of Whiting's (1984) comparative framework for using knowledge obtained from white, American middle-class women "to embark on a study of women's lives across cultures" (p. 262), the study sample will be more fully described in terms of background characteristics, which include (a) a menstrual/reproductive and menopausal profile, and (b) a lifestyle and risk factor profile.

#### Background Characteristics of the Sample

Menstrual/Reproductive and Menopausal Profile. A menstrual/reproductive and menopausal profile of the sample is presented in Table 7. Methodological difficulties related to definition of menopausal status have been addressed in the literature (McKinlay & McKinlay, 1973; Voda & Eliasson, 1983; Voda & George, 1986). According to Kaufert (1986), menstrual change is not only a major component in women's self-definitions of menopausal status but (also) is the basis for medical and epidemiological classifications. Thus, menstrual cycle variations was a dichotomous variable specifically created for this study from 14 distinct Tremin Trust event codes for changes in menstrual flow or intervals and other atypical bleeding

Table 7

Menstrual/Reproductive and Menopausal Profile of the Sample

	Mothers ( $\underline{n}$ = 50)		Daughters ( $\underline{n}$ = 49)	
	n	%	n	%
<b>Menstrual Cycle Variations</b>				
No			6	12.2
Yes			39	79.6
not applicable	50	100.0	4	8.2
<b>Menopausal Status</b>				
Premenopausal			41	83.7
Menopausal Transition			4	8.2
Postmenopausal	50	100.0	4	8.2
<b>Postmenopausal Status</b>				
Natural Menopause	39	78.0	1	2.0
Surgical Menopause	11	22.0	3	6.2
not applicable			45	91.8
<b>Current Estrogen Replacement Therapy (E.R.T.) Use</b>				
No	32	64.0	46	93.9
Yes	18	36.0	3	6.1
<b>History of Oral Contraceptive (O.C.) Use</b>				
No	45	90.0	12	24.5
Yes	3	6.0	37	75.5
not reported	2	4.0	0	0.0

patterns reported on Items 2, 3, 4, and 6 of the 1987 Health Report Form. Thus, 79.6% of daughter participants reported experiences of menstrual cycle variations, 12.2% reported no indicators of menstrual cycle variations, and 8.2% skipped Items 2, 3, 4, and 6, as instructed, since they indicated that they were postmenopausal on Item 1. There was no association between chronological age and menstrual cycle variations, probably due to a combination of the truncated range and slight positive skewness of the age variable for daughters.

Definitions of menopausal status for this study were derived from responses to Item 1 (i.e., Menstrual Status) on the 1987 Health Report Form; participants were asked to indicate whether they were (a) still menstruating, (b) in the menopausal transition, or (c) postmenopausal. A majority of daughter participants (83.7%) reported that they were still menstruating, four (8.2%) reported that they were in the menopausal transition, and four (8.2%) indicated that they were postmenopausal. There was no significant association between chronological age and menopausal status among daughter participants. However, in support of the validity of the definitions used in this study, a highly significant association was found between daughters' reports of menstrual cycle variations and menopausal status classifications ( $\chi^2 = 49.22, 4, N = 49, p < .001$ ). All but two daughters who reported that they were still menstruating, and all four daughters who reported that they were in the menopausal transition also reported menstrual cycle variations. Interestingly, the two daughters who did not report menstrual cycle variations were

not at the low end of the age range for daughter participants; rather, they were closer to the mean age (i.e., ages 41 and 42;  $M = 42.96$  years) for daughters. Whereas study findings indicated that menstrual changes are valid criteria in definitions of menopausal status, findings also suggested that women have a much narrower definition of "menopausal transition" than definitions of this concept in the literature (Treloar, 1982).

Possibly due to either (a) self-selection bias in recruitment for this sample (Kerlinger, 1986), and/or (b) loss of participants from the Tremin Trust sample as a result of actual or survey mortality (Campbell & Stanley, 1963), no mother or daughter participant in this study reported menopause due to radiation or chemotherapy treatment. Thus, postmenopausal status was a dichotomous variable: natural or surgical menopause. Only 11% of the mothers in this study reported menopause due to surgery, a percentage that is considerably lower than the documented range of 20-30% in the literature (Kaufert, 1985; McKinlay, McKinlay, & Brambilla, 1987b, 1987b; Reitz, 1977; Trien, 1986). However, as noted by Treloar (1982), natural and surgical categories are not necessarily mutually exclusive in the postmenopausal years since many women have hysterectomies with or without oophorectomies performed after natural menopause has occurred. Perhaps the long-term "record-keeper" mothers in this study were more discriminating in their responses to the item on postmenopausal status than were women in other large-scale, cross-sectional surveys. Although there was a nonsignificant trend for mothers who experienced natural menopause to be slightly

older ( $M = 49.87$  years) than mothers who had surgical interventions ( $M = 45.13$  years) during the reported year of menopause, mean ages for both groups fell into the documented age range for natural menopause (Jaszmann, Van Lith, & Zatt, 1969; McKinlay, Jefferys, & Thompson, 1972; Treloar, 1982). Thus, the extent to which menopause was actually due to surgery for the mothers who reported surgical menopause in this study was impossible to determine, and their self-report remained the only and best indicator of postmenopausal status.

Of the four postmenopausal daughters in this study, only one reported natural menopause; she was 43 years of age at the time of one full calendar year of amenorrhea. The other three postmenopausal daughters became surgically menopausal at ages 32, 44, and 48, the latter two being within the appropriate age range for natural menopause.

Estrogenic preparations not only serve to modify perimenopausal and aging symptom experiences but (also) have been reported to delay completion of the menopausal transition as well as to confound confirmation of natural menopause (McKinlay, Bifano, & McKinlay, 1985; Treloar, 1982). Thus, background data were collected on both (a) prevalence of current estrogen replacement therapy (E.R.T.), and (b) history of oral contraceptive use.

Thirty-six percent of the mothers in this study reported current estrogen replacement therapy. In marked contrast to postmenopausal E.R.T. usage estimates of up to 60-75% in the 1960s-1970s (Grossman & Bart, 1979), the 1987 figures from this sample of postmenopausal mothers may, in part, reflect continuation over a decade of the

drastic decrease in E.R.T. prescriptions that immediately followed the 1977 U.S. Food and Drug Administration (FDA) laws for package inserts warning consumers of estrogen-associated cancer risks (MacPherson, 1981). All of the mother participants who reported surgical menopause reported E.R.T. use, as did seven other mothers who experienced natural menopause.

Contrary to findings for mothers, none of three daughters who were surgically menopausal reported E.R.T. use. On the other hand, the three daughters who did report using E.R.T. were not yet postmenopausal. Although specific reasons for premenopausal use remained unknown, these daughters may have been on "preventive estrogen therapy". Originally prescribed and publicized by Wilson (1966) as a cure for menopause and retardant against aging, the practice of preventive estrogen therapy (i.e., recent studies have documented reduced risk for endometrial cancer when estrogen is combined with progestin) has been revived over the past few years for purposes of delaying the progress of osteoporosis (Boston Women's Health Book Collective, 1987; Greenwood, 1984).

In reciprocal relationship to E.R.T. use among daughters, only three mothers (6%) in this study reported a history of oral contraceptive (O.C.) use. A large majority of mother participants (90%) indicated that they never used O.C. pills as a form of contraception, and two mothers (4%) did not respond to the question on contraceptive methods despite efforts by the Tremin Trust Research Team to carefully word the item on this private and sensitive topic (see Item 15 in Appendix C).

Possibly a reflection of such sociohistorical influences as the sexual revolution and women's movement of the 1960s and 1970s along with simultaneous widespread availability and popularity of the pill (Sloane, 1985), a majority of daughter participants (76%) reported a history of O.C. use. Consistent with reports in the literature (Treloar, 1982), a significant association was found between history of O.C. use and menstrual cycle variations in daughters; proportionately more daughters who had or were using O.C.s reported menstrual cycle variations than did daughters without a history of O.C. use ( $\chi^2 = 6.46, 2, N = 49, p < .05$ ). It is noteworthy that all three of the daughters who reported E.R.T. use also reported a history of O.C. use. These findings serve to further highlight the complex interplay among women's sociodemographic characteristics, menstrual/reproductive and aging processes, and lifestyle alternatives.

Lifestyle and Risk Factor Profile of the Sample. A lifestyle and risk factor profile of the sample is presented in Table 8. Regular exercise and smoking history are two frequently used general indicators of health beliefs and health behaviors (Murdaugh & Hinshaw, 1986; Pender & Pender, 1986). These two lifestyle and risk factors have also been generally implicated in modifications of women's menopausal and aging experiences (Boston Women's Health Book Collective, 1987; Greenwood, 1984; Reitz, 1977; Trien, 1986).

High percentages of both mothers (70%) and daughters (69.4%) reported exercising regularly, which suggested that the study sample was comprised of a fairly health-conscious group of women.

Table 8

Lifestyle and Risk Factor Profile of the Sample

	Mothers ( <u>n</u> = 48) <sup>a</sup>		Daughters ( <u>n</u> = 49)	
	n	%	n	%
<b>Regular Exercise</b>				
No	13	26.0	15	30.6
Yes	35	70.0	34	69.4
<b>Smoking History</b>				
Never Smoked	12	24.0	22	44.9
Smoked In Past	26	52.0	21	42.9
Smokes In Present	10	20.0	6	12.2
<b>Chronic Conditions/Illnesses</b>				
No	19	38.0	38	77.6
Yes	29	58.0	11	22.4
<b>Regular Prescription Drug Use</b>				
No	18	36.0	15	30.6
Yes	30	60.0	34	69.4
<b>Regular Over-The-Counter Drug Use</b>				
No	13	26.0	6	12.2
Yes	35	70.0	43	87.8
<b>Major Life Stress in Past Year</b>				
No	32	64.0	5	10.2
Yes	16	32.0	44	89.8

<sup>a</sup>Data on lifestyle and risk factor variables were not available for two mothers.

However, no associations were found between regular exercise and (a) chronological age, (b) smoking history, (c) reports of one or more chronic conditions or illnesses, (d) prescription drug use, (e) over-the-counter drug use, or (f) major life stress in the past year either for mothers or for daughters. Somewhat inconsistent with Uphold and Susman's (1985) findings of inverse relationships between recreational activities and both number and severity of menopausal symptoms, there were no associations between reports of regular exercise and either (a) E.R.T. use in mothers, or (b) menstrual cycle variations in daughters.

As a possible reflection of sociohistorical trends, a majority of mothers reported that they had smoked in the past and quit (52%), whereas a majority of daughters reported that they never smoked (45%). As with regular exercise, smoking behavior was found to be unrelated to (a) chronological age, (b) chronic conditions/illnesses, or (c) major life stress for both mothers and daughters. In contrast to large-scale studies which have documented a relationship between smoking and early menopause (Hill, 1982; McKinlay, Bifano, & McKinlay, 1985), there was no association between smoking history and age at menopause for the 39 mothers in this study who experienced menopause naturally. Moreover, there was no association between smoking history and menstrual cycle variations for daughters. Despite warnings of the increased risks for cancer, heart disease, blood clots, and other cardiovascular conditions in women who smoke and take estrogen compounds (Boston Women's Health Book Collective, 1984, 1987; Greenwood, 1984), mothers who reported E.R.T. use were as

likely to smoke as mothers who were not on E.R.T. ( $\chi^2 = .21, 2, N = 48, p = .90, n.s.$ ); also, daughters who reported a history of O.C. use were as likely to be past or present smokers as daughters who never used O.C. pills ( $\chi^2 = .42, 2, N = 49, p = .81, n.s.$ ).

Proportionately more mother participants (58%) than daughter participants (22.4%) reported having one or more chronic conditions or illnesses ( $\chi^2 = 12.90, 1, N = 97, p < .001$ ). These incidence figures for both mothers and daughters are somewhat lower than population estimates reported in the literature for women in the same age groups (Nathanson & Lorenz, 1982; Verbrugge, 1985). Nine mothers (18.8%) but only 3 daughters (6.1%) reported having more than one chronic condition or illness. Mothers also reported a wider variety of major and minor chronic conditions/illnesses (i.e., cancer, diabetes, hypertension, heart disease, arthritis/osteoporosis, allergies) in comparison to daughters. With the exception of three daughters who reported having hypertension and/or heart disease, daughters reported minor conditions such as allergies and musculoskeletal problems (e.g., chronic back pain).

Despite disparities related to chronic conditions/illnesses, there were no significant differences in proportions of mothers and daughters who reported (a) regular prescription drug use, or (b) regular over-the-counter (O.T.C.) drug use. In fact, there were parallel trends for fewer mothers to report regular use of prescription drugs (60%) and O.T.C. drugs (70%) than daughters (69% and 88% for prescription and O.T.C. drugs, respectively). No associations were found between (a) E.R.T. use and regular use of

other prescription or O.T.C. drugs by mothers, or (b) history of O.C. use and regular use of other prescription or O.T.C. drugs by daughters.

The influence of major stressful events on women's health in general (e.g., Griffith, 1983a, 1983b; Kjervik & Martinson, 1979) and menopausal and aging experiences in particular (e.g., Ballinger, 1985; Cooke, 1985) has been well documented in the literature. Major life stress in the past year was a dichotomous variable specifically created for this study from 16 family-, physical-, and psychological-related Tremin Trust codes for responses to Items 26 and 27 on the 1987 Health Report Form (see Appendix C) as well as codes for changes in marital status (Item G), atypical menstrual pattern connected with stress/life event (Item 4), and major or minor surgeries (Item 24). In the same direction but of much greater magnitude than Griffith's (1983a) findings for women in similar age groups, a significantly greater proportion of daughter participants (90%) reported major life stress in the past year than mother participants (32%) ( $\chi^2 = 21.39, 1, N = 97, p < .001$ ). Furthermore, 23 daughters (47%) but only 6 mothers (12.5%) reported having experienced more than one major stress event in the past year. Consistent with being "women in the middle" (Brody, 1981), daughters reported proportionately more family-related stress events ( $\chi^2 = 25.98, 3, N = 97, p < .001$ ) and psychological stressors ( $\chi^2 = 17.29, 4, N = 97, p < .001$ ) than did mothers. However, significant associations were found between major life stress in past year and major caregiver role (i.e., which can be conceptualized as a combined family- and psychological-related

stressor) for both mothers ( $\chi^2 = 8.07, 1, N = 48, p < .01$ ) and daughters ( $\chi^2 = 6.80, 1, N = 49, p < .01$ ). In contrast with Griffith's (1983a) finding that physical health was the primary stress factor for women over 55 years old, there were no proportional differences between mothers and daughters in the number of physical-related stressors reported. More specifically, physical-related stressors were reported in lower frequencies than both family-related stress events or psychological stressors by both mothers and daughters, a further indication that the sample for this study consisted of reasonably physically healthy menopausal and aging women.

Finally, since Rossi (1968, 1977, 1980a) has argued that dyadic age difference has profound impact on parent-child relationships, descriptive findings on mother-daughter age difference for the 43 dyads in this study are presented in Table 9. Mothers were 21 to 34 years old at the time daughters who participated in this study were born. The correlation between mother's and daughter's age was  $r(41) = .38 (p < .01)$ .

Table 9

Age Difference in Years for Mother-Daughter Dyads<sup>a</sup>

	<u>M</u>	<u>SD</u>	Mode	Median	Range
Dyadic Age Difference	28.21	2.99	26	29	21 - 34

<sup>a</sup> $n = 43$  dyads.

Thus, although demographic and background variables were not included in the analyses to answer the six research questions of this study per se, descriptive findings on the sample provided a valuable contextual basis for interpretation and elaboration of results. Whereas sample characteristics have important ramifications for both internal and external research validity (Judd & Kenny, 1982), measurement instruments are primarily related to internal validity, "the basic minimum without which any experiment [or correlational study] is uninterpretable" (Campbell & Stanley, 1963, p. 5).

#### Measurement Assessments

Reliability procedures were used to assess both (a) item performance with the sample of this study prior to computation of scale/subscale scores, and (b) the reliability of scale/subscale versions that were used in subsequent analyses (see Table 10). With the exception of socialization measures, internal consistency (Cronbach's alpha) coefficients were computed for all study scales and subscales. Additionally, split-half reliability estimates were obtained for attitudinal scales, and test-retest estimates were obtained for symptom measures. Reliability estimates were computed separately for (a) mothers and daughters, and (b) T1 and T2 for all measures except attitudinal scales (i.e., T2 only).

Highly favorable internal consistency estimates were obtained from use of the General Intimacy Scale for Female Intergenerational Relationships with the sample of perimenopausal daughters and aging mothers in this study. Cronbach's alpha coefficients ranged from .96 to .98 for the 50-item total scale. Probably partially a function of

Table 10

Reliability Estimates:

Internal Consistency (Cronbach's Alpha) Coefficients for All Study Scales and Subscales, Split-Half Estimates for Attitudinal Scales, and Test-Retest Estimates for Symptom Measures.

Scale/Subscale	Number of Items	Mothers		Daughters	
		T1	T2	T1	T2
<b>General Intimacy Scale for Female Intergenerational Relationships</b>					
Total Scale	50	.98	.96	.98	.98
Attachment Subscale	9	.90	.84	.88	.90
Intimacy Subscale	17	.96	.94	.97	.97
<b>Attitudes Toward Menopause</b>					
Alpha	28		.84		.83
Split-Half (odd-even)			.75		.79
<b>Attitudes Toward Women</b>					
Alpha	25		.80		.83
Split-Half (odd-even)			.69		.72
<b>Attitudes Toward Aging</b>					
Alpha	20		.82		.83
Split-Half (equal halves)			.75		.79
<b>Menopause Symptom Checklist</b>					
Total Symptoms	28	.84	.82	.83	.89
Blatt Symptoms	12	.65	.75	.71	.83
Somatic Symptoms	12	.76	.60	.55	.56
Psychosomatic Symptoms	5	.59	.56	.56	.74
Psychologic Symptoms	11	.75	.81	.82	.85
Total Scale Test-Retest			.60		.51
<b>General Health Perceptions Measure</b>					
(modified version of Rossi's [1980] Aging Symptom Index)	9	.84	.78	.74	.84

the number of items (Allen & Yen, 1979; Carmines & Zeller, 1979), higher coefficients were found for the 17-item intimacy subscale (i.e., .94 to .97) than for the nine-item attachment subscale (i.e., .84 to .90). These coefficients were comparable to internal consistency estimates reported from previous administrations of the instrument to middle-aged daughter and aging mother dyads as well as to grandmother-mother-daughter triads (Walker & Thompson, 1983; Thompson & Walker, 1984; Thompson & Walker, 1987; Walker & Thompson, 1987). Interestingly, higher alpha coefficients were obtained from mothers at T1 than at T2; however, a remarkable degree of stability was observed in T1 and T2 coefficients for daughters.

In support of the reliability and validity of retrospective relationship reports (Fitzgerald & Surra, 1981) as well as the discriminant, or differential, validity (Kerlinger, 1986) of the relationship measure at both time referents, two mothers provided relationship data for two daughters (unfortunately, only one daughter of each mother met criteria for participation in this study). One mother used separate forms to rate each daughter (i.e., the pages in the questionnaire booklet and photocopies); the other mother distinguished ratings for each daughter by using two colors of ink. Differences in these mothers' ratings of their two daughters were evident at both T1 and T2. Moreover, despite some directional shifts in ratings for one or both daughters, the relative magnitude of inter-daughter differences appeared fairly stable from T1 to T2 in these two mothers' ratings. Further evidence of the convergent validity of relationship measures was provided by total

scale-subscale correlations at T1 and T2 for mothers and for daughters (see Table G.1 in Appendix G). The attachment and intimacy subscales were highly correlated ( $r = .91$  to  $.97$ ) with the total scale score; moderate positive correlations ( $r = .60$  to  $.82$ ) were found between the attachment and intimacy subscales.

Based on preliminary reliability analysis of the 35-item Attitudes Toward Menopause (ATM) Checklist which included examination of (a) item means and variances, (b) interitem and item-total correlation matrices, and (c) alphas if item deleted, seven items were removed from this scale. Subsequent item content analysis provided potential reasons for poor item performance. Item 8, "The thing that causes women all their trouble at menopause is something they can't control--changes inside their bodies", was a compound item; study participants may have been responding to three different components (i.e., all their trouble; can't control; inside their bodies). The two sexuality items (i.e., Items 3 and 19) were deleted since they were probably tapping attitudes toward sex and extramarital affairs rather than attitudes towards menopause, as supported by anecdotal notes from a few mother participants. Four out of the five "miscellaneous" items were also deleted due to apparent ambiguities. Along side of Item 2, "Unmarried women have a harder time than married women . . .", many mother and daughter participants wrote in comments related to not knowing about other (i.e., unmarried or married) women; it is also possible that this item functioned as an indicator of attitudes toward marriage. Item 5, "A woman should see a doctor during the menopause",

was probably too globally worded and may have measured women's attitudes toward the role of the physician. It is likely that Item 9, "A good thing about the menopause is that a woman can quit getting pregnant", surveyed attitudes toward pregnancy along with attitudes toward menopause. The problem with Item 13, "Menopause is one of the biggest changes that happens in a woman's life", was probably in the use of a superlative (i.e., biggest). With these seven items deleted, Cronbach's alpha coefficients for the 28-item version of the ATM were .84 for mothers and .83 for daughters. These estimates were higher than an alpha of .80 reported by Bowles' (1986) from administration of the original 35-item ATM to 138 women. Split-half (i.e., odd-even) coefficients for the 28-item version used in this study were .75 and .79 for mothers and daughters, respectively.

Internal consistency reliability coefficients for the 25-item Attitudes Toward Women (AWS) Scale were .80 for mothers and .83 for daughters; although quite acceptable for a short-version scale (Lynn, 1985; Norusis, 1988), these coefficients were slightly lower than an alpha of .85 reported by Bowles (1986) from administration of the AWS to a sample of 146 women. Split-half (i.e., odd-even) estimates for the AWS were lower than coefficients for the ATM and ATA (i.e., .69 for mothers; .72 for daughters) since each of the other two attitudinal scales had an even number of items, whereas the AWS contained 12 "traditional" and 13 "contemporary" items.

Reliability procedures highlighted two poor items on the revised 22-item Attitudes Toward Aging (ATA) Scale. Item 15, "Most older people need less food than younger people", not only had little

variance but (also) had very low correlations with other positive items on the ATA and was negatively correlated with the total scale score. Perhaps participants interpreted "need less food" to mean "have poor appetites", which would be a negative aspect of aging. Item 19, "Most older people learn different things and in different ways than younger people", was also inversely correlated with other positive ATA items and the total scale score. As a compound statement, participants could have responded to either the "different things" or the "different ways" component. When these two items were eliminated from the ATA, internal consistency coefficients of .82 for mothers and .83 for daughters were obtained. These estimates are quite favorable in view of (a) the eclectic development of the ATA and revisions prior to use, and (b) the relatively short length of the 20-item scale. Split-half (i.e., equal halves) coefficients were .75 for mothers and .79 for daughters, identical to the estimates obtained for the 28-item ATM.

Internal consistency estimates for the Menopause Symptom Checklist (MSC) were reasonably high (i.e., above .75) for total symptoms (i.e., 28 symptom items) and psychological symptoms (i.e., 11 symptom items) for both mothers and daughters. Low alpha coefficients (i.e., .60 or below) were obtained for (a) somatic symptoms for mothers only at T2 and for daughters at T1 and T2, and (b) psychosomatic symptoms for mothers at T1 and T2 and for daughters only at T1. The relatively high internal consistency coefficient for Blatt Symptoms for daughters at T2 in comparison to alphas for (a) daughters at T1, and (b) mothers at T1 and T2 suggested that

the Blatt Menopausal Index may, in fact, be a measure of a menopausal "symptom complex" (Woods, 1982). Test-Retest estimates were computed using data from 28 symptom items on the Tremin Trust 1987 Health Report Form. The coefficients of .60 for mothers and .51 for daughters from six- to twelve-month time intervals were considerably lower than the reliability coefficient of .79 reported by Neugarten and Kraines (1963) from test-retest assessments over one- to six-month intervals.

Total scale-subscale correlations for mothers at T1 and T2 and daughters at T1 and T2 are presented in Table G.2 (see Appendix G). All subscales correlated highly ( $p < .001$ ) with the total symptom scale and with the Blatt subscale. Low to moderate ( $r = .37$  to  $.56$ ) correlations were found between somatic, psychosomatic, and psychologic subscales for mothers at T1 and T2. Whereas low correlations were found between the somatic and both psychosomatic ( $r = .43$ ) and psychologic ( $r = .36$ ) subscales for daughters at T1, moderate correlations were found at T2 ( $r = .68$  for both). However, the psychosomatic and psychologic subscales were found to be highly correlated for daughters at T1 ( $r = .76$ ) and T2 ( $r = .79$ ). These erratic validity estimates cast some further doubt upon the arbitrarily-defined and unconfirmed dimensional structure of the MSC (Bowles, 1986).

Favorable internal consistency estimates were obtained for the nine-item general health perceptions measure (i.e., the modified version of Rossi's [1980] Aging Symptom Index). Interestingly, both the T1 to T2 decrease for mothers (i.e., .84 to .78) and T1 to T2

increase for daughters was primarily due to Item 6, "sex life". Although Cronbach's alphas would have been slightly higher if this item was deleted, the decision was made to retain the item in this short, global measure for both theoretical and methodological reasons.

Along with validity considerations related to research measures discussed in the previous chapter, measure modifications as well as reliability and validity assessments provided increased support for the internal validity of this study. Given that the "basic minimum" for interpretation (Campbell & Stanley, 1963) has been established, results will be presented in Chapter V.

## CHAPTER V

### RESULTS

Data for this study were collected from a total sample of 99 individuals (i.e., 50 mothers and 49 daughters). A dyadic subsample consisted of 43 mother-daughter pairs. Although hierarchical adjustments and modifications were instituted, data analysis was fundamentally directed by the six specific aims of this study. The individual was the unit of analysis in the first and second research questions, and the dyad was the unit of analysis in research questions three through six. Presentation of results will be organized into three sections based on the two units of analysis and six research questions: First, individual-level descriptive and "longitudinal" results will be presented, followed by dyadic-level results from cross-sectional and sequential mother-daughter comparisons, and finally developmental-multivariate results on contributions to mother's and daughter's general health perceptions.

#### Descriptive and "Longitudinal" Results

The first specific aim of this study was to describe past and present (a) perceptions of the mother-daughter relationship, (b) socialization influences, (c) attitudes toward menopause and women's aging process, (d) symptom experiences, and (e) general health perceptions of mothers and daughters. Thus, descriptive statistics were used to profile all major study variables for T1 and T2. The second specific aim was to determine how the mother-daughter relationship, socialization influences, attitudes, symptom experiences, and general health were perceived by mothers and daughters to change over time. Correlational techniques were used

to estimate the degree of intraindividual consistency between T1 and T2 perceptions, and appropriate tests for differences were used to extend and supplement these findings with information on T1 to T2 change, which might potentially have been due to developmental and/or sociohistorical variables.

### Mother-Daughter Relationship

#### Psychological Closeness

Mother and daughter participants completed Walker and Thompson's (1983, 1987) General Intimacy Scale for Female Intergenerational Relationships in reference to two time frames: (a) as recalled from the time when the mother was the age that the daughter is now (i.e., T1, or past), and (b) as perceived at the present time (i.e., T2 or present). Means and standard deviations for the total relationship scale as well as the attachment and intimacy subscales for mothers and for daughters are presented in Table 11. Theoretical ranges and means were 0 to 350 ( $M = 200$ ) for the 50-item total scale, 0 to 63 ( $M = 36$ ) for the nine-item attachment subscale, and 0 to 119 ( $M = 68$ ) for the 17-item intimacy subscale. High scores represented positive perceptions of the relationship.

Mean scores for the total scale and subscales derived from this sample of mothers and daughters were above theoretical means, with the exception of T1 and T2 mean attachment scores for daughters which were slightly lower than the theoretical mean for attachment. Thus, overall, this sample of mothers and daughters reported generally positive past and present perceptions of the mother-daughter relationship and its two major dimensions.

Table 11

Means and Standard Deviations for T1 and T2 Relationship Measures  
for Mothers and for Daughters

		Mothers		Daughters	
		T1 ( $n = 49$ )	T2 ( $n = 50$ )	T1 ( $n = 48$ )	T2 ( $n = 49$ )
Total Scale	<u>M</u>	261.61	278.64	213.04	242.76
	<u>SD</u>	49.90	34.96	60.21	57.40
Attachment Subscale	<u>M</u>	42.02	41.82	31.77	34.18
	<u>SD</u>	10.62	9.47	10.48	10.94
Intimacy Subscale	<u>M</u>	96.61	103.92	83.65	93.41
	<u>SD</u>	18.02	12.28	23.30	20.88

Table 12

Measures of Association and Tests for Differences Between T1 and T2  
Relationship Measures for Mothers and for Daughters

	Mothers <sup>a</sup>		Daughters <sup>b</sup>	
	<u>r</u>	<u>t</u>	<u>r</u>	<u>t</u>
Total Scale	.52**	-2.72**	.75**	-4.94**
Attachment Subscale	.47**	.15	.70**	-2.12*
Intimacy Subscale	.62**	-3.47**	.77**	-4.37**

<sup>a</sup> $n = 49$ ;  $r(47)$ , paired  $t(48)$ .

<sup>b</sup> $n = 48$ ;  $r(46)$ , paired  $t(47)$ .

\* $p < .05$ . \*\* $p < .01$ .

It was interesting that the two individual items with the highest item means (i.e., above 6.00) of all 50 scale items for both mothers and daughters at both T1 and T2 were Item 49 ("We love each other.") and Item 50 ("I'm sure about this relationship."). However, the interitem ( $r = .23$  to  $.78$ ) and item-total ( $r = .63$  to  $.86$ ) correlations for these items were generally modest. Thus, no matter how mothers and daughters felt about other aspects of the relationship or the relationship as a whole, they still expressed strong sentiments as well as a sense of security and/or stability. These findings were consistent with theoretical writings on the complex yet overriding psychological closeness, profound strength, and lifelong influence of mother-daughter bonds (Arcana, 1979; Bassoff, 1988; Chodorow, 1974; Fischer, 1986; Hammer, 1976; Magrab, 1979; Neisser, 1973; Rich, 1976).

Increased variability in total relationship scale and subscale scores at T1 in comparison to T2 could have been a true reflection of greater heterogeneity in perceptions of the relationship and its properties at the earlier phase in the relationship in contrast to the time when perimenopausal daughters and "young-old mothers" are in an adult-adult interdependent, role collegial relationship (Fischer, 1981, 1986). On the other hand, the larger standard deviations which were found for T1 in comparison to T2 measures might have been due to method variance (e.g., possibly lower reliability or sensitivity of T1 retrospective reports relative to concurrent T2 reports).

Measures of association (i.e., Pearson product-moment correlations) and tests for differences (i.e., paired t-tests)

between T1 and T2 relationship scores for mothers and for daughters are presented in Table 12. High positive correlations were found for the total relationship scale as well as the attachment and intimacy subscales, which indicated a high degree of intraindividual consistency between T1 and T2 perceptions of the mother-daughter relationship among mothers and daughters. The highest correlation for both mothers ( $r(47) = .62, p < .01$ ) and daughters ( $r(46) = .77, p < .01$ ) was found for the intimacy subscale. These findings may have been a reflection, at least in part, of the relative invariability at both T1 and T2 of intimacy Items 49 and 50 ("We love each other" and "I'm sure about this relationship").

For mothers, T1-T2 differences in mean total relationship scale and mean intimacy scores were statistically significant, which indicated positive changes in mothers' perceptions of the overall relationship and level of intimacy with their daughters from T1 to T2. These changes could be attributed either to developmental transitions in mothers as individuals or within the relationship (Fischer, 1981, 1986) or to recent attention to mother-daughter relationships in popular literature as well as mass media (e.g., Cohen & Hughes, 1989; Friday, 1977). However, there was no significant difference in T1 and T2 mean attachment scores for mothers. The slight decrease in mothers' mean scores for perceived attachment from T1 to T2 may have been a result of either (a) a longitudinal developmental trend in progress, consistent with Cumming and Henry's (1961) disengagement theory of aging, which would require additional measurement occasions to capture, or (b) measurement

fluctuations due to chance or reliability-related error.

For daughters, T1-T2 differences in mean total relationship scale, attachment, and intimacy scores were all statistically significant. However, there were greater positive changes in daughters' perceptions of the overall relationship and intimacy than changes in perceived attachment from T1 to T2, which may have been a function of either (a) true differences in magnitude of change, or (b) differences in reliability of and variability in the unequal-item relationship measures (e.g., the lowest reliability estimates were found for the nine-item attachment subscale in comparison to the total scale and intimacy subscale). As with mothers, T1-T2 differences in relationship scores for daughters could be explained by either developmental transitions or increasing social focus on mother-daughter relationships, given the high degrees of intraindividual consistency in relationship perceptions which were also identified.

#### Physical Closeness

Although mother and daughter participants gave ordinal-level responses to questions on physical closeness of the relationship, data on residential proximity were dichotomized for analysis purposes (e.g., lived together vs. lived apart [T1]; live < or = 100 miles apart vs. live > 100 miles apart [T2]). Visiting and telephoning were combined to form a measure of direct contact, and letter writing was used as a measure of indirect contact.

Frequencies and percentages for T1 and T2 categories of residential proximity for mothers and for daughters are presented in

Table 13

T1 and T2 Residential Proximity of Mothers and Daughters  
and Tests for Differences on Relationship Measures by Residential  
Proximity

	Mothers <sup>a</sup>		Daughters <sup>b</sup>	
	<u>n</u>	%	<u>n</u>	%
Residential Proximity				
T1				
Lived Together	37	74.0	33	67.3
Lived Apart	13	26.0	16	32.7
T2				
Live < or = 100 miles apart	19	38.0	19	38.8
Live > 100 miles apart	31	62.0	30	61.2
	<u>t</u>		<u>t</u>	
Relationship Measures				
Total Scale				
T1	.72		.32	
T2	-1.22		- .58	
Attachment Subscale				
T1	1.27		1.12	
T2	- .05		- .71	
Intimacy Subscale				
T1	.53		.30	
T2	-1.43		- .44	

<sup>a</sup>n = 50; paired t(49).

<sup>b</sup>n = 49; paired t(48).

Table 13. Differences in proportions of mothers' and daughters' reports of residential proximity at T1 were attributable to participants' differential classifications in cases of daughters away at college for part of the year. In general, there was a reciprocal relationship between T1 and T2 reports of residential proximity; a majority of mothers and daughters reported that they lived together at T1, whereas a majority reported that they lived more than 100 miles apart at T2. This latter finding was consistent with the demographic finding of general disparities in geographic residence of mothers and daughters in this study.

In contrast to previous findings reported in the literature (Cohler & Grunebaum, 1981; Nivert, 1983; Walker & Thompson, 1983), there were no significant differences in mean scores for the total relationship scale, attachment subscale, or intimacy subscale by residential proximity for mothers or for daughters at T1 or at T2 (see Table 13). However, Fischer (1981) documented that the effects of residential proximity on relationship measures were contaminated by social class (i.e., far residential distance was associated with high social status and vice versa). Given both the relatively small sample size and the lack of an SES descriptor in this study, it was not possible to test whether social class functioned as a suppressor variable in associations between residential proximity and psychological closeness in this fairly affluent, well-educated, and geographically dispersed sample of mothers and daughters.

Both mode of contact measures were found to be significantly correlated ( $p < .001$ ) with residential proximity (i.e., before this

variable was dichotomized) for mothers and for daughters at T1 and at T2. As residential distance increased, frequency of direct modes of contact (i.e., visiting, telephoning) decreased (T1:  $r = -.86$  and  $-.82$ ; T2:  $r = -.66$  and  $-.50$  for mothers and daughters, respectively) and frequency of indirect contact (i.e., letter writing) increased (T1:  $r = .69$  and  $.45$ ; T2:  $r = .62$  and  $.66$ , for mothers and daughters, respectively). Since no association was found between residential proximity and psychological closeness in the mother-daughter relationship, the decision was made to drop measures of physical closeness from all subsequent analyses.

#### Socialization Influences

In view of the paucity of instruments for measurement of socialization influences for major events, processes, and stages in women's adult lives, descriptive findings on the socialization measures developed for this study from previous inquiries into socialization to menopause (Kaufert, 1980; Kaufert & Gilbert, 1986) were of particular interest. Mothers and daughters rated direction and magnitude [i.e., very negatively (-2) to very positively (+2)] of 10 direct and indirect sources of influence in reference to (a) menstruation (daughters at T1), (b) pregnancy and reproductive processes (daughters at T1), (c) menopause (daughters at T2 and mothers at T1), and (d) postmenopause and aging (mothers at T2). For each of these events, processes, or stages, ratings were summed across the 10 listed sources to provide a standard overall measure of socialization influence. Thus, the theoretical range for total socialization influence scores was -20 to +20.

As a preliminary descriptive index, modal number of socialization sources was computed from the absolute number of non-zero (i.e., either negative or positive) ratings for the 10 direct and indirect sources of socialization. As shown in Table 14, the highest modal number of socialization sources was reported by daughters for both (a) menstruation, and (b) pregnancy and reproductive processes; the lowest modal number was reported in reference to menopause by both mothers and daughters. The potential interpretation that women's socialization is primarily limited to early stages in the life cycle, however, was countered by the finding that mothers reported a higher modal number of socialization sources for postmenopause and aging than for menopause.

Frequencies and percentages of daughters rating the 10 direct and indirect sources of socialization as negative, neither negative or positive, and positive in reference to menstruation, pregnancy and

Table 14

Modal Number of Socialization Sources for Mothers and for Daughters

	Mothers ( $\underline{n} = 50$ )	Daughters ( $\underline{n} = 49$ )
Modal No. Agents		
Menstruation		6
Pregnancy/Reproduction		6
Menopause	3	3
Postmenopause/Aging	4	

reproductive process, and menopause are presented in Table 15; frequencies and percentages of mothers' ratings in reference to menopause and to postmenopause and the aging process are presented in Table 16. In reference to both menstruation and pregnancy/reproduction, daughters most frequently reported positive ratings for books, magazines, and newspapers. On the other hand, negative ratings were most frequently reported for mother both as a direct and an indirect (i.e., tied percentages) source of information. Paradoxically, mother as a direct source received the highest percentage of positive ratings by daughters in reference to menopause, whereas mother as an indirect source received the highest percentage of negative ratings. However, a higher percentage (43%) of daughters reported that talking with their mother was a positive influence than the percentage of daughters (29%) who rated observing their mother's experiences with menopause to be a negative influence. Moreover, 76% of the daughters who reported that their mothers were a positive direct influence also reported that their mothers were a positive indirect influence, in opposition to the potential interpretation that daughters perceived a difference between their mothers' words and behaviors. In fact, there were significant associations between ratings of mother as a direct influence and as an indirect influence for major life events, processes, and stages for both daughters and mothers (see Table G.3 in Appendix G).

In reference to both menopause and postmenopause and aging, mothers most frequently reported positive ratings for books, magazines, and newspapers. Moreover, mothers most frequently

Table 15

Frequencies and Percentages of Daughters Rating Sources of Socialization for Menstruation, Pregnancy/Reproduction and Menopause as Negative, Neither Negative or Positive, and Positive

	Negative		Neither		Positive	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
<b>Menstruation</b>						
Physician	1	2	37	76	11	22
Other Health Care Provider	1	2	42	86	6	12
Mother, direct	11	23	10	20	28	57
Mother, indirect	11	23	17	34	21	43
Other Female Relatives, direct	2	4	32	65	15	31
Other Female Relatives, indirect	3	6	33	67	13	27
Female Friends, direct	10	20	11	23	28	57
Female Friends, indirect	11	23	19	38	19	38
Radio/Television/Movies	3	6	35	71	11	23
Books/Magazines/Newspapers	3	6	15	31	31	63
<b>Pregnancy/Reproduction</b>						
Physician	1	2	16	33	32	65
Other Health Care Provider	1	2	34	69	14	29
Mother, direct	6	12	17	34	26	54
Mother, indirect	6	12	32	65	11	23
Other Female Relatives, direct	3	6	23	47	23	47
Other Female Relatives, indirect	4	8	18	37	27	55
Female Friends, direct	1	2	14	29	34	69
Female Friends, indirect	2	4	14	29	33	67
Radio/Television/Movies	5	10	25	51	19	39
Books/Magazines/Newspapers	1	2	13	27	35	71
<b>Menopause</b>						
Physician	3	6	35	71	11	23
Other Health Care Provider	1	2	43	88	5	10
Mother, direct	4	8	24	49	21	43
Mother, indirect	14	29	15	31	20	40
Other Female Relatives, direct	3	6	33	67	13	27
Other Female Relatives, indirect	3	6	37	76	9	18
Female Friends, direct	8	17	20	40	21	43
Female Friends, indirect	9	18	24	49	16	33
Radio/Television/Movies	10	21	35	71	4	8
Books/Magazines/Newspapers	8	17	22	45	19	38

Note. Percentages rounded to whole numbers; (n = 49).

Table 16

Frequencies and Percentages of Mothers Rating Sources of  
Socialization for Menopause and Postmenopause/Aging  
as Negative, Neither Negative or Positive, and Positive

	Negative		Neither		Positive	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
<b>Menopause</b>						
Physician	2	4	21	42	27	54
Other Health Care Provider	4	8	39	78	7	14
Mother, direct	6	13	22	48	18	39
Mother, indirect	10	22	18	39	18	39
Other Female Relatives, direct	7	14	32	64	11	22
Other Female Relatives, indirect	9	18	31	62	10	20
Female Friends, direct	5	10	19	38	26	52
Female Friends, indirect	5	10	26	52	19	38
Radio/Television/Movies	5	10	33	66	12	24
Books/Magazines/Newspapers	2	4	14	28	34	68
<b>Postmenopause/Aging</b>						
Physician	3	6	20	40	27	54
Other Health Care Provider	4	8	37	74	9	18
Mother, direct	3	7	26	56	17	37
Mother, indirect	7	15	20	44	19	41
Other Female Relatives, direct	5	10	31	62	14	28
Other Female Relatives, indirect	6	12	27	54	17	34
Female Friends, direct	3	6	20	40	27	54
Female Friends, indirect	2	4	17	34	31	62
Radio/Television/Movies	4	8	29	58	17	34
Books/Magazines/Newspapers	3	6	11	22	36	72

Note. Percentages rounded to whole numbers; n = 50 except for direct and indirect mother items (n = 46) since four mothers reported that their mothers had died prior to menopause and postmenopause/aging.

reported negative ratings for their own mother as an indirect influence for both referents. These findings were generally compatible with previous findings reported by Kaufert (1980).

However, contrary to Kaufert's (1980) finding that physicians had more influence than mothers, mother as a direct or an indirect source of information was universally rated with high frequencies as either a negative or a positive socialization influence by both daughters and mothers in this study. In further elaboration upon these findings, tests for association for socialization influence of mother between major life events, processes, and stages are presented in Table G.4 (see Appendix G). With the exception of a nonsignificant association between the indirect socialization influence of mother in reference to daughters' pregnancy/reproductive processes and menopause, there were highly significant degrees of consistency in ratings of the direct and indirect socialization influence of mother across events, processes, and stages.

Another noteworthy descriptive trend was that other health care providers (e.g., nurse, pharmacist) were rated as neither negative or positive sources of information by both daughters and mothers for all five socialization referents. Several possible explanations were: (a) other health care providers did not typically perform client education roles in relation to women's life events, processes, or stages, (b) women in this sample did not consult other health care providers for information on women's health care phenomena, and/or (c) women who did talk with other health care providers did not

Table 17

Means and Standard Deviations for Total Socialization Influence  
Scores for Mothers and for Daughters

		Mothers ( $n = 50$ )	Daughters ( $n = 49$ )
Menstruation	<u>M</u>		3.43
	<u>SD</u>		3.86
Pregnancy/Reproduction	<u>M</u>		6.33
	<u>SD</u>		5.15
Menopause	<u>M</u>	3.00	1.82
	<u>SD</u>	4.26	4.11
Postmenopause/Aging	<u>M</u>	4.06	
	<u>SD</u>	4.93	

perceive the information they received to be either negative or positive.

Means and standard deviations for summated total socialization influence scores are presented in Table 17. Since the theoretical range for total scores was -20 to +20, standard deviations were greater positive values than mean scores. Although of relatively low magnitude, mean scores for total socialization influence were positive for all five referents. Consistent with the value historically placed on motherhood in our society (Chodorow, 1978; Kitzinger, 1978; Rich, 1976) paralleled by a contemporary emphasis on women's reproductive choice and freedom (Bolt, Wilson & Larsen, 1979; Cisler, 1970), the highest mean socialization influence score was

Table 18

Measures of Association and Tests for Differences Between T1 and T2Socialization Influence Measures for Mothers and for Daughters

	Mothers <sup>a</sup>		Daughters <sup>b</sup>	
	<u>r</u>	<u>t</u>	<u>r</u>	<u>t</u>
Menstruation (T1a) and Menopause (T2)			.52**	2.61*
Pregnancy/Reproduction (T1b) and Menopause (T2)			.51**	6.37**
			<u>t</u> <sup>2</sup> = .85**	
Menopause (T1) and Postmenopause/Aging (T2)	.79**	-2.47*		

<sup>a</sup>n = 50; r(48), paired t(49).

<sup>b</sup>n = 49; r(47), paired t(48), Hotellings t<sup>2</sup>(2, 47).

\*p < .05. \*\*p < .01.

found for daughters' socialization surrounding pregnancy and reproductive processes. The lowest mean socialization influence score was found for daughters in reference to menopause. The observed discrepancy between mothers' and daughters' mean socialization influence scores for menopause was inconsistent with (a) Neugarten et al.'s (1963) finding that women in the 1960s (i.e., mothers' cohort) seldom discussed menopause with others, and (b) later reports which documented a reported increase in sense of freedom and opportunities for women to share and discuss menopausal experiences in recent years (i.e., daughters' cohort) (Grossman &

Bart, 1979; Greenwood, 1984; Reitz, 1977). However, differences between mothers' and daughters' mean socialization influence scores for menopause may have been a function of positive to negative shifts in influence related to the estrogen replacement therapy (E.R.T.) controversies and debates. A methodological explanation based on comparative ratings can also be posed: Daughters may have rated socialization influence for menopause comparatively lower after rating the influence for prior events and processes as positively perceived, whereas mothers may have used socialization influence for menopause as the initial standard by which to comparatively rate socialization influence for postmenopause and the aging process.

Measures of association and tests for differences between T1 and T2 socialization influence measures for mothers and daughters are presented in Table 18. A high degree of intraindividual consistency was found among mothers in this study between socialization influence in reference to menopause and postmenopause/aging. However, the mean socialization influence score for menopause for mothers was significantly lower than the mean socialization influence score for postmenopause and aging. This latter finding may be indicative of either (a) developmental shifts in the quest for and receptivity to socialization influences as women advance across the life cycle from menopause to the postmenopausal years, or (b) increased availability or visibility of positive sources (e.g., media, printed materials, more open communication among female friends) for women's adult socialization in general over intervening years between T1 and T2.

Consistent with findings for mothers, a high degree of intraindividual consistency was also found among daughters between each T1 mean socialization influence score (i.e., menstruation and pregnancy/reproductive processes) and the T2 mean socialization influence score (i.e., menopause). T1-T2 differences for daughters' socialization influence were tested at both multivariate and univariate levels. To obtain an estimate of the overall T1-T2 difference for daughters, Hotellings  $t^2$  was derived from repeated measures MANOVA with socialization scores entered as within-subject factors to accommodate the two T1 measures. The overall T1-T2 difference was highly significant. Compared to the mean socialization influence score for menopause, higher mean scores were found for both menstruation and pregnancy/reproductive processes. In view of accounts in the literature over the past two decades (Cohen, Coburn, & Pearlman, 1980; Greenwood, 1984; Neugarten et al., 1963; Reitz, 1977; Trien, 1986) that middle-age women desire and actively seek out information on menopause, it was deemed unlikely that socialization findings for daughters were primarily due to developmental effects. Relative social values (e.g., mixed messages in menstrual socialization [Weideger, 1977]; "motherhood as institution" [Rich, 1976]) and sociohistorical trends (e.g., E.R.T. controversies and practices) provided more plausible explanations for these findings.

Finally, relatively few additional sources were identified from open-ended socialization items (see Table G.5 in Appendix G). Men (i.e., particularly husbands) were the most frequently identified

additional sources by both daughters and mothers. Other sources included classes, a midwife, women's own personal experiences, women's own professional experiences, professional journals, and family attitudes. One daughter rated product advertisements negatively in terms of influence on attitudes, beliefs, and knowledge regarding menstruation. Additionally, one mother indicated that the nursing home environment in which her mother lived had a very negative influence on her expectations about postmenopause and the aging process.

#### Attitudes Toward Menopause, Women, and Aging

Frequencies and percentages for T1 attitudinal items and means and standard deviations for T2 attitude scales for mothers and for daughters are presented in Table 19. Although participants completed past comparative recall items for attitudes toward menopause, women, and aging by indicating whether attitudes had generally (a) become more negative, (b) stayed the same, or (c) become more positive from the past to the present, data were reverse scored (i.e., "more negative over time" recoded to "more positive in the past"; "more positive over time" recoded to "more negative in the past") to provide general T1 attitudinal measures that were directionally consistent with the T2 attitude scales. Theoretical ranges and means for attitude scales were 0 to 112 ( $\bar{M} = 70$ ) for the 28-item Attitudes Toward Menopause (ATM) Checklist; 0 to 100 ( $\bar{M} = 62.5$ ) for the 25-item Attitudes Toward Women scale (AWS), and 0 to 80 ( $\bar{M} = 50$ ) for the 20-item Attitudes Toward Aging (ATA) scale.

Table 19

Frequencies and Percentages for T1 Attitudinal Items and  
and Means and Standard Deviations for T2 Attitude Scales  
for Mothers and for Daughters

	Mothers ( <u>n</u> = 50)		Daughters ( <u>n</u> = 49)	
	T1 <u>n</u> %	T2 <u>M</u>	T1 <u>n</u> %	T2 <u>M</u>
Attitudes Toward Menopause				
negative	16 (32)	80.75	21 (43)	74.29
same	32 (64)	80.78	24 (49)	72.10
positive	2 ( 4)	62.00	4 ( 8)	61.75
ATM <u>M</u>		80.02		72.20
<u>SD</u>		10.27		7.51
Attitudes Toward Women				
negative	40 (80)	80.55	35 (72)	86.03
same	10 (20)	73.90	11 (22)	82.46
positive	0 ( 0)		3 ( 6)	75.67
AWS <u>M</u>		79.22		84.59
<u>SD</u>		8.12		8.34
Attitudes Toward Aging				
negative	37 (74)	61.35	31 (63)	60.13
same	11 (22)	57.36	14 (29)	58.36
positive	2 ( 4)	50.50	4 ( 8)	57.75
ATA <u>M</u>		60.04		59.43
<u>SD</u>		7.03		6.52

Note. Percentages rounded to whole numbers. T2 attitude scale means by T1 attitudinal item ratings are displayed in addition to grand means.

Table 20

Measures of Association and Tests for Differences Between T1 and T2  
Attitude Measures for Mothers and for Daughters

	Mothers <sup>a</sup>			Daughters <sup>b</sup>		
	<u>eta</u>	<u>R<sup>2</sup></u>	<u>F</u>	<u>eta</u>	<u>R<sup>2</sup></u>	<u>F</u>
Attitudes Toward Menopause	.36	.13	3.54*	.44	.19	5.57**
Attitudes Toward Women	.33	.11	5.90*	.33	.11	2.79
Attitudes Toward Aging	.37	.14	3.64*	.14	.02	.49

<sup>a</sup> $n = 50$ ;  $F(2, 47)$ ,  $F(1, 48)$ , and  $F(2, 47)$  for attitudes toward menopause, women, and aging, respectively.

<sup>b</sup> $n = 49$ ;  $F(2, 46)$ .

\* $p < .05$ . \*\* $p < .01$ .

Consistent with Neugarten et al.'s (1963) cross-sectional findings, a majority of mothers (64%) in this study reported that their attitudes toward menopause had stayed the same from the time they were menopausal to the time of the postmenopausal attitude measurement, whereas half this many mothers (32%) indicated that their attitudes toward menopause were more negative in the past. Only two mothers indicated that they had more positive attitudes toward menopause at T1 than at T2. However, somewhat at odds with Neugarten et al.'s (1963) suggestion that differential attitudes toward menopause between cohorts of young and old women might have been attributable to menopausal experiences, the highest percentage

of daughters (49%) in this study also reported that their attitudes toward menopause stayed the same from the time they were in the menstrual and reproductive years of life to the time they were in the perimenopausal years. In general agreement with findings for mothers, past attitudes toward menopause were more negative for 43% of daughter participants, whereas only four daughters indicated that their attitudes were more positive in the past than in the present.

A large majority of mothers (80%) indicated that their attitudes toward women were more negative in the past, whereas no mother indicated that past attitudes toward women were more positive. This finding could be interpreted within the context of (a) Gutmann's (1980, 1985) developmental psychology theory regarding increased androgyny and decreased role restrictions as major characteristics of the "vital older woman", and/or (b) personal and social impact of the contemporary women's movement over the intervening years between T1 and T2. The latter explanation was further supported by findings in the same general direction but of less magnitude for daughters' T1 attitudes toward women. In contrast to mothers, however, three daughters indicated that they had more positive attitudes toward women in the past in comparison to the present.

Although the expected relationship between experience and attitudes toward menopause remained tenuous, this developmental rationale was strongly implicated in study findings on attitudes toward aging, especially those for aging mothers. Seventy-four percent of the mothers and 63% of the daughters in this study indicated that attitudes toward aging were more negative at T1

than at T2. Only two mothers and four daughters indicated that their past attitudes toward aging were more positive than their present attitudes. These findings may also be reflections of sociohistorical influences including the increasing visibility of such social and political groups as the American Association of Retired Persons (AARP) and the Gray Panthers as well as recent portrayals of aging in the movies (e.g. Whales of August by Pfeiffer, Kaplan, & Anderson, 1987) and on television (e.g., The Golden Girls by Cohen & Hughes, 1989).

Measures of association (i.e.,  $\eta$  and  $R^2$ ) and tests for differences (i.e., univariate  $F$  tests from repeated measures MANOVA) between T1 and T2 attitude measures for mothers and daughters are presented in Table 20. For mothers, associations between past attitude indicators and present mean attitude scores were found to be quite low: T1 attitudes toward menopause accounted for only 13% of the variance in T2 mean ATM scores; T1 attitudes toward women accounted for only 11% of the variance in T2 mean AWS scores; and T1 attitudes toward aging accounted for 14% of the variance in T2 mean ATA scores. These low associations between T1 and T2 attitude measures suggested a high degree of attitudinal inconsistency, or attitude change, in individual mothers, which is not an uncommon finding in longitudinal survey research on attitudes (Hill, 1981; Wrightsman, 1977). Significant T1-T2 differences were also found for all attitudinal measures for mothers. However, findings for attitudes toward menopause and attitudes toward aging must be interpreted with extreme caution in view of the small number of

mothers who reported that attitudes toward menopause and aging were more positive at T1 than at T2. Moreover, post hoc analyses removing the few mothers who reported that attitudes were more positive at T1 showed no significant differences in T2 mean ATM or ATA scores between mothers who reported that attitudes were the same at T1 and T2 and mothers who reported that attitudes were more negative at T1 in comparison to T2. Thus, the only conclusion that could be drawn was that there was a trend for individual mothers who reported more positive attitudes toward menopause and aging at T1 to have lower scores on the respective attitude scale at T2. On the other hand, mothers who reported more negative attitudes toward women at T1 in comparison to T2 had significantly higher mean AWS scores at T2 than did mothers who reported that their attitudes were the same at T1 and T2; however, this finding was also probably biased due to extremely unequal group sizes.

For daughters, considerable variation was found in associations between T1 attitude indicators and T2 mean attitude scores: T1 attitudes toward menopause accounted for 19% of the variance in T2 mean ATM scores; T1 attitudes toward women accounted for 11% of the variance in T2 mean AWS scores; and T1 attitudes toward aging accounted for only 2% of the variance in ATA scores. Thus, a moderate degree of attitudinal consistency was found for attitudes toward menopause, in accordance with the finding that 49% of daughters in this study indicated that their attitudes toward menopause stayed the same over time but in contrast to Neugarten et al.'s (1963) cross-sectional findings for different age cohorts.

However, the only significant T1-T2 difference that was found for daughters was also for attitudes toward menopause. This finding must be viewed with circumspection, though, given the small number of daughters (i.e.,  $n = 4$ ) who indicated that attitudes toward menopause became more positive from T1 to T2. As with mothers, post hoc analysis removing daughters who indicated that their attitudes were more positive at T1 showed no significant difference in T2 mean ATM scores between daughters who indicated that their attitudes remained the same ( $M = 72.10$ ) and daughters who indicated that their attitudes were more negative at T1 ( $M = 74.29$ ) ( $t(43) = -1.07, p = .29$ ). The only conclusion that could be drawn was that there was a trend for daughters who reported that attitudes toward menopause were more positive at T1 to have lower mean ATM scores at T2 ( $M = 61.75$ ). Despite nonsignificant  $F$  values, similar trends were observed for attitudes toward women and aging. Daughters who indicated that attitudes were more positive in the past than in the present had lower T2 mean AWS and ATA scores in comparison to daughters who indicated that their attitudes stayed the same, whereas daughters who indicated that their attitudes were more negative in the past than in the present had comparatively higher T2 scores.

Thus, whether "longitudinal" findings and trends for attitudes toward menopause, women, and aging were due to individual, developmental, or sociohistorical factors remained undetermined. However, methodological concerns, such as lack of sensitivity and specificity of T1 attitude measures and effects analogous to statistical regression toward the mean, provided highly plausible

explanations for otherwise uninterpretable associations and differences between T1 and T2 attitude measures both for mothers and for daughters.

Mean scores derived from this sample of mothers and daughters were above theoretical averages for all three T2 attitude scales, which indicated that mothers and daughters in this study had generally positive attitudes toward menopause, women, and aging. As suggested in the literature (Bowles, 1986), there were moderate (i.e., .35 to .40) but significant ( $p < .05$ ) correlations between all three attitude scales for mothers (see Table 21). In accordance with notions that menopause is symbolically associated with aging in women (Flint, 1975, 1982a; Kaufert, 1982; Lock, 1982; Neugarten et al. 1963; Voda, 1982), a significant correlation between ATM and ATA scores was also found for daughters. However, daughters' attitudes

Table 21

Attitudes Scale Correlations for Mothers and Daughters

	Mothers ( $n = 50$ )		Daughters ( $n = 49$ )	
	2	3	2	3
1. Attitudes Toward Menopause (ATM)	.35*	.37*	.02	.36*
2. Attitudes Toward Women (ATW)	---	.40*	---	.20
3. Attitudes Toward Aging (ATA)	---	---	---	---

\* $p < .05$ .

toward women were not related to attitudes toward either menopause or aging, in contrast to findings for mothers. Perhaps mothers held a relatively unified conceptualization of "menopause and women's aging process" as developmental functions of (a) personal experiences which led to synthesis of the three elements (i.e., menopause, women, and aging); and/or (b) characteristic modes of cognition in the aging process such as unique stimulus "associationism" (Walsh, 1975, p. 125), crystallization, and integration (Kart, Metress, & Metress, 1978; Peck, 1968; Schaie, 1975). As an alternative explanation, mothers may not have been sufficiently influenced by the recent women's movement to have moved beyond "biology as destiny" views of women (Bolt, Wilson, & Larsen, 1979). Conversely, middle-aged daughters, who as a group displayed highly positive attitudes toward women (i.e., abilities, rights, and roles), may have viewed menopause and aging as two small components (i.e., invariant role dimensions) of women's total life experiences (Nathanson & Lorenz, 1982; Parlee, 1984).

#### Symptom Experiences

Mother and daughter participants completed Neugarten and Kraines' (1965) Menopause Symptom Checklist (MSC) in reference to two time frames: (a) as recalled from the time in the past when mothers were perimenopausal and daughters were in the menstrual and reproductive years, and (b) as perceived at the present time when daughters were perimenopausal and mothers were in the postmenopausal years and at some stage in the aging process. Means and standard deviations for T1 and T2 symptom experience measures for mothers and for daughters

Table 22

Means and Standard Deviations for T1 and T2 Symptom ExperienceMeasures for Mothers and for Daughters

		Mothers		Daughters	
		T1 (n = 50)	T2 (n = 50)	T1 (n = 48)	T2 (n = 49)
Total Symptom Scale	<u>M</u>	10.04	14.50	8.02	15.29
	<u>SD</u>	7.39	7.13	6.81	9.83
Blatt Menopausal Symptoms	<u>M</u>	4.36	7.00	3.10	6.35
	<u>SD</u>	3.27	3.83	3.11	4.67
Somatic Symptoms	<u>M</u>	4.80	5.90	3.27	6.35
	<u>SD</u>	4.45	3.32	2.86	3.66
Psychosomatic Symptoms	<u>M</u>	1.66	2.62	1.54	3.10
	<u>SD</u>	1.48	1.93	1.80	2.35
Psychologic Symptoms	<u>M</u>	3.58	5.98	3.21	5.82
	<u>SD</u>	2.86	3.74	3.62	4.89

Table 23

Mean Symptom Scores by Age Group and Self-Reported Menopausal StatusReported by Neugarten and Kraines (1965)

	13-18	20-30	30-44	45-54		55-64
				Pre- or Post-Menopausal	Menopausal	
Total	12.4	10.1	11.5	12.1	17.2	11.8
Blatt	4.3	3.2	4.1	3.3	5.4	3.0
Somatic	2.4	2.2	2.3	2.0	2.7	1.7
Psychosomatic	5.4	4.8	4.5	4.1	5.2	2.9
Psychologic	12.1	10.2	10.9	9.4	13.2	7.6

Table 24

Measures of Association and Tests for Differences Between T1 and T2  
Symptom Experience Measures for Mothers and for Daughters

	Mothers <sup>a</sup>		Daughters <sup>b</sup>	
	$r$	$t$	$r$	$t$
Total Symptom Scale	.49**	-4.31**	.44**	-5.49**
Blatt Symptoms	.35*	-4.58**	.44**	-5.24**
Somatic Symptoms	.50**	-1.94	.46**	-6.15**
Psychosomatic Symptoms	.15	-3.03**	.23	-4.19**
Psychologic Symptoms	.57**	-5.36**	.43**	-3.89**

<sup>a</sup> $n = 50$ ;  $r(48)$ , paired  $t(49)$ .

<sup>b</sup> $n = 48$ ;  $r(46)$ , paired  $t(47)$ .

\* $p < .05$ . \*\* $p < .01$ .

are presented in Table 22. The daughter who reported that she was unable to complete the retrospective relationship measure also noted that she was too young to recall specific symptom experiences; thus, T1 symptom findings for daughters at T1 were based on a sample of 48. Since a 4-point Likert scale (i.e., symptom experience: not at all [0] to severe [3]) was used, theoretical ranges were 0 to 84 for the 28-symptom total scale, 0 to 36 for the 12-symptom Blatt subscale, 0 to 36 for the 12-symptom somatic subscale, 0 to 15 for the 5-symptom psychosomatic subscale, and 0 to 33 for the 11-symptom psychologic subscale. Mean symptom scores by age group and self-reported menopausal status reported by Neugarten and Kraines (1965, p. 269) are presented in Table 23 for comparative purposes.

Highly significant T1-T2 correlations were found for total symptom scale scores for both mothers and daughters, which indicated considerable intraindividual consistency in symptom experiences across time (see Table 24). Moreover, with the exception of somatic symptoms for mothers, mean total symptom scale and subscale scores were significantly lower at T1 than at T2. However, mean total scale scores at T1 for mothers and daughters in this study were generally lower than mean total scale scores reported for all age groups by Neugarten and Kraines (1965). These combined findings suggested a possible degree of distortion in T1 symptom scores due to recall bias (Kaufert, Gilbert, & Hassard, 1988; Kaufert & Syrotuik, 1981; Woods, 1982a) or bias associated with comparative past and present symptom ratings.

Mothers had higher mean scores than did daughters on all T1 symptom measures, whereas daughters had higher T2 mean scores with the exception of Blatt menopausal symptoms. This observed discrepancy between aging mothers and perimenopausal daughters conflicted with Neugarten and Kraines' report that "the BMI [Blatt Menopausal Index] provided the clearest differentiation, with the menopausal [group] obtaining significantly higher scores on this measure than any other group" (p. 269). In fact, not only were there significant T1 to T2 increases in mean Blatt symptom scores for both mothers ( $t(49) = -4.58, p < .01$ ) and daughters ( $t(47) = -5.24, p < .01$ ) but (also) higher mean Blatt scores at T2 were found for mothers and daughters in this study in comparison to all age groups in the Neugarten and Kraines study.

In further elaboration of these paradoxical findings, higher percentages of mothers reported experiences of six of the 12 Blatt symptoms at T2 in comparison to daughters: hot flashes (32% of mothers vs. 22% of daughters), rheumatic pains (72% vs. 25%), numbness and tingling (42% vs. 37%), tired feelings (88% vs. 82%), feeling blue and depressed (56% vs. 53%), and trouble sleeping (64% vs. 43%). Three Blatt symptoms (i.e., cold sweats, skin crawls, and dizzy spells) were reported by equivalent percentages of mothers and daughters. Daughters reported higher frequencies of experience than mothers for only three Blatt symptoms: headaches (74% of daughters vs. 40% of mothers), pounding of heart (37% vs. 20%), and irritability and nervousness (67% vs. 64%) (see Table G.6 in Appendix G).

Several explanations can be offered for these findings. First, despite Neugarten and Kraines' (1965) age-comparative findings, the BMI may be a better index of general symptoms of aging than of menopausal symptoms per se. With the exception of hot flashes, many of the symptoms reported with high frequencies by mothers are common complaints during the aging process (Kart, Metress, & Metress, 1978). This interpretation was supported by the moderate correlation ( $r(48) = .35, p < .05$ ) that was found between T1 and T2 Blatt symptoms for mothers. Another plausible explanation lies in the fact that a majority of daughters in this study were in the premenopausal phase of the perimenopause. In fact, further exploration into the somewhat unexpected finding of a fairly high degree of intraindividual consistency ( $\bar{r}(46) = .44, p < .01$ ) for

Blatt symptoms among daughters revealed high T1-T2 associations for some symptoms (e.g., tired feelings, headaches, irritability and nervousness, feeling blue or depressed) but not for the classic menopausal symptoms (e.g., hot flashes, cold sweats). These findings suggested that the Blatt subscale also functioned as a general rather than menopause-specific symptom index for daughters in this study. Interestingly, however, the Blatt symptom complex that was identified for daughters at T2 (i.e., headaches, pounding of heart, irritability and nervousness) was compatible with the high frequencies of major life stress in the past year which were also reported by these daughters.

Mean somatic symptom scores at both T1 and at T2 for mothers and daughters in this study were generally higher than mean somatic symptom scores reported for all age groups by Neugarten and Kraines (1965), primarily due to a single somatic symptom: "weight gain". In fact, this finding partially accounted for the relatively low internal consistency reliability estimates of the somatic symptom subscale. Weight gain was reported with high frequencies by both mothers (i.e., 48% at T1, 62% at T2) and daughters (i.e., 46% at T1, 71% at T2). In view of lower percentages reported for weight gain by comparable age groups over two decades ago (Neugarten and Kraines, 1965), these findings may reflect (a) a contemporary preoccupation with dieting and weight control in society in general, (b) the documented increased prevalence of obesity in women in recent years (Metzger, 1982), and (c) a current focus on pathological eating disorders in women (Chermin, 1985). These sociohistorical

interpretations were supported by a related finding: higher percentages of mothers and daughters in this study also reported "worry about the body" in comparison to the 1965 sample of women of various ages.

Consistent with findings for the total symptom scale, high degrees of intraindividual consistency for somatic symptoms were demonstrated among mothers and daughters. As with mean total scale and other symptom subscale scores, a significant T1 to T2 increase in mean somatic symptom scores was found for daughters. Further exploration into the lack of T1-T2 difference in mean somatic symptom scores for mothers revealed an underlying phenomenon of somatic symptom substitution. For example, mothers had higher mean scores for classic menopausal symptoms such as hot flashes, cold sweats, and flooding at T1, whereas higher item means were found for more typical aging symptoms such as rheumatic pains, aches in back of neck, and numbness/tingling at T2.

In contrast to suggested associations between menopause and psychosomatic disturbances in the literature (Benedek, 1950; Flint, 1975; Forman, 1968; Gath et. al., 1987), mean psychosomatic symptom scores at T1 and T2 for mothers and daughters were found to be quite low, particularly in comparison to mean psychosomatic scores reported by Neugarten and Kraines (1965). Although high percentages were found for some of the psychosomatic symptoms in this study, item means indicated that severity of these symptoms was generally rated quite low. For example, although 88% of the mothers indicated that they experienced tired feelings at T2, a majority of these mothers

rated this symptom experience as mild ( $\underline{M} = 1.34$ ,  $\underline{SD} = .75$ ). Likewise, 74% of the daughters reported headaches at T2 but most of these daughters rated their headaches as mild ( $\underline{M} = 1.08$ ,  $\underline{SD} = .88$ ). Again, the relatively low internal consistency reliability coefficients reported for the psychosomatic subscale may have been attributable to these findings which indicated relatively little variance in psychosomatic symptom items.

The nonsignificant associations between psychosomatic symptom scores at T1 and at T2 which were found for both mothers and daughters could be explained by the notion that psychosomatic symptoms are more reflective of relatively transitory states of stress rather than enduring characteristics or traits of individuals (Lader, 1972). This interpretation received further support by the highly significant T1-T2 difference in mean psychosomatic symptom scores which was found for daughters, given that daughter participants also reported high frequencies of major stress in the past year. Along these lines, however, the T1 to T2 increase in mean psychosomatic symptom scores for mothers was seemingly incompatible with the previous finding of a relatively low incidence of major stress in the past year for mother participants. This apparent inconsistency might be reconciled by plausible explanatory factors related to both stress and psychosomatic symptoms. For example, there may have been an actual low level of stressors (e.g., family, physical, psychological) in the lives of these aging mothers, and/or mothers may have displayed a tendency to underreport major stress due to developmentally-related adaptations to demands and losses

(Preston, 1979). On the other hand, higher frequencies of tired feelings, pounding of heart, dizzy spells, and blind spots before eyes reported by mothers at T2 in comparison to T1 may have been reflections of changes associated with the aging process as opposed to manifestations of stress.

Relatively low mean psychologic symptom scores at T1 and T2 were also found for both mothers and daughters in this study. As with psychosomatic symptoms, psychologic symptoms were reported with fairly high frequencies but were generally rated low (i.e., mild to moderate) in terms of severity. Of particular interest, a higher percentage of mother participants (86%) reported forgetfulness at T2, consistent with Neugarten and Kraines' (1965) finding that the symptom complex of tired feelings and forgetfulness differentiated the older women in their study from other age groups.

Thus, findings indicated a high intraindividual consistency for symptom experiences in general and for somatic and psychologic symptom experiences in particular among mothers and daughters in this study. However, there was little intraindividual consistency in psychosomatic symptom experiences for either mothers or daughters, which suggested that psychosomatic symptoms were indicators of either situational stress or developmental change. For mothers, there were significant increases in symptom experiences from T1 to T2, with the exception of somatic symptoms for which a menopausal to aging symptom substitution pattern was identified. For daughters, highly significant T1 to T2 increases were found for all symptom experience measures; these findings for daughters were consistent with the

conceptualization of menopause as a "developmental phase" (Benedek, 1950) which is characterized by hormonal disequilibrium as well as associated psychophysiological changes and experiences. Finally, it should be noted that symptom experience findings in this study may have been reflections of changes in estrogen replacement therapy (E.R.T.) practices and usage over time. Despite highly plausible individual, developmental, and sociohistorical interpretations, biases in symptom checklists (Kaufert, Gilbert, & Hassard, 1988; Kaufert & Syrotuik, 1981; Woods, 1982a), which were compounded by repeated measures, remained competitive explanations for symptom experience findings, particularly in view of discrepancies between descriptive and "longitudinal" findings in this study and Neugarten and Kraines' (1965) normative, cross-sectional data.

#### General Health Perceptions

A modified version of Rossi's (1980) Aging Symptoms Index was used as the measure of general health perceptions in this study, and participants rated nine items on a scale from poor (0) to excellent (10). Thus, the theoretical range for the General Health Perceptions (GHP) measure was 0 to 90, with a theoretical mean of 45. Means and standard deviations for T1 and T2 total GHP measures are presented in Table 25.

Mean scores for general health perceptions for T1 and T2 were well above the theoretical mean, which suggested that this sample of mothers and daughters had generally positive perceptions of their past and present health. Increased variability in T2 GHP scores in comparison to T1 GHP scores could be interpreted according to

Table 25

Means and Standard Deviations for T1 and T2General Health Perceptions Measure for Mothers and for Daughters

		Mothers ( $n = 50$ )		Daughters ( $n = 49$ )	
		T1	T2	T1	T2
General Health Perceptions	<u>M</u>	73.68	57.16	67.69	64.14
	<u>SD</u>	11.06	12.59	10.48	14.08

Table 26

Measure of Association and Test for Difference Between T1 and T2General Health Perception Measure for Mothers and for Daughters

	Mothers <sup>a</sup>		Daughters <sup>b</sup>	
	<u>r</u>	<u>t</u>	<u>r</u>	<u>t</u>
General Health Perceptions	-.63**	11.52**	-.63**	1.52

<sup>a</sup> $n = 50$ ; r(48), paired t(49).

<sup>b</sup> $n = 49$ ; r(47), paired t(48).

\*\* $p < .01$ .

theoretical notions of heterogeneity in health and functional abilities in middle and later years of life as opposed to the relative homogeneity which characterizes earlier stages of the life cycle (Kimmel, 1974).

Means and standard deviations for T1 and T2 GHP items (i.e., global physical, sensory, and functional indicators) for mothers and for daughters are presented in Table G.7 (see Appendix G). Parallels in direction and magnitude between scores for mothers and for daughters on three items (i.e., eyesight, shape of body, and weight) were strikingly evident. Although somewhat similar scores were found for T1, mothers reported lower T2 scores for teeth, energy level, and health than did daughters. However, mothers reported lower mean scores for both hearing and hair condition than daughters both at T1 and at T2. There were reciprocal T1 and T2 findings for Item 6, "sex life", for mothers and daughters: there was a decrease in mean scores (i.e., T1:  $\bar{M} = 7.36$ ; T2:  $\bar{M} = 3.42$ ) for mothers, whereas there was an increase in mean scores for daughters (T1:  $\bar{M} = 2.23$ ; T2:  $\bar{M} = 6.31$ ). Anecdotal notes written by mothers and daughters provided explanations for these findings. Several mothers noted that they were widowed or had husbands who were ill at T2. Daughters, on the other hand, reported that they were not yet sexually active or were unpartnered at T1. In support of construct validity in the use of the modified version of Rossi's (1980a) nine-item Aging Symptoms Index (ASI) as a measure of general health perceptions, highly significant ( $p < .001$ ) correlations were found between Item 7, "health", and total GHP scores at T1 (i.e.,  $r(48) = .70$  for mothers,

$r(47) = .74$  for daughters) and at T2 (i.e., .68 for mothers, .76 for daughters).

High negative correlations were found between T1 and T2 GHP scores, which indicated high degrees of intraindividual consistency in past and present general health perceptions among mothers and daughters in this study (see Table 26). These findings not only provided confirmation of McKinlay et al.'s (1987a) finding that prior values of self-assessed health were the most important predictors (i.e., in comparison to other health status, demographic, and menstrual/menopausal variables) of subsequent values of self-assessed health in approximately 2,500 menopausal women over four measurement occasions but (also) prospectively extended this connection across the lifespan into women's aging process.

In contrast to overall findings for symptom experiences, a decrease in mean GHP scores from T1 to T2 was found for both mothers and daughters. The highly significant decrease in general health perceptions over time ( $t(49) = 11.52, p < .01$ ) for mothers was most likely a function of decremental physical, functional, and sensory changes in the aging process, or developmental changes. The decrease in general health perceptions over time ( $t(48) = 1.52, p = .056$ ) for daughters, which approached but did not reach the level of statistical significance, was probably reflective of the fact that a majority of daughter participants (84%) were developmentally in the "approach to menopause" (Treloar, 1982), or menopausal transition, at the time of the study.

### Mother-Daughter Comparisons

The individual was the unit of analysis in the first two research questions of this study in order to utilize all available data for descriptive purposes and to maximize power in statistical examination of individual-level "longitudinal" trends. However, the dyad was the unit of analysis in questions three through six since research interest in these questions was on similarities and differences, or patterns, within the mother-daughter pair. Moreover, consistency in focus on the dyadic unit between conceptualizations and analyses not only provided means to avoid major statistical errors (e.g., violations of assumptions regarding independence between mother and daughter measures) but (also) precluded ecological fallacies in interpretations and conclusions (Fisher, Kokes, Ranson, Phillips, & Radd, 1985; Thompson & Walker, 1982). Dyadic-level results from cross-sectional and sequential mother-daughter comparisons will be presented in this section, followed by presentation of developmental-multivariate results on contributions to mother's and daughter's general health perceptions in the final section of this chapter.

The third specific aim of this study was to compare mother's and daughter's perceptions of the mother-daughter relationship, socialization influences, attitudes, symptom experiences, and general health perceptions in the past and in the present. In cross-sectional comparisons, correlational techniques were used to estimate the degree of intradyadic consistency with time referents of this study and associated sociohistorical influences analytically

held constant. Tests of differences (i.e., paired t-tests, Hotelling's  $t^2$ ,  $\chi^2$ ) were used to extend and supplement these findings with information on mother-daughter differences, which could have been effects of individual and/or developmental variables. The fourth specific aim was to compare mother's perceptions and experiences in the past with daughter's perceptions and experiences in the present. In sequential comparisons, correlational techniques were used to estimate the degree of intradyadic consistency between mother at T1 and daughter at T2 with developmental stage analytically held constant. Tests of mother-daughter differences (i.e., paired t-tests, repeated measures MANOVA) were also conducted to obtain supplemental findings that might contribute to the identification of potential effects of individual and/or sociohistorical variables.

#### Mother-Daughter Relationship

Measures of association and tests for differences between mother and daughter relationship measures at T1 and at T2 are presented in Table 27. Significant correlations were found between mother's and daughter's T1 scores for the total relationship scale and intimacy subscale. The mother-daughter correlation ( $r = .30$ ,  $p = .055$ ) on the attachment subscale approached but did not reach the level of statistical significance. These findings indicated that there were considerable degrees of intradyadic consistency in perceptions of the mother-daughter relationship from the time in the past (i.e., mid 1950s and 1960s) when the mother was middle-aged and the daughter was in adolescence or young adulthood.

Table 27

Measures of Association and Tests for DifferencesBetween Mother and Daughter Relationship Measures at T1 and at T2<sup>a</sup>

	T1		T2	
	<u>r</u>	<u>t</u>	<u>r</u>	<u>t</u>
Total Scale	.37*	4.82**	.39**	4.44**
Attachment Subscale	.30	5.10**	.30*	4.42**
Intimacy Subscale	.38*	3.41**	.40**	3.59**

<sup>a</sup> $n = 41$  dyads;  $r(39)$ , paired  $t(40)$ .

\* $p < .05$ . \*\* $p < .01$ .

Table 28

Measures of Association and Tests for DifferencesBetween Mother T1 and Daughter T2 Relationship Measures<sup>a</sup>

	Mother T1 - Daughter T2	
	<u>r</u>	<u>t</u>
Total Scale	.31*	2.02*
Attachment Subscale	.13	3.79**
Intimacy Subscale	.38*	1.02

<sup>a</sup> $n = 42$  dyads;  $r(40)$ ,  $t(41)$ .

\* $p < .05$ . \*\* $p < .01$ .

However, mother-daughter differences in T1 mean total scale (i.e.,  $M_m = 263.00$ ,  $SD_m = 48.00$ ;  $M_d = 216.27$ ,  $SD_d = 60.59$ ) as well as mean attachment and intimacy scores were highly statistically significant. The greater magnitude of difference between mothers and daughters in attachment ( $M_m = 42.05$ ,  $SD_m = 10.48$ ;  $M_d = 32.15$ ,  $SD_d = 10.56$ ) relative to intimacy ( $M_m = 97.44$ ,  $SD_m = 17.17$ ;  $M_d = 85.17$ ,  $SD_d = 23.32$ ) was interpretable in accordance with Bengtson and Kuypers' (1971) concept that adolescent and young adult children have different "developmental stakes" than their parents; the younger generation has a tendency to exaggerate differences in attempts to separate from parents and establish their own identity whereas parents tend to underestimate differences. Parallels between T1 findings from this study and Fischer's contemporary cross-sectional works (i.e., the topological finding that ". . .the most common pattern for adolescent daughters and their mothers is a juxtaposition of intimate involvement and separation" [1986, p. 24]; findings related to the primacy of the "symbolic bond" over the "interactional bond" in relationships between young adult daughters (i.e., ages 21 to 31) and their mothers [1981]) further supported developmental interpretations for identified mother-daughter differences in T1 relationship measures. Alternatively, standard deviations for total and subscale scores indicated that intervening effects of individual variations on T1 mother-daughter differences in perceptions of the relationship, particularly for daughters, should not be ignored.

In contrast to T1, significant correlations were found between mother's and daughter's T2 scores on all relationship measures, including the attachment subscale. Findings indicated high intradyadic consistency in present perceptions of the mother-daughter relationship despite anecdotal notes by both mothers and daughters to the contrary (e.g., "In many of the questions my response would be different than hers because of our different circumstances" [a mother]; "My mother would like to spend a great deal more time with me than I want to spend with her . . . we do not share similar views . . ." [a daughter]; Note: scatterplot location of both of these pairs did, in fact, reflect a fairly high degree of agreement).

Consistent with T1 findings, a highly significant mother-daughter difference was found for T2 mean total scale scores ( $M_m = 278.63$ ,  $SD_m = 36.08$ ;  $M_d = 241.44$ ,  $SD_d = 57.53$ ). Given that no associations were found between relationship scores and residential proximity, the greater magnitude of difference between mothers and daughters in attachment ( $M_m = 41.91$ ,  $SD_m = 9.75$ ;  $M_d = 33.74$ ,  $SD_d = 10.69$ ) relative to intimacy ( $M_m = 104.18$ ;  $SD_m = 12.28$ ;  $M_d = 93.35$ ,  $SD_d = 21.22$ ) might have represented a continuity of "developmental stakes" (Bengtson & Kuypers, 1971; Maas & Kuypers, 1974) in middle-aged daughters and "young-old" mothers (Neugarten, 1968, 1974). Again, comparative differences in standard deviations suggested that individual variation had stronger mediating effects in present relationship perceptions for daughters than for mothers.

Measures of association and tests for differences between mother T1 and daughter T2 relationship measures are presented in Table 28.

Although developmental stage was held constant for mother and daughter as individuals, the developmental stage of the relationship was variable in sequential analysis (i.e., mother's perceptions at T1 were based on the relationship of middle-aged mother and adolescent/young adult daughter; daughter's perceptions at T2 were based on the relationship between middle-aged daughter and aging mother). Significant correlations were found for mother's and daughter's total scale and intimacy subscale scores but not for attachment scores. The attachment finding was probably due primarily to differences in developmental stage of the relationship (Fischer, 1981, 1986). However, some of the personal and political changes (e.g. decreased economic interdependence within the family; increased opportunities for women outside the family; self-reliance in the contemporary era of individualism) identified in Conger's (1981) analysis of sociohistorical influences on relationships and the family might also have contributed to the sequential attachment correlation, which was of even lower magnitude than the intradyadic attachment correlation found in the T1 cross-sectional analysis.

A highly significant difference was also found between mothers' T1 ( $M_m = 42.12$ ,  $SD_m = 10.36$ ) and daughters' T2 ( $M_d = 34.02$ ,  $SD_d = 10.65$ ) mean attachment scores. Moreover, a significant difference was found between mothers' T1 ( $M_m = 262.38$ ,  $SD_m = 47.58$ ) and daughters' T2 ( $M_d = 243.21$ ,  $SD_d = 57.03$ ) total scale scores, which was probably a function, in part, of the high magnitude attachment difference as well as individual variations. However, the differential nature of measures (i.e., retrospective vs.

concurrent) may also have accounted for identified differences. No significant difference was found between mean intimacy scores for mothers at T1 ( $\underline{M}_m = 97.21$ ,  $\underline{SD}_m = 17.02$ ) and daughters at T2 ( $\underline{M}_d = 93.81$ ,  $\underline{SD}_d = 21.26$ ). Given that mother-daughter intimacy differences were found in both cross-sectional comparisons, perceptions of intimacy in the mother-daughter relationship may strongly be influenced by individual developmental stage of mothers and daughters.

#### Socialization Influences

As indicated in Table 29, positive but nonsignificant correlations were found between mother's socialization influence score for menopause and daughter's socialization influence score for menstruation and pregnancy/reproductive processes, which, not unexpectedly, indicated low degrees of intradyadic consistency at T1 for these developmentally different events and processes.

Multivariate and univariate tests for mother-daughter differences in socialization influence at T1 were conducted. Through use of MANOVA procedures with socialization scores entered as within-subject factors to accommodate daughters' dual T1 measures as well as the lack of independence in mother-daughter measures, a highly significant overall difference was found. Univariate paired t-tests indicated that the multivariate finding was due to the highly significant difference between mothers' mean total socialization influence score for menopause ( $\underline{M}_m = 3.01$ ) and daughters' mean total socialization influence score for pregnancy and reproductive processes ( $\underline{M}_d = 6.16$ ); on the other hand, no difference was found

Table 29

Measures of Association and Tests for DifferencesBetween Mother and Daughter Socialization Influence Measuresat T1 and at T2<sup>a</sup>

	<u>r</u>	T1 <u>t</u>	<u>r</u>	T2 <u>t</u>
Menopause with Menstruation	.22	.27		
Menopause with Pregnancy/Reproduction	.19	3.39**		
		.38**		
Postmenopause/Aging with Menopause			-.07	-2.38*

<sup>a</sup> $n = 43$  dyads;  $r(41)$ , paired  $t(42)$ , Hotellings  $t^2(2, 41)$ .

\* $p < .05$ . \*\* $p < .01$ .

Table 30

Measure of Association and Test for DifferenceBetween Mother T1 and Daughter T2 Socialization Influence Measures<sup>a</sup>

	Mother T1 - Daughter T2	
	<u>r</u>	<u>t</u>
Menopause with Menopause	.14	1.89

<sup>a</sup> $n = 43$  dyads;  $r(41)$ ,  $t(42)$ .

between mothers' mean score for menopause and daughters' mean total socialization influence score for menstruation ( $\underline{M}_d = 3.23$ ). Given that sociohistorical context was constant, findings could be interpreted as joint reflections of the myths and taboos surrounding both menstruation and menopause prior to the rise of the feminist movement in the late 1960s (Weideger, 1977) and/or micro- and macro-level social support for pregnancy and reproduction during the "baby boom" of the 1950s (Conger, 1981; Shorter, 1975).

A nonsignificant, low negative correlation was found between mother's total socialization influence score for postmenopause and aging and daughter's total socialization influence score for menopause. Thus, within pairs, there was minimal intradyadic consistency in T2 socialization influence ratings, and mother's ratings tended to be more positive than daughter's ratings.

In fact, a significant difference was found between mean total socialization influence scores of mothers ( $\underline{M}_m = 4.43$ ,  $\underline{SD}_m = 4.43$ ) and daughters ( $\underline{M}_d = 1.33$ ,  $\underline{SD}_d = 4.93$ ). In view of large standard deviations (i.e., which were not directly comparable in absolute values to mean scores since the theoretical range for total socialization influence scores was -20 to +20), individual variation was a competing explanatory variable along with the difference between mothers and daughters in developmental stage. However, combined correlational and mean difference findings suggested that contemporary social influences may have played a major role in these cross-sectional T2 findings. Daughters' socialization to menopause in the 1980s has included estrogen replacement therapy (E.R.T.)

controversies and osteoporosis debates. Even menopause-related messages in a recent national best seller were less than positive (e.g., "Hot flashes are rolls of unreasonable, unseasonable heat. . . itchy, prickly, provocative. . . [Raskin, 1987, p. 2]). At the same time, there has been a general upsurge of social attention to aging, including increases in availability of resources and visibility of positive role models for aging mothers.

In sequential comparisons, socialization influence for both mother at T1 and daughter at T2 was in reference to menopause. As shown in Table 30, a nonsignificant correlation was found between mother's and daughter's total socialization influence scores, which indicated a low level of sequential consistency within dyads for this developmentally-specific phenomenon. Moreover, the difference between mothers' T1 mean total socialization influence score ( $M_m = 3.02$ ,  $SD_m = 4.18$ ) and daughters' T2 mean total socialization influence score ( $M_d = 1.33$ ,  $SD_d = 4.79$ ) approached ( $p = .07$ ) but did not reach the level of statistical significance. The finding that mothers and daughters reported the same modal number of socialization sources in reference to menopause suggested that the trend for mothers to have had reported somewhat more positive past influence in socialization to menopause in comparison to perimenopausal daughters' reports of present influence also could be interpreted in terms of intervening sociohistorical influences such as the E.R.T. controversy. Moreover, descriptive findings on sources of socialization shed further light on sequential findings. Mothers reported that books, magazines, and newspapers provided the

most positive information on menopause in the past. On the other hand, daughters were currently being exposed to popular novels such as Hot Flashes (Raskin, 1987), which did not particularly provide a highly positive portrayal of menopause. Whereas daughters most frequently reported that talking with their mothers was a source of positive influence, they also frequently indicated that observing their mothers was a negative source of influence. Thus, there may have been some cancelling-out effects as well as attenuation over time in mothers' overall influence in daughters' socialization to menopause. Finally, findings may have been attributable to potential bias related to comparative ratings that might have occurred with the multiple socialization measures.

#### Attitudes Toward Menopause, Women, and Aging

Wilcoxon matched-pairs signed rank tests were used to estimate the degree of intradyadic consistency for T1 nominal-level attitudinal measures. Equivalent numbers of untied ranks (i.e., inconsistent pairs) and tied ranks (i.e. consistent pairs) were found for T1 attitudes toward menopause and aging (see Table 31). In the majority of inconsistent pairs, mother indicated negative attitudes and daughter indicated positive attitudes toward menopause and aging. On the other hand, significantly more consistent than inconsistent pairs were found for past comparative attitudes toward women. These combined findings suggested that dyadic inconsistency in T1 attitudes was probably due to the fact that mother and daughter were at different developmental stages since dyadic agreement was found most often for past attitudes on the one developmentally-neutral concept

out of the three attitudinal areas.

Table 31

Measures of Association and Tests for Differences

Between Mother and Daughter Attitude Measures at T1 and at T2<sup>ab</sup>

Attitudinal Item	Untied Ranks	Tied Ranks	T1	$\chi^2$
			$z^c$	
Attitudes Toward Menopause	21	22	.18	1.7462
Attitudes Toward Women	13	30	2.03*	4.5884
Attitudes Toward Aging	23	20	.88	5.8757

Attitude Scale	T2	
	$r$	$t$
Attitudes Toward Menopause (ATM)	.30*	5.45**
Attitudes Toward Women (AWS)	.21	-2.70**
Attitudes Toward Aging (ATA)	.36*	1.22

<sup>a</sup> $n = 43$  dyads;  $\chi^2(4)$ ,  $r(41)$ , paired  $t(42)$ .

<sup>b</sup>T1 attitudes by past comparative recall recoded to "more negative in the past"; "same as T2"; and "more positive in past".

<sup>c</sup>Wilcoxon matched-pairs signed ranks test.

\* $p < .05$ . \*\* $p < .01$ .

Table 32

Measures of Association and Tests for DifferencesBetween Mother T1 and Daughter T2 Attitude Measures<sup>a</sup>

	Mothers T1 <sup>b</sup>		Daughters T2	Association		Difference
	<u>n</u>	<u>%</u>	<u>M</u>	<u>eta</u>	<u>R<sup>2</sup></u>	<u>F</u>
Attitudes Toward Menopause (ATM)						
Total			72.02	.05	.0025	.06
negative	13	(30)	72.61			
same	29	(68)	71.79			
positive	1	(2)	71.00			
Attitudes Toward Women (AWS)						
Total			84.67	.15	.0225	.99
negative	36	(84)	84.08			
same	7	(16)	87.71			
positive	0	(0)				
Attitudes Toward Aging (ATA)						
Total			59.23	.19	.0361	.79
negative	33	(77)	59.64			
same	8	(18)	56.88			
positive	2	(5)	62.00			

<sup>a</sup> $n = 43$  dyads;  $F(2, 40)$ ,  $F(1, 41)$ , and  $F(2, 40)$  for attitudes toward menopause, women, and aging, respectively.

<sup>b</sup>T1 attitudes by past comparative recall recoded to "more negative in the past"; "same as T2"; and "more positive in past".

Chi-square tests were used to determine whether or not there were differences in the proportions of mothers and daughters who indicated that their attitudes were more negative, the same, or more positive in the past in comparison to the present. Yates' correction formula was used to adjust Chi-square values for small cell sizes. As shown in Table 31, no significant differences were found. However, in view of both (a) the undetermined reliability and validity of the past comparative recall measures, and (b) statistical limitations due to small numbers of mothers and daughters who reported that attitudes were more positive at T1, uncertainty remained as to whether lack of attitudinal differences between mothers and daughters was due to shared sociohistorical circumstances or methodological constraints.

In contrast to T1 attitudinal findings, significant positive correlations were found between mother's and daughter's T2 attitudes toward both menopause and aging but not for attitudes toward women. In addition to the high correlations found between ATM and ATA scores for both mothers and daughters in this study, findings indicated a high degree of intradyadic consistency on measures of these two related developmental concepts despite differences between mother and daughter in developmental stage. However, no significant association was found between mother's and daughter's attitudes toward women at T2, contrary to the high degree of intradyadic consistency in T1 attitudes toward women. Given that sociohistorical conditions were analytically held constant for both cross-sectional comparisons, it was possible that intervening influences such as the contemporary women's movement probably had differential influences on mother and

daughter as a function of differences in their developmental stage.

Whereas no mother-daughter differences were found for T1 attitudinal measures, there were significant differences for T2 mean ATM scores and mean AWS scores between mothers and daughters at T2; mothers had higher mean ATM scores ( $M_m = 80.74$ ,  $SD_m = 9.73$ ) than did daughters ( $M_d = 72.02$ ,  $SD_d = 7.79$ ), whereas daughters had higher mean AWS ( $M_d = 84.67$ ,  $SD_d = 8.84$ ) than did mothers ( $M_m = 80.39$ ,  $SD_m = 7.55$ ). Mother-daughter differences on the ATM were consistent with Neugarten et al.'s (1963) interpretation that differential attitudes between cross-sectional age-graded cohorts were attributable to personal experiences with menopause. The interpretation regarding differential exposure to sociohistorical influences posed for intradyadic inconsistency in attitudes toward women was further supported by the finding of mother-daughter differences in which daughters had more positive present attitudes toward women than did mothers. However, there was no significant difference between mothers' and daughters' mean ATA scores ( $M_m = 60.67$ ,  $SD_m = 7.26$ ;  $M_d = 59.23$ ,  $SD_d = 6.38$ ). High intradyadic consistency as well as lack of mother-daughter difference in attitudes toward aging might possibly have been due to coincidental exposure to sociohistorical influences such as attention to and focus on the aging population in the mass media as well as in political and social arenas. Major intervening effects of individual variations were not evidenced in T2 attitudinal findings.

Measures of association and tests for differences between mother T1 and daughter T2 attitude measures are presented in

Table 32. Intradyadic consistency was generally low for all three attitude measures: eta coefficients were .05, .15, and .19 for attitudes toward menopause, women, and aging, respectively. Moreover, none of the F values derived from repeated measures MANOVA to test for mother-daughter differences reached statistical significance. For attitudes toward menopause, there was a trend for daughters of mothers who reported more negative attitudes at T1 to have higher T2 mean ATM scores and vice versa; this trend may have represented an underlying longitudinal process at the dyadic level (i.e., as mothers' attitudes became more positive, daughters' attitudes became more positive) that was unverifiable through sequential analysis. However, there was also a trend for daughters of mothers who reported more negative T1 attitudes toward women and aging to have lower T2 mean AWS and ATA scores, respectively. In view of inconsistencies in related longitudinal and cross-sectional attitudinal findings as well as measurement and statistical concerns (i.e., reliability and validity of T1 attitude measures; constraints due to small cell size and unequal groups), uncertainty remained as to whether sequential attitudinal findings for mothers and daughters were due to developmental stage, individual variations, and/or sociohistorical effects, each of which can have strong influence on attitude development and change (Freedman, Carlsmith, & Sears, 1974; Hill, 1981; Wrightsman, 1977).

#### Symptom Experiences

As displayed in Table 33, nonsignificant, low positive correlations were found between mother's and daughter's symptom

Table 33

Measures of Association and Tests for Differences  
Between Mother and Daughter Symptom Experience Measures  
at T1 and at T2<sup>a</sup>

	T1		T2	
	$\underline{r}$	$\underline{t}$	$\underline{r}$	$\underline{t}$
Total Symptom Scale	.17	1.77	.23	-.84
Blatt Symptoms	.10	2.51*	.20	.49
Somatic Symptoms	.18	2.07*	.15	-.48
Psychosomatic Symptoms	.16	1.27	.09	-1.64
Psychologic Symptoms	.19	.68	.32*	-.40

<sup>a</sup> $n = 42$  dyads;  $\underline{r}(40)$ ,  $\underline{t}(41)$ .

\* $p < .05$ .

experience measures at T1, which indicated low consistency within mother-daughter pairs. Although mothers and daughters did not differ on T1 mean total symptom scale scores or on mean psychosomatic or psychologic subscale scores, significant differences were found between mothers' and daughters' mean Blatt symptom scores ( $\underline{M}_m = 4.14$ ,  $\underline{SD}_m = 2.76$ ;  $\underline{M}_d = 2.76$ ,  $\underline{SD}_d = 2.68$ ) and mean somatic symptom scores ( $\underline{M}_m = 4.38$ ,  $\underline{SD}_m = 3.72$ ;  $\underline{M}_d = 3.04$ ,  $\underline{SD}_d = 2.71$ ) for T1. These latter findings were reciprocal to Stoltzman's (1986) cross-sectional findings of higher mean somatic symptom experiences on the Moos Menstrual Distress Questionnaire (MDQ) for a group of adolescent daughters in comparison to their mothers. Thus, it was highly

Table 34

Measures of Association and Tests for Differences  
Between Mother T1 and Daughter T2 Symptom Experience Measures<sup>a</sup>

	Mother T1 - Daughter T2	
	$\underline{r}$	$\underline{t}$
Total Symptom Scale	.09	-3.36**
Blatt Symptoms	-.03	-2.39*
Somatic Symptoms	.26	-2.64*
Psychosomatic Symptoms	-.20	-3.15**
Psychologic Symptoms	-.09	-3.06**

<sup>a</sup> $n = 43$  dyads;  $\underline{r}(41)$ ,  $\underline{t}(42)$ .

\* $p < .05$ . \*\* $p < .01$ .

plausible that both intradyadic correlational and mother-daughter mean difference findings were attributable to variations in developmental stage of mothers and daughters at T1. However, the relatively large standard deviations for daughters' Blatt and somatic symptom scores also suggested an interplay of individual effects.

In contrast to the lack of intradyadic consistency for all T1 symptom experience measures, a significant correlation was found between mother's and daughter's T2 scores on the psychologic symptom subscale. However, there were no other significant intradyadic correlations for T2 symptom experience measures. Thus, perhaps Arnold's (1975) mother-daughter notion ("I thought menopause would

change something, be the change. Now we were both in the same physiological class, at least common creatures", p. 106) should be amended with emphasis on psychologic commonalities. Cross-sectional T2 findings were consistent with reports in the literature of aging mother-adult daughter parallels in psychological symptom experiences as well as more extreme forms of psychopathology (Cohler & Grunebaum, 1981; Cohler & Guyer, 1982; Farrer, 1955; Lerner, 1985).

There were no significant mean differences between mothers and daughters on the T2 total symptom scale or any of four symptom subscales. However, there was a trend for mothers to have higher mean Blatt scores than daughters, which was attributable to either a lack of specificity of the Blatt Menopausal Index and/or the developmentally transitional stage of most daughters in this study.

Nonsignificant correlations were found between mother's T1 and daughter's T2 symptom experience measures, although the correlation for the somatic symptom subscale approached the level of statistical significance ( $r(41) = .26, p = .09$ ) (see Table 34). In contrast to T1 and T2 cross-sectional findings of all direct correlations, inverse intradyadic correlations were found for the Blatt, psychosomatic, and psychologic subscales for mother and daughter who were analytically located at the same developmental stage; however, these sequential findings were probably more reflective of measurement inconsistencies (i.e., retrospective recall vs. concurrent reports) than of true patterns within pairs.

Highly significant differences were found for the total symptom scale ( $M_m = 9.21, SD_m = 5.92; M_d = 14.93, SD_d = 10.04$ ) as well as the

psychosomatic ( $M_m = 1.70$ ,  $SD_m = 1.41$ ;  $M_d = 3.15$ ,  $SD_d = 2.44$ ) and psychologic ( $M_m = 3.13$ ,  $SD_m = 1.41$ ;  $M_d = 5.60$ ,  $SD_d = 4.93$ ) symptom subscales. Significant sequential mother-daughter differences of lower magnitude were also found for the Blatt ( $M_m = 4.09$ ,  $SD_m = 2.62$ ;  $M_d = 6.09$ ,  $SD_d = 4.73$ ) and somatic ( $M_m = 4.37$ ,  $SD_m = 3.67$ ;  $M_d = 6.16$ ,  $SD_d = 3.61$ ) symptom subscales. Given that developmental stage was analytically held constant, these differences may have been due, at least in part, to measurement error in mothers' retrospective symptom reports (Kaufert, Gilbert, & Hassard, 1988; Kaufert & Syrotuik, 1981; Woods, 1982a). On the other hand, findings from background variables suggested plausible alternative explanations. Given that 36% of mothers reported current E.R.T. use, it was possible that a fair percentage of mothers were using estrogen at T1, which may have reduced their actual or recalled symptom experiences. Likewise, the higher level of psychosomatic symptoms in daughters at T2 might have been a reflection of the greater probability of daughters to have a major caregiver role and to have experienced a major life stress in the past year in comparison to mothers, although comparable T1 data were not available for mothers. In addition to these sociohistorical variables, standard deviations indicated a considerable degree of individual variation in symptom experiences for mothers at T1 and daughters at T2.

#### General Health Perceptions

Similar to intradyadic findings for symptom experience measures, there was a nonsignificant, low positive correlation between mother's and daughter's T1 general health perceptions (see Table 35). Also,

Table 35

Measures of Association and Tests for DifferencesBetween Mother and Daughter General Health Perception Measureat T1 and at T2<sup>a</sup>

	T1		T2	
	$\underline{r}$	$\underline{t}$	$\underline{r}$	$\underline{t}$
General Health Perceptions	.12	2.66*	.43**	-2.77**

<sup>a</sup> $n = 43$  dyads;  $\underline{r}(41)$ ,  $\underline{t}(42)$ .

\* $p < .05$ . \*\* $p < .01$ .

Table 36

Measure of Association and Test for DifferenceBetween Mother T1 and Daughter T2 General Health Perceptions Measures<sup>a</sup>

	Mother T1 - Daughter T2	
	$\underline{r}$	$\underline{t}$
General Health Perceptions	.22	3.82**

<sup>a</sup> $n = 43$  dyads;  $\underline{r}(41)$ ,  $\underline{t}(42)$ .

\*\* $p < .01$ .

a significantly higher T1 mean general health perceptions score was found for mothers than for daughters ( $M_m = 73.83$ ,  $SD_m = 11.18$ ;  $M_d = 67.95$ ,  $SD_d = 10.32$ ). In reconciliation of both consonance and dissonance with symptom experience findings, T1 general health perception findings might have been either a function of differential developmental associations between specific symptoms and general health or indications of developmental adaptations to symptom experiences (Baumann, 1961; Dolfman, 1973; Mechanic, 1968; Twaddle, 1974). More specifically, findings for mothers could be interpreted in light of Litman's (1971) hypothesis regarding connections between the "critical" role of wives and mothers in family life (p. 73) and identified incongruities between their (a) reported high frequencies of health conditions and illness experiences, and (b) high levels of health-oriented behaviors. On the other hand, standard deviations for mothers' and daughters' T1 mean general health perceptions scores indicated that individual variations provided a viable alternative explanation for T1 general health perception findings. Moreover, potential biases in retrospective reports could not be disregarded.

In contrast to both T1 findings for general health perceptions and T2 symptom experience findings, a highly significant correlation was found between mother's and daughter's T2 general health perceptions scores, which indicated a high degree of intradyadic consistency in present health perceptions. Uncertainty remained as to whether this finding reflected a developmental transition within the relationship (Fischer, 1981) or was attributable to similarities in individual health behaviors and practices.

Furthermore, a highly significant difference was found between mothers' ( $M_m = 57.95$ ,  $SD_m = 12.55$ ) and daughters' ( $M_d = 64.07$ ,  $SD_d = 14.37$ ) mean general health perception scores at T2. Aging mothers rated themselves lower on global physical characteristics and functional/sensory abilities than did middle-aged, perimenopausal daughters. Given the directionally-opposite, lower magnitude finding at T1 as well as lower scores for mothers in comparison to daughters at T2, these findings could predominately be attributed to mother-daughter differences in developmental stage.

Approximately midway between T1 and T2 cross-sectional correlations, a nonsignificant positive correlation was found between mother's T1 and daughter's T2 general health perceptions scores (see Table 36), which indicated a low degree of intradyadic consistency with developmental stage analytically held constant. However, a highly significant difference was found between mothers' T1 mean GHP scores ( $M_m = 73.51$ ;  $SD_m = 11.24$ ) and daughters' T2 mean GHP scores ( $M_d = 64.07$ ,  $SD_d = 14.37$ ). This difference may have been due to (a) retrospective or comparative biases in mothers' T1 reports, (b) individual variations (e.g., ratings may have been based on self comparisons with own health in past, ideal self, other women of the same age, women of different ages, mother, etc.; see Rossi, 1980a), particularly in daughters' general health perceptions, and/or (c) sociohistorical conditions (e.g., new and multiple role demands) that may have had negative effects on daughters' perceptions of their general health (Brody, 1981; DeLorey, 1984; Long & Porter, 1984; Nathanson & Lorenz, 1982).

### Contributions to General Health Perceptions

The fifth and sixth specific aims of this study addressed the contributions of relationship and individual variables to mother's and daughter's general health perceptions at T2, respectively. As initially posed, questions five and six included all T1 and T2 study variables (i.e., only total scale scores for multidimensional measures) that were deemed to be theoretically-relevant contributors to general health perceptions. However, these were too many variables to include in multiple regression analyses given the size of the dyadic subsample of this study. Thus, the total number of variables was reduced on the basis of (a) empirical findings from descriptive, "longitudinal", cross-sectional, and sequential analyses, (b) methodological concerns regarding the reliability and validity of some T1 measures, and (c) examination of a bivariate correlation matrix ( $n = 43$  dyads) of all variables in the two research questions.

The decision to eliminate perceptions of the mother-daughter relationship at T1 was primarily based on the high T1-T2 total relationship scale correlations that were found in preceding analyses as well as in the bivariate correlation matrix. Thus, elimination of the T1 variable from respective analyses served to avoid problems of multicollinearity in multiple regression analysis (Cohen & Cohen, 1983; Norusis, 1988; Pedhazur, 1982).

Not only did T1 attitude measures perform poorly in prior analyses but there were (also) serious concerns regarding the reliability and validity of these one-item, past comparative recall

indicators. Thus, the decision was made to exclude these T1 attitude measures from developmental-multivariate analyses. Given that (a) daughters' attitudes toward women were found to be unrelated to either attitudes toward menopause or aging and (b) attitudes toward menopause and attitudes toward aging were highly correlated for both mothers and daughters, new attitudinal variables were created that combined T2 ATM and ATA scores for dyadic mothers ( $M_m = 66.27$ ;  $SD_m = 6.48$ ) and daughters ( $M_d = 61.67$ ,  $SD_d = 5.66$ ). This decision was further empirically and theoretically justified in view of (a) the slightly lower internal consistency and split-half reliability estimates of the AWS in comparison to both the ATM and the ATA, and (b) the specific focus on menopause and aging in this study.

The decision of whether to include or exclude T1 symptom experiences from analyses was somewhat complicated. From philosophical and theoretical points of view, this study was based on a developmental perspective so there was an inclination to retain these T1 psychophysiologic indicators. From an empirical point of view, questions regarding potential bias in retrospective symptom reports frequently arose from findings of preceding analyses despite favorable internal consistency reliability estimates for the T1 total symptom scale. However, the decision was made to eliminate T1 symptom experience scores from analyses based on high T1-T2 total symptom scale correlations that were found in "longitudinal" analyses as well as in the bivariate correlation matrix, which were warnings of potential multicollinearity problems. Moreover, the decision to

eliminate (a) daughter's T2 symptom experience scores from analysis of contributions to mother's general health perceptions, and (b) mother's T1 and T2 symptom experience scores from analysis of contributions to daughter's general health perceptions was based on examination of the bivariate correlation matrix, which not only revealed extremely low correlations between these variables and the respective criterion variable but (also) high correlations between these variables and other predictor variables.

In view of T2 cross-sectional general health perception findings, daughter's T2 general health perception score was retained as a variable in the analysis of contributions to mother's general health perceptions at T2 and vice versa. This decision was consistent with research interest in similarities and differences, or patterns, within the mother-daughter pair.

Finally, the most problematic decision involved T1 general health perception measures. Again, a desire to preserve the developmental perspective of this study was paramount. Moreover, McKinlay et al.'s (1987a) findings showed that prior health status measures were the best predictors of current health status outcomes. However, T1 general health perception measures suffered from many of the methodological and statistical problems identified for other T1 measures. Thus, a compromise decision was reached in which T1 general health perceptions scores were included in bivariate correlational analyses to supplement ballantine models but were excluded from multiple regression equations.

Developmental-multivariate analyses for both research questions five and six included bivariate correlational as well as multiple regression techniques. Hierarchical regression techniques were used in which order of forced entry was determined by the size of the bivariate correlation between each contributor variable and the respective criterion variable. Checks for violations of assumptions included (a) plots of standardized residuals against predicted values to assess linearity and homogeneity of variance, and (b) histograms of residuals and normal probability plots to assess normality; since violations of assumptions did not appear to be severe and outliers were minimal, no data transformation procedures were implemented. The combined correlational and regression approach to model building was deemed justifiable in view of (a) the number of variables of theoretical and research interest relative to the dyadic sample size, and (b) the descriptive and explanatory (vs. predictive) nature of the research questions: to identify relative contributions to mother's and daughter's general health perceptions at T2.

#### Contributions to Mother's General Health Perceptions at T2

Six variables were included in the analysis of contributions to mother's general health perceptions at T2: (a) mother's general health perceptions at T1 (MGHP), (b) daughter's general health perceptions at T2 (DGHP), (c) mother's perceptions of the mother-daughter relationship at T2 (MREL) (i.e., total relationship scale score), (d) mother's socialization influence at T2 (MSOC), (e) mother's attitudes toward menopause and aging at T2 (MAIT), and (f) mother's symptom experiences at T2 (MSYM) (i.e., total symptom

scale score). The bivariate correlation matrix of these variables is presented in Table 37. Consistent with findings of McKinlay et al.'s (1987a) large-scale study as well as "longitudinal" findings from the larger individual sample of this study, a highly significant correlation was found between mother's T1 and T2 general health perceptions ( $r(41) = .71, p < .01$ ). Moreover, mother's T1 general health perceptions was found to be significantly correlated with mother's perceptions of the relationship at T2 ( $r(41) = .35, p < .05$ ). This finding was a retrospective extension of Johnson's (1978) cross-sectional model, which showed that mother's current health was related to the quality of the mother-daughter relationship. Significant correlations were also found between mother's T1 general health perceptions and (a) T2 attitudes ( $r(41) = .40, p < .05$ ), and (b) T2 symptom experiences ( $r(41) = -.42, p < .05$ ).

Findings from regression analysis are presented in Table 38.  $R$  was the multiple correlation coefficient (i.e., a simple correlation for daughter's general health perceptions but a multiple partial correlation for the remaining variables), and  $R^2$  represented the proportion of variance in mother's general health perceptions at T2 accounted for by each variable in the equation.

Two variables were found to produce significant changes in  $F$  and were, therefore, major contributors to mother's general health perceptions at T2: (a) daughter's general health perceptions accounted for 18% of the explained variance, and (b) mother's symptom experience accounted for 13% of the explained variance in mother's

Table 37

Bivariate Correlations of Mother's General Health Perceptions at T1, Daughter's General Health Perceptions at T2, Mother's T2 Measures, and Mother's General Health Perceptions at T2

	M1GHP	DGHP	MREL	MSOC	MAIT	MSYM	Mother's GHP T2
1. General Health Perceptions at T1 (M1GHP)	1.00	.22	.35*	.05	.40*	-.42*	.71**
2. Daughter's General Health Perceptions at T2 (DGHP)	-----	1.00	.14	.21	.28	-.08	.43**
3. Perceptions of the Relationship at T2 (MREL)	-----	-----	1.00	.30	.24	.01	.16
4. Socialization Influence at T2 (MSOC)	-----	-----	-----	1.00	.33	-.08	.26
5. Attitudes Toward Menopause and Aging at T2 (MAIT)	-----	-----	-----	-----	1.00	-.40*	.36*
6. Symptom Experiences at T2 (MSYM)	-----	-----	-----	-----	-----	1.00	-.39*

$n = 43$  dyads;  $r(41)$ .

\* $p < .05$ . \*\* $p < .01$ .

Table 38

Hierarchical Regression of Mother's General Health Perceptions at T2  
on Mother and Daughter T2 Variables (n = 43 Dyads)

Level/Variable	<u>R</u>	<u>R</u> <sup>2</sup>	BETA <sup>a</sup>	df	<u>F</u>
I. Daughter's General Health Perceptions (DGHP)	.43	.18	.43	1,41	9.13**++
II. Mother's Symptom Experiences (MSYM)	.55	.31	-.36	2,40	8.88**++
III. Mother's Attitudes Toward Menopause and Aging (MATP)	.57	.32	.14	3,39	6.19**
IV. Mother's Socialization Influences (MSOC)	.58	.33	.13	4,38	4.87**
V. Mother's Perception of the Relationship (MREL)	.58	.34	.05	5,37	3.83**

Note. Although a significant bivariate correlation was found between MSYM and MATP ( $r(41) = -.40, p < .05$ ), no warning of multicollinearity was issued by the SPSS/PC+ Regression Module when MATP was entered into the equation so it was retained in the model (Norusis, 1988).

<sup>a</sup>Standardized beta weights.

\*\* $p < .01$ .

++ Sig. F Change  $< .01$ .

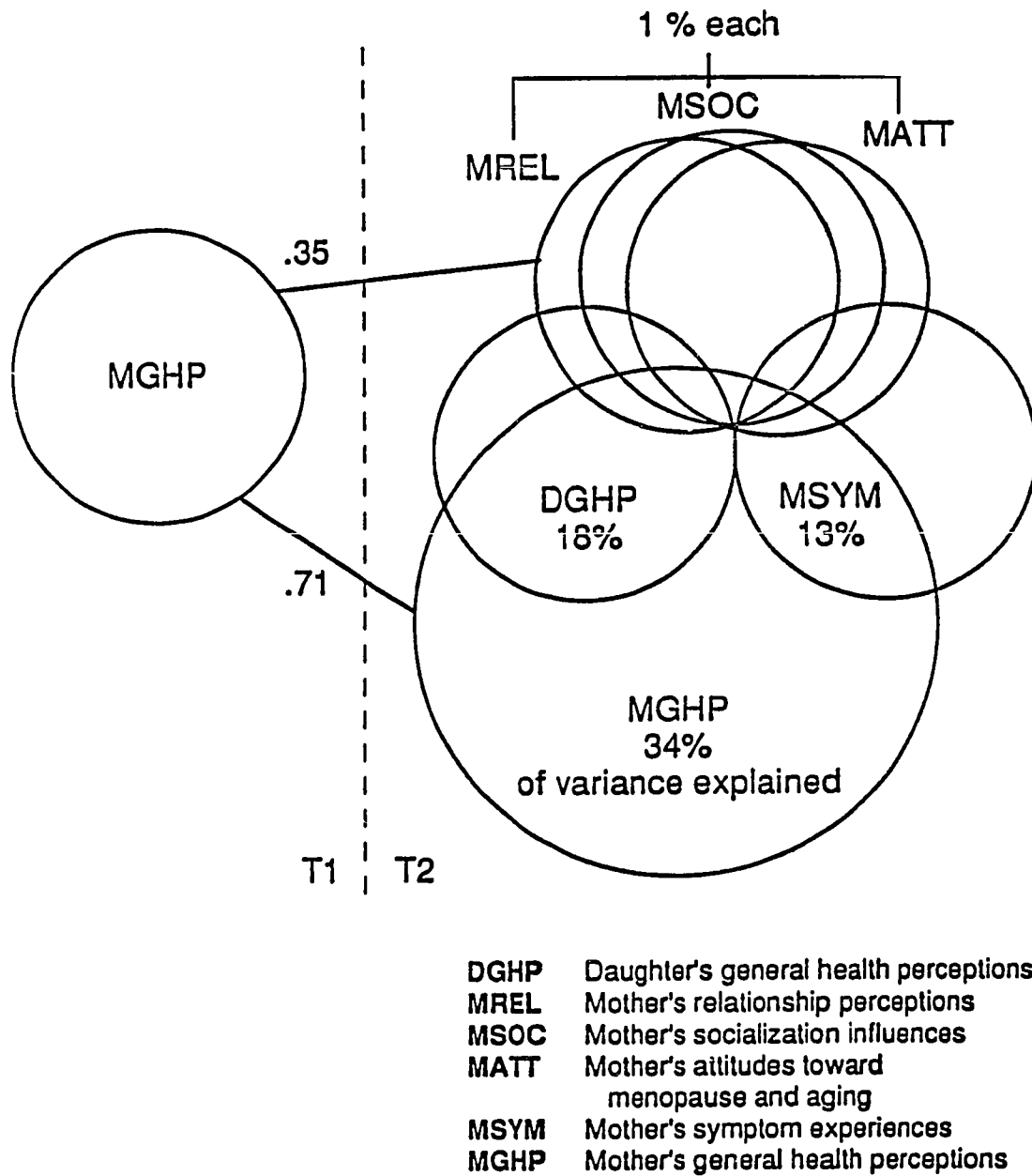


Figure 3. Contributions to mother's general health perceptions.

general health perceptions at T2. The remaining variables (i.e., attitudes toward menopause and aging, socialization influence, and perception of the mother-daughter relationship) accounted for only about 1% of the explained variance each. Thus, a total of 34% of the variance in mother's general health perceptions at T2 was accounted for by the five variables in the model, which was highly statistically significant ( $F(5, 37) = 3.83, p < .01$ ).

There were several plausible explanations for the finding that daughter's general health perceptions was the greatest contributor to mother's general health perceptions. As posed for cross-sectional findings, it was possible that there were similarities in mother's and daughter's individual health behaviors and practices (Litman, 1971, 1974), which were suggested by findings of comparable proportions for mothers and daughters on health-related background variables (e.g., regular exercise, regular prescription drug use). Alternatively, mother may have reflected on her daughter as a "looking-glass self" when evaluating her own general health (Cooley, 1902; cf. Hammer, 1976). However, given that both mother and daughter completed the same general health perceptions measure, an unknown amount of method variance may have inflated the coefficient of determination ( $R^2$ ) that was found for daughter's general health perceptions.

The finding that symptom experiences was a significant contributor to mother's general health perceptions was interpretable in light of both Peck's (1964) specific concept of "body preoccupation" and Neugarten's (1968) general notion of increased

"interiority" as characteristics of the aging process. A negative beta weight was found for mother's symptom experiences, which indicated that symptom experiences have a negative influence on mother's general health perceptions, as was expected.

In view of the finding of a significant bivariate correlation between mother's general health perceptions at T1 and perceptions of the mother-daughter relationship at T2, the insignificant contribution of perceptions of the relationship at T2 to mother's general health perceptions at T2 was somewhat surprising. However, these combined findings were in general agreement with Johnson's (1978) linear model.

Selected T1 correlational findings as well as T2 regression findings are diagrammatically displayed in a ballantine model of contributions to mother's general health perceptions at T2 (see Figure 3).

#### Contributions to Daughter's General Health Perceptions at T2

Parallel to the analysis for mother, six variables were included in the analysis of contributions to daughter's general health perceptions at T2, including daughter's general health perceptions at T1 and mother's general health perceptions at T2. The bivariate correlation matrix of these variables is presented in Table 39. Although of slightly lower magnitude than the correlation found for mother, a highly significant correlation was found between daughter's T1 and T2 general health perceptions ( $r(41) = .62, p < .01$ ). However, of greater magnitude than the correlation found for mother, there was a highly significant correlation between daughter's T1

general health perceptions and daughter's perceptions of the relationship at T2 ( $r(41) = .51, p < .05$ ). In contrast to findings for mother, daughter's T1 general health perceptions was not significantly correlated with any other T2 variable.

Table 39

Bivariate Correlations of Daughter's General Health Perceptions at T1, Mother's General Health Perceptions at T2, Daughter's T2 Measures, and Daughter's General Health Perceptions at T2

	D1GHP	MGHP	DREL	DSOC	DAIT	DSYM	Daughter's GHP T2
1. General Health Perceptions at T1 (D1GHP)	1.00	.25	.51*	.26	.08	-.01	.62**
2. Mother's General Health Perceptions at T2 (MGHP)	-----	1.00	.16	-.11	.06	-.09	.43**
3. Perceptions of the Relationship at T2 (DREL)	-----	-----	1.00	.19	.27	-.24	.41*
4. Socialization Influence at T2 (DSOC)	-----	-----	-----	1.00	.33	-.16	.28
5. Attitudes Toward Menopause and Aging at T2 (DAIT)	-----	-----	-----	-----	1.00	-.32	.20
6. Symptom Experiences at T2 (DSYM)	-----	-----	-----	-----	-----	1.00	-.27

$n = 43$  dyads;  $r(41)$ .

\* $p < .05$ . \*\* $p < .01$ .

Table 40

Hierarchical Regression of Daughter's General Health Perceptions at T2  
on Mother and Daughter T2 Variables (n = 43 dyads)

Level/Variable	<u>R</u>	<u>R</u> <sup>2</sup>	BETA <sup>a</sup>	df	<u>F</u>
I. Mother's General Health Perceptions (MGHP)	.43	.18	.43	1,41	9.13**++
II. Daughter's Perceptions of the Relationship (DREL)	.55	.30	.35	2,40	8.49**+
III. Daughter's Socialization Influences (DSOC)	.61	.37	.27	3,39	7.58**+
IV. Daughter's Symptom Experiences (DSYM)	.62	.38	-.13	4,38	5.90**
V. Daughter's Attitudes Toward Menopause and Aging (DAIT)	.62	.38	-.02	5,37	4.60**

<sup>a</sup>Standardized beta weights.

\*\*p < .01.

+Sig. F Change < .05. ++ Sig. F Change < .01.

Findings from multiple regression of daughter's general health perceptions at T2 on mother and daughter T2 variables are presented in Table 40 and are displayed in a ballantine model along with correlational findings in Figure 4. Consistent with the finding for mother, the variable which produced the highest significant change in F was mother's general health perceptions at T2, which accounted for 18% of the explained variance in daughter's general health perceptions. However, in marked contrast to the nonsignificant

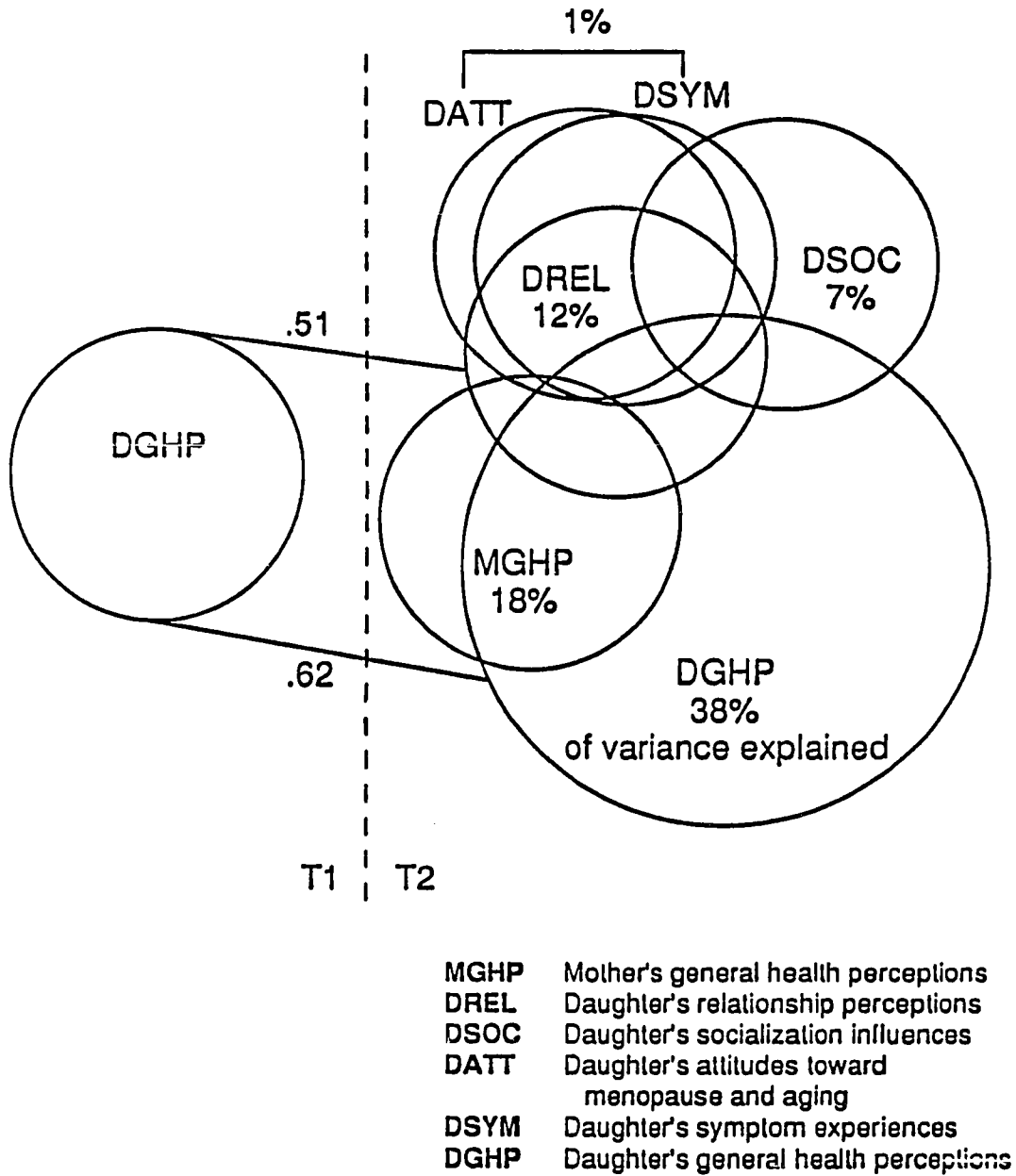


Figure 4. Contributions to daughter's general health perceptions.

contribution for mother, the second highest contribution was made by daughter's perceptions of the mother-daughter relationship, which accounted for 12% of the explained variance in daughter's general health perceptions. Daughter's socialization influences also made a significant contribution (7%) to the amount of variance explained. Contrary to the significant contribution made by symptom experiences to mother's general health perceptions at T2, daughter's symptom experiences had a minimal contributory effect; symptom experiences and attitudes toward menopause and aging combined accounted for only 1% of the explained variance. A total of 38% of the variance in daughter's general health perceptions was accounted for by the five variables in the model (overall  $F(5, 37) = 4.60, p < .01$ ).

The finding that mother's general health perceptions was the greatest contributor to daughter's general health perceptions was attributable to potential explanations posed previously for the reciprocal finding for mother. However, the finding that perceptions of the relationship was a major contributor to daughter's general health perceptions (but not to mother's) suggested a developmental effect. Whereas aging mother was postulated to be more interiorly-oriented, middle-aged daughter was apparently more relationship-focused, consistent with Gilligan's (1984) theoretical formulations on women's adult development.

A related possible explanation for mother-daughter differences in contribution of symptom experiences to general health perceptions was suggested by background findings on household occupants, major caregiver role, and employment outside of home. While mother may

have manifested interiority and body preoccupation, daughter may have been more preoccupied with demands of multiple roles (Brody, 1981; Litman, 1981; Long & Porter, 1984) than with symptom experiences.

The positive contribution (i.e., beta weight = .27) made by socialization influences to daughter's general health perceptions was unexpected given the relatively low T2 total socialization influence scores that were found for daughters in reference to menopause. Perhaps the orientation toward others versus self-centeredness that was identified by Gilligan (1984) as characteristic of middle-aged women was, in part, responsible for the relatively greater contribution of socialization influence over personal attitudes and symptom experiences in daughter's general health perceptions.

Thus, in contrast to the proposed conceptual model of this study, different empirical models were found for contributions to mother's and daughter's present general health perceptions, albeit major similarities were also evident. These findings and other major individual-and dyadic-level results will be summarized and elaborated upon in Chapter VI.

## CHAPTER VI

### DISCUSSION AND CONCLUSIONS

The purpose of this study was to explicate contributions of developmental and contemporaneous (a) relationship properties, (b) socialization influences, (c) individual attitudes, and (d) symptom experiences toward general health perceptions during menopause and the aging process in mother-daughter dyads. In view of major gaps in emergent literature, the goal of this research was to expand understanding of (a) the mother-daughter relationship in the adult years, and (b) menopausal experiences and women's aging process through a biopsychosocial approach and lifespan developmental perspective. Specific aims of this study included two units of analysis and six research questions. These questions were addressed through presentation and interpretation of (a) individual-level descriptive and "longitudinal" results, (b) dyadic-level results from cross-sectional and sequential mother-daughter comparisons, and (c) developmental-multivariate results on contributions to mother's and daughter's general health perceptions in Chapter V. Major contributions of this study will now be summarized and discussed within the context of the broader purpose and goal of this research.

#### Conceptual Contributions of the Study

##### The Mother-Daughter Relationship in the Adult Years

As the most central and enduring of all family bonds, the mother-daughter relationship not only is a major determinant of health and development of mother and daughter as individuals but (also) has widespread ramifications for family system structure and functioning across the family life cycle (Boyd, 1985; Cohler & Geyer,

1982; Cohler & Grunebaum, 1981; McGoldrick, 1989). As an intermediary link to future advances in the areas of both individual and family adaptations, Fischer (1981) conceptualized the mother-daughter relationship as having a "life cycle" marked by several biopsychosocial periods of transition (p. 613). These transitions are characterized by a major change in state for mother and daughter as individuals as well as for their relationship. The three most frequently studied transitions to date surround (a) the daughter's menarche and adolescent years, (b) the daughter's first pregnancy and motherhood, and (c) the mother's decline in later life. Thus, there has been a major gap in the literature on lifespan transitions in the mother-daughter relationship between early developmental transitions focused on generative developmental changes in the daughter and a transition at the extreme end focused on degenerative changes and frailty in the mother (Baruch & Barnett, 1983).

One impetus for this study was to begin to fill in this gap through a focus on the transition that surrounds menopause for both mother and daughter. Thus, two time referents were included in the research design: (a) T1 represented a timepoint in the past when the mother was perimenopausal and the daughter was in the menstrual and reproductive years, and (b) T2 represented a present timepoint with the daughter in the perimenopausal years and the mother in some stage of the aging process. Through descriptive, "longitudinal", cross-sectional, sequential, and developmental-multivariate analyses, this design permitted a more comprehensive understanding of the mother-daughter relationship in the adult years between the daughter's first

menstrual period and childbirth and mother's terminal decline and death.

Descriptive findings indicated that mothers and daughters in this study had generally positive past and present perceptions of the mother-daughter relationship as well as high perceived levels of intimacy. Descriptive findings also showed greater variation in perceptions of the relationship and its properties in the past when adolescent/young adult daughters and middle-aged mothers were in a relationship of relatively unequal statuses and role complementarity in comparison to the present when perimenopausal daughters and "young-old" mothers were in an interdependent, adult-adult role collegial relationship (Fischer, 1981, 1986).

Perhaps the most interesting descriptive relationship findings were that the two individual items with the highest item means for both mothers and daughters in reference to past and present were "We love each other" and "I'm sure about this relationship", particularly since these two items were only modestly correlated with other items and the total scale score. Thus, no matter how mothers or daughters felt about the relationship as a whole, they still expressed strong sentiments as well as a sense of security and/or stability. These sentiments and sureness may be reflective of adaptive psychological closeness and supportive processes within mother-daughter relationships. On the other hand, intense feelings of love and sureness, particularly if unconditional, may also be indicators of potential maladaptive patterns (e.g., dependency, detachment) and extreme nonsupportive processes (e.g., child and/or elder abuse)

(Bassoff, 1988; Cohler & Geyer, 1982; Grizzle, 1988; Johnson, 1979; Star, 1980). For example, a 41 year-old daughter who gave past and present ratings of always true (7) in response to the items, "We love each other" and "I'm sure about this relationship" wrote the following anecdotal note:

My mother and I have very dissimilar personalities, and she has been intolerant of this since I was a teenager. Her expectations for me were that I would be an easy, passive, go-along sort of child as she was. Instead she got an extroverted, impulsive, try-anything-once child of whom she did not approve. She does not want to know me the way I really am and prefers to be lied to about my reality. Our relationship has always been strained. The best thing that ever happened to our relationship was for me to move 1200 miles away.

In contrast to previous findings in the literature, (Cohler & Grunebaum, 1981; Johnson, 1978; Nivert, 1983; Walker & Thompson, 1983), no associations were found between psychological closeness in the mother-daughter relationship and measures of physical closeness (i.e., residential proximity, frequency and mode of contact). In view of related conceptual distinctions posed by Hess and Waring (1973) as well as Walker and Thompson (1983), the findings from this study further cautioned against generalizations from the vast amount of literature on instrumental aspects of the mother-daughter relationship (e.g. Lang & Brody, 1983; Lopata, 1973; Sweetser, 1964) to affective aspects of the relationship. The combined findings of (a) high levels of perceived intimacy, and (b) the high proportion

of mothers and daughters who lived more than 100 miles apart at T2 supported Lopata's (1979) concept of "intimacy at a distance" as a characteristic pattern in the relationship between aging mothers and middle-aged daughters.

Comparisons of past and present perceptions of the mother-daughter relationship revealed that there was considerable intraindividual consistency in both mothers' and daughters' perceptions of the relationship across time. Moreover, the strongest past-present intraindividual association for both mothers and daughters was found for perceived intimacy within the relationship. For mothers, perceptions of the overall relationship and intimacy became significantly more positive from past to present. However, a slight drop in perceived attachment was observed for mothers, which was congruent with Cohler and Grunebaum's (1981) finding that grandmothers in their study became preoccupied with their own aging as well as personal independence; furthermore, this trend for a decrease in perceived attachment by mothers fits into the rubrics of Cumming and Henry's (1961) disengagement theory of aging. Daughters displayed more positive perceptions of the overall relationship and both of its major dimensions from past to present. These combined findings were consistent with Fischer's (1981) thesis on simultaneous developmental transitions in mothers and daughters as individuals and within their relationship. However, Fischer's micro-level framework and other previous works (e.g., Hammer, 1976; Magrab, 1979; Neisser, 1973) have excluded the simultaneous influence of sociohistorical transitions as well as environmental contexts.

Thus, study findings might have, in part, reflected the fact that relationships between perimenopausal mothers and adolescent/young adult daughters in the past were not affected by best sellers on mother-daughter relationships (e.g., My mother/my self, Friday, 1977), whereas relationships between aging mothers and perimenopausal daughters in the present were potentially influenced not only by the large body of popular literature on mother-daughter relationships but (also) by exemplar relationships on prime-time television (e.g., Dorothy and Sophia on the Golden Girls, Cohen & Hughes, 1989).

Sociohistorical influences were constant in comparisons of mother's and daughter's perceptions of the relationship at simultaneous points in time. With respect to the past relationship, a high degree of consistency within mother-daughter pairs was found for overall perceptions of the relationship and intimacy but not for attachment; moreover, the mother-daughter difference in perceived levels of attachment was highly significant. These findings were comparable with findings of Fischer's (1981, 1986) contemporary cross-sectional studies of relationships between middle-aged mothers and adolescent/young adult daughters. Since more positive past relationship perceptions were found for mothers than for daughters, findings suggested that mothers' and daughters' perceptions were manifestations of different "developmental stakes" (Bengtson and Kuypers, 1971). In contrast to perceptions of the past relationship, high degrees of intradyadic consistency were found for present perceptions of attachment as well as for the overall relationship and intimacy. This finding was consistent with family relationship

theories regarding normal developmental shifts in dyadic attachment balance across the lifespan (Cohler & Geyer, 1982; Troll & Smith, 1976). However, consistent with findings for the past relationship, mothers displayed more positive perceptions of the present relationship, particularly for perceived level of attachment, than did daughters; this finding suggested continuity of "developmental stakes" in middle-aged daughters and "young-old" mothers. Whereas Bromberg (1983a, 1983b) reported on the individual growth and mutual support that can result from successful renegotiation of levels of attachment in relationships between aging mothers and adult daughters, Cohler and Grunebaum (1981) documented three-generational patterns of psychopathology that were related to inappropriate levels as well as inconsistent perceptions of attachment.

In sequential comparisons of mother's and daughter's perceptions of the relationship, developmental stage of mother and daughter as individuals was constant (i.e., both were in the perimenopausal years) but developmental stage of the relationship varied. Mother's perceptions of the relationship in the past were based on the relationship of middle-aged mother and adolescent/young adult daughter, whereas daughter's perceptions of the relationship in the present were based on the relationship between aging mother and middle-aged daughter. Again, high degrees of intradyadic consistency were found for perceptions of the overall relationship and intimacy but not for attachment. Mothers reported significantly more positive perceptions of attachment in the past relationship than daughters

reported for the present relationship. These findings suggest that attachment is a relationship property that varies with relationship- and individual-level biopsychosocial transitions and development, whereas intimacy may be a fairly stable relationship property across the linked life cycles of (a) the mother-daughter relationship in the adult years, and (b) mothers and daughters as individuals.

#### General Health Perceptions During Menopause and the Aging Process

In view of major gaps and problems in diverse bodies of existing literature, Koeske (1982a) called for a biopsychosocial perspective to advance knowledge and understanding of menopause and the female aging process. The proposal for this new paradigm included the development of complex theoretical models and research designs that reflect interaction among social, psychological, and physiological factors (Koeske, 1982b). In response to this recommendation, the concepts of socialization influences, attitudes toward menopause and women's aging process, and symptom experiences represented these three levels of analysis in this study. In reaction to the "menopause as disease" and "aging as deterioration" models which have been dominant in the literature, the focus on general health perceptions reflected the health-oriented feminist and nursing assumptions (Voda & Eliasson, 1983, Voda & George, 1986) upon which this study was based.

Relatively little has been known about the socialization influences for major events, processes, and stages in women's adult lives. Thus, descriptive findings on socialization influences began to fill a major gap in the literature on women's adult health and

development. Descriptive findings from mothers and daughters in this study indicated that more frequent and more positive socialization influence was perceived for pregnancy and reproductive processes than for menstruation, menopause, and postmenopause and aging. These findings were consistent with sociohistorical influences such as (a) the joint social realities of the high traditional value placed on motherhood and the contemporary emphasis on women's reproductive choice and freedom (Bolt, Wilson, & Larson, 1979; Cisler, 1970; Kitzinger, 1978; Rich, 1976); (b) menstrual and menopausal taboos (Weideger, 1977); (c) recent controversies on estrogen replacement therapy (Grossman & Bart, 1979; MacPherson, 1981); and (d) increasing sociopolitical attention to aging in the general population. Descriptive findings also demonstrated the relative importance of books, magazines, and journals as well as mother as a direct and an indirect source of socialization influence; on the other hand, mothers and daughters in this study perceived that other health care providers (e.g., nurses) played a relatively minor socialization role in areas of women's adult health and development. Moreover, in agreement with findings reported in the literature (cf. Grossman & Bart, 1979), men (i.e., husbands, boyfriends, fathers) were listed most frequently in response to an open-item item to elicit additional information on sources of socialization and their relative contributions. Although considerable intraindividual consistency was found for perceived socialization influence for major life events, processes, and stages across time, intradyadic consistency was minimal for both simultaneous and sequential

comparisons between mother and daughter; these combined findings suggested that (a) socialization influences were, in part, a function of sociohistorical influences, and (b) exposure and receptivity to socialization influences may, in turn, have been a function of individual developmental stage.

Descriptive findings indicated that mothers and daughters in this study had generally positive attitudes toward menopause, women, and aging. For mothers, attitudes toward menopause, women, and aging were all interrelated, which suggested a relatively unified conceptualization of "menopause and women's aging process" as developmental functions of personal experience and/or cognitive integration processes. For daughters, however, attitudes toward women were not related to either attitudes toward menopause or aging; these findings implied that middle-aged daughters, who as a group displayed highly positive attitudes toward women, may have viewed menopause and aging as two small components (i.e., invariant role dimensions) of women's total life experience (Nathanson & Lorenz, 1982; Parlee, 1984). In general, past attitudes were not found to be systematically related to present attitudes for either mothers and daughters, which was consistent with the social psychology literature on the influences of development and sociohistorical factors on attitude formation and change (Hill, 1981; Wrightsman, 1977). In contrast Dege and Gretzinger's (1982) findings for menopausal mothers and adolescent daughters, relatively little intradyadic consistency in attitudes was found for either simultaneous or sequential mother-daughter comparisons, which

indicated that attitude transmission and validation may not be strong processes within mother-daughter pairs. Mothers were found to have more positive attitudes toward menopause, less positive attitudes toward women, and comparable attitudes toward aging in the present in comparison to daughters. These findings were attributable to developmental stage (i.e., personal experiences) as well as both differential and shared exposure to sociohistorical influences.

The finding that mothers and daughters in this study were lower on all past symptom measures in comparison to all age groups in Neugarten and Kraines' (1965) classic study raised a high suspicion of recall bias in past symptom experience reports (Kaufert, Gilbert, & Hassard, 1988; Kaufert & Syrotuik, 1981; Woods, 1982a). The symptom complex of tired feelings and forgetfulness, which differentiated older women in Neugarten and Kraines' study from other age groups, was also found for mothers in this study. Moreover, a symptom complex that was identified for daughters (i.e., headaches, pounding of heart, irritability/nervousness) was compatible with the high frequencies of major life stress in the past year reported by these "women in the middle" (Brody, 1981). Interestingly, the relatively high level of somatic symptom experiences for both mothers and daughters was attributed primarily to a single item: weight gain. This finding was interpretable according to (a) the contemporary preoccupation with dieting and weight control in society in general, (b) documented increased prevalence of obesity among women in recent years (Metzger, 1982), and (c) a current focus on pathological eating disorders in women,

which has been associated with both conflicts in the mother-daughter relationship as well as problems in individual identity and self-concept issues (Ardell & Ardell, 1985; Chernin, 1985). Overall low levels of psychosomatic and psychologic symptoms were found for both mothers and daughters; these symptoms were reported with fairly high frequencies but were generally rated as mild in terms of severity. Both mothers and daughters in this study reported a general increase in symptom experiences from past to present. Intradyadic parallel patterns were found for (a) psychologic symptoms in the present, and (b) somatic symptoms at the time each was perimenopausal. Mothers reported significantly higher past levels of Blatt Menopausal Symptoms and somatic symptoms in comparison to daughters; however, no differences between mothers' and daughters' symptoms experiences in the present were found.

In the preliminary conceptual model for this study (see Figure 1), it was postulated that socialization influences would have a linear influence on attitudes, which would influence symptom experiences, which would determine general health perceptions. The mother-daughter relationship was conceptualized as an overriding influence on all major study variables, including general health perceptions. Likewise, past general health perceptions was conceptualized as an underlying influence on all major study variables. Based on assumptions of mutual influence and reciprocal socialization in the mother-daughter relationship, the same model was thought to be applicable to both mothers and daughters. However, empirical models (see Tables 38 and 40 as well as Figures 3 and 4)

for contributions to mother's and daughter's present general health perceptions were found to be considerably more complex than the initial conceptual model.

First, despite major similarities, different models were found for mother and for daughter. For both mother and daughter, past general health perceptions was found to be highly associated with (a) the mother-daughter relationship in the present, and (b) present general health perceptions. Associations between past health perceptions and the mother-daughter relationship for mother and daughter was actually a retrospective extension of Johnson's (1978) path model, whereas the association between past and present general health perceptions not only provided confirmation of McKinlay et al.'s (1987a) findings for perimenopausal women but (also) prospectively extended this connection down the lifespan into women's aging process. For both mother and daughter, the single best predictor of present general health perceptions was the present general health perceptions of the other member of the pair (i.e., daughter or mother). Thus, a high degree of mutual influence did exist in the general health perceptions of mother and daughter.

The second significant contributor to mother's general health perceptions was mother's symptom experiences. This finding was interpreted within the context of Peck's (1964) specific concept of "body preoccupation" and Neugarten's (1968) general notion of increased "interiority" as characteristics of the aging process. As expected, symptom experiences have a negative influence on general health perceptions. All of the other mother variables in

the model that was tested (i.e., perceptions of the mother-daughter relationship, socialization influences, or attitudes toward menopause and aging) made nonsignificant contributions to mother's present general health perceptions.

Not only was mother's general health perceptions the single greatest contributor, but (also) perceptions of the mother-daughter relationship was found to be the second greatest contributor to daughter's present general health perceptions. This finding was interpreted within Gilligan's (1984) theory of women's adult development which emphasizes the relationship-orientation of middle-aged women. Socialization influence was also found to have a smaller, but significant, contributing effect on daughter's perceived health, which again indicated a receptivity and responsiveness in these middle-aged women to others and outside influences. However, attitudes toward menopause and aging and daughter's symptom experiences made nonsignificant contributions to daughter's general health perceptions. In contrast to mother's symptom awareness, daughter may have been more preoccupied with demands of multiple roles (Brody, 1981, Litman, 1981, Long & Porter, 1984) than with personal psychophysiologic experiences.

#### Methodological Contributions of the Study

Methodological contributions of the study were made in the areas of research design, method, sampling, and research measures. In view of major time and cost constraints and other methodological limitations (e.g., loss of participants over time), Fitzgerald and Surra (1981) have called for refinement of retrospective

designs and methods for research on development and change in dyadic relationships. Likewise, Baltes and Goulet (1971) have emphasized the need for innovative retrospective techniques for the study of age-related development and naturally occurring long-term processes. The past and present time referents in the study design were adaptations to approximate multiple true developmental designs within one study. These temporal adaptations permitted use of descriptive, "longitudinal", cross-sectional, sequential, and developmental-multivariate analytic strategies to address the six research questions of this study (Baltes, Reese, & Nesselrode, 1977; Lachman, 1984; Weekes & Rankin, 1988). Thus, the design of this study represented a useful balance between the complexity of the research problem of interest and confines of available research resources.

Inclusion of both mother and daughter as sources of data was consistent with conceptual interest in both relationship properties and individual characteristics. The individual was the unit of analysis in the first two research questions of this study in order to utilize all available data for descriptive purposes and to maximize power in statistical analysis of "longitudinal" trends. The dyad was the unit of analysis in questions three through six since research interest was on similarities and differences within mother-daughter pairs. Clarity in focus on the individual and dyad as units of analysis between conceptualizations and analyses not only permitted appropriate use of intradyadic and individual-level analytic techniques to answer research questions but (also) precluded

ecological fallacies (e.g., generalizations from mothers as a group and daughters as a group to mother-daughter pairs) in interpretations and conclusions (Fisher, Kokes, Ranson, Phillips, & Rudd, 1985; Huston & Robins, 1982; Thompson & Walker, 1982).

Several contributions were made in this study regarding research instruments. Additional data were obtained on the reliability and validity of Walker and Thompson's (1983, 1987) General Intimacy Scale for Female Intergenerational Relationships from use of this instrument with the sample of perimenopausal daughters and aging mothers in this study. Further support for construct validity of this measure was provided by (a) differential perceptions of relationships with two daughters for each time referent by two mothers, and (b) high correlations between the total relationship scale and two subscales along with moderate correlations between the attachment and intimacy subscales.

Deletion of seven items from Neugarten et al.'s (1963) 35-item Attitudes Toward Menopause (ATM) Checklist resulted in a shorter scale with improved internal consistency and split-half reliability estimates. However, findings of this study raised questions about the multidimensional structure of Neugarten and Kraines' (1965) Menopause Symptom Checklist (MSC), particularly with respect to internal consistency and stability reliability of the psychosomatic dimension as well as discriminant validity of the Blatt Menopausal Index (BMI).

Study findings indicated that the version of Rossi's (1980) Aging Symptoms Index, which was specifically modified as a measure of

general health perceptions for this study, functioned as a useful methodological compromise between single-item general health ratings (e.g., Baruch & Barnett, 1983) and longer, more specific tools (e.g., Engel's, 1987, Perceived Health Status [PHS] instrument). Moreover, favorable reliability estimates were documented for the modified version of this instrument.

Likewise, the 20-item Attitudes Toward Aging (ATA) scale (Patsdaughter & Killien, 1988), which was eclectically developed and refined for use in this study, actualized a practical compromise in length between Neugarten & Garron's (1959) qualitative triad (i.e., dependency, loss of health, and loss of income) and the 137-item Attitudes Toward Old People Questionnaire (Tuckman & Lorge, 1953) from which it was derived. The ATA also eliminated the redundancy inherent in its third parent instrument, the Attitudes Toward Old People (OP) Scale (Kogan, 1961). Moreover, the 4-point Likert format of the ATA achieved an acceptable balance between the true/false format of the Tuckman and Lorge questionnaire and the 6-point Likert format of the Kogan OP scale. Favorable internal consistency and split-half reliability estimates were documented from use of the ATA with the study sample of middle-aged and aging women. Since a major gap in the gerontology literature has been a lack of reliable and valid scales to measure attitudes toward aging (Bennett & Eckman, 1973; Palmer, 1982), the ATA represented a major methodological contribution of this study.

Finally, there have been recent calls in the literature for use of existing data sources for primary and secondary analysis in

nursing research (McArt & McDougal, 1985; Woods, 1988). The foundation for this study was a large-scale, longitudinal project, the Tremin Trust Research Program. The sample for this study was drawn from active Tremin Trust record keepers and alumni, and some data (i.e., demographic/background and symptom reliability data) were derived from the Tremin Trust database. Use of an existing sample not only facilitated high response rates for this study but (also) opened opportunities for follow-up studies (e.g., three-generational research). Use of existing data minimized redundancy and time requirements for participants and permitted maximal use of available research resources toward collection and analysis of new data (e.g., questionnaire design). More generally, this study exemplified "the broader range of skills and experiences relevant to research methodology" (McArt & McDougal, 1985, p. 55) that can result from interdisciplinary and interinstitutional research collaboration.

#### Limitations

The limitations of this study were related to the research design, method, and sample. Although the design consisted of two time referents, data were collected at one point in time. Despite supporting documentation on the reliability and validity of retrospective data (e.g., Bahrick, Bahrick, & Wittlinger, 1975; Madow, 1967; Spanier, 1970), an unknown amount of recall bias was inherent in T1 data. Therefore, T1 findings should be generalized with caution.

Although women's own voices were heard in initial telephone contacts as well as in anecdotal comments and notes, most of the

data for this study was generated through mail survey standardized paper-and-pencil instruments in an attempt to balance the complexity of the research problem with the constraints of available research resources. In view of recent feminist critiques of relative strengths and weaknesses of "objective" and "subjective" methods (Kaufert, 1986; MacPherson, 1983; Thompson, 1987; Voda, 1985) along with Woods' (1982a) discussion of alternative response biases in open-ended versus structured data collection formats, methodological biases represented trade-offs between construct validity and generalizability (Judd & Kinny, 1982).

As a subset of the Tremin Trust Research Program, the study sample was a well-educated and economically-advantaged group of women, the majority of whom were of Scandinavian descent; thus, cultural and social biases were major limitations to generalization of findings. While not generalizable, findings from this sample of white, American middle-class women can be viewed as baseline data from which "to embark on a study of women's lives across cultures" (Whiting, 1984, p. 262). Although the sample was comprised of participants from all regions of the country, it was not geographically representative of the population of U.S. women. The sample also presented unique biases related to long-term program participation and regular "record-keeping" practices. Thus, findings of this study are limited to only a small, select portion of the adult female population and cannot be extended to women in general.

### Recommendations

Findings and limitations of this study suggest several directions for future research:

1. Whereas the two-time referent design in this study provided baseline data on relationship and individual transitions and adaptations, similar studies which utilize true developmental (i.e., cross-sectional, longitudinal, sequential) designs and prospective developmental-multivariate paradigms are warranted.
2. Given the mail survey nature of this study, a follow-up study which included use of multiple "objective" and "subjective" methods (i.e., existing records, questionnaires, telephone interviews, face-to-face interviews) would be beneficial for (a) fuller understanding of the phenomena of interest through data triangulation, and (b) establishing convergent and divergent validity of research measures.
3. Further assessment and refinement of the new Attitudes Toward Aging (ATA) scale is needed through use in other research contexts and with various samples.
4. In view of major sampling biases in this study, the study should be replicated with (a) a demographically similar sample of women who have not been program participants or "record-keepers" for all of their menstrual, reproductive, and postreproductive lives; and (b) samples of women from other sociocultural groups to determine the extent to which study findings are generalizable.
5. Future studies with larger samples should be planned so that demographic and background variables (e.g., marital status,

socioeconomic status, major caregiver role, postmenopausal status, estrogen replacement therapy, chronic illnesses/conditions, major life stress in past year) can be included in analyses.

6. Although this study was limited to mother-daughter dyads, it would be fruitful to extend this line of research to grandmother-mother-daughter triads through a follow-up study.

#### Implications

Nursing science is the study of individual and family adaptations to health and illness in relation to environments and therapeutic change (University of Washington Ph.D. in Nursing Science Committee, 1983). This study on the mother-daughter relationship in menopause and the aging process has major implications for future development of family and individual adaptations as fields of study within nursing science. Reciprocally, nursing science has much to contribute to future advances in knowledge and understanding of (a) mother-daughter relationships, and (b) menopause and women's aging process as well as to therapeutic interventions in nursing practice.

Uphold and Harper (1986) have emphasized that "it is important that family frameworks with an emphasis on intergenerational properties be developed by nurses and related to nursing science" (p. 40). However, methodological issues and measurement constraints have been some of the biggest deterrents to this dictum to date. Conceptual and methodological focus on the dyad as unit of analysis represents a preliminary step toward systematic development of family-level nursing research and theory.

The family plays an important role in socialization of individuals through transmission of health beliefs, attitudes, values, behaviors, and practices throughout the lifespan (Uphold & Harper, 1986). Moreover, individual health and illness experiences are interpreted within and affected by the family context (Litman, 1971, 1974). Thus, the study of intergenerational dyadic relationships also represents an important intermediary link to advances in the field of individual adaptations.

Nursing science, with a biopsychosocial orientation and lifespan perspective, has much to contribute to further understanding of the mother-daughter relationship. Fischer (1981, 1983, 1986), a family sociologist, has been the only scholar to date to provide a preliminary lifecycle description of the mother-daughter relationship. Although Fischer used the term "biopsychosocial" to define periods of individual and relationship transitions, description and analyses were chiefly from a social psychological perspective. Potential contributions from nursing science include further elaboration of physiological as well as psychosocial dimensions of transitions. Whereas Fischer's studies were limited to developmental transitions in the relationship as well as in mothers and daughters as individuals, an important potential contribution of nursing science can be to study the effects of situational crises and environmental stressors which are superimposed on developmental transition periods as well as on stable plateaus across the lifecycle of the mother-daughter relationship. Additionally, Fischer's work was primarily concerned with normative

aspects of the mother-daughter relationship, whereas nursing science can contribute to further understanding of both adaptative and maladaptive processes and outcomes. Finally, findings from this study related to variable sociohistorical influences suggest that many valuable contextual contributions can be made by the field of study of supporting and nonsupporting environments within nursing science toward advancing knowledge and understanding of the mother-daughter relationship.

Nursing has always been concerned with women's health (Boyd, 1985), but major attention has been on the health of women during the menstrual and childbearing years. Nursing has also had primary concern for the health of older adults (as clearly, but not fully, conveyed by the term "nursing homes"). Through a synthesis of theoretical and empirical knowledge from women's health and aging as two major foci within the fields of individual adaptations to health and illness and clinical therapeutics, nursing science also has much to contribute to fuller understanding of menopause and women's aging process.

Findings of this study have important implications for therapeutic interventions in nursing practice. For example, findings on socialization influences implied that nurses could provide a valuable public service by communicating accurate, current information on menopause and women's aging through publications in books, magazines, and journals for lay audiences (e.g., Redbook, Women's Day). Moreover, discrepancies between Kresovich's (1980) contention that "the nurse practitioner is in a key position to

give support through guidance, counseling, and health teaching" (p. 61) and the study finding that mothers and daughters did not perceive much socialization influence from nurses suggests that either (a) more teaching for perimenopausal and aging women is warranted, or (b) nurses need to be more clear, direct, or explicit in the information they do convey. However, the findings of this study also indicated that therapeutic nursing interventions directed specifically toward attitude change would have little direct impact on the general health perceptions of perimenopausal or aging women. Differences in the relative contributions to mother's and daughter's general health perceptions that were identified in this study suggest that aging mothers would primarily benefit from physical therapeutics directed at relief of their symptoms experiences, whereas middle-aged daughters might benefit more from interpersonal therapeutic interventions such as counseling related to the mother-daughter relationship or socialization experiences such as menopause support groups. Finally, findings that (a) past general health perceptions, and (b) the health of the other generation (i.e., mother or daughter) were highly related to general health perceptions in the present imply that these are two critical assessment areas prior to planning or implementing therapeutic nursing interventions for perimenopausal daughters and aging mothers.

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**APPENDIX A**

**TREMIN TRUST RESEARCH PROGRAM OVERVIEW**

## TREMIN TRUST RESEARCH PROGRAM OVERVIEW

- 1934-1938 Enrollment of original panel (N = 2350) at University of Minnesota;  
Retrospective data and recording of events as they occurred;  
(Treloar, Doerr, Boynton)
- 1946 Enrollment at menarche of daughters of original panel (N = 939)
- 1960 Data analysis support from Kimberly-Clark
- 1961-1964 Enrollment of second student panel to evaluate changes over time, cohort effects (N = 1600)
- 1966 Alaska Program  
Native sample (Eskimo, Aleuts, Indians) (N = 1000) and Anchorage school teachers (N = 170);  
supplementary data on age at menarche on Native adolescents (N = 1500);  
Support through National Institute of Child Health and Human Development (NICHD) and Arctic Health Research Center (AHRC) (Program closed mid-1971)
- 1968 Special Survey on Oral Contraceptives
- 1972 Enrollment of granddaughters of original panel
- 1974 Annual General Health Report added--included menopause "graduates"; 900 agreed to future response  
  
Collaboration with University of Iowa Medical School on Mammary Cancer Survey
- 1977 Special Surveys on Diethylstilbestrol (DES), Dysmenorrhea  
  
Transfer of database to University of North Carolina at Chapel Hill (Gary S. Berger, M.D.)
- 1978 Special Survey on Blocking or Opening of Fallopian Tubes
- 1984 Transfer of database to University of Utah School of Nursing (Ann M. Voda, Ph.D.)  
  
Enrollment of daughters of second panel

### Archival Database:

Enrollment/demographic data

Contains a collection of 4000 menstrual histories spanning 500,000 menstrual cycles

Precisely defined and dated menopause

Contains data from (a) notation section on monthly calendar card, and (b) Annual Health Report Form on:

health care utilization

surgeries

illnesses

unusual events/stress

accidents

marriages and pregnancies

contraception

hormone/drug use

other health concerns that may affect menstrual and reproductive health

Most of the database is stored on a MicroVAX operated by the Clinical Research Center at the University of Utah; computerized data is approximately 46 megabytes in size with well over 1.1 million computer records

Additionally, a wealth of unexamined anecdotal material is available on microfiche

### Special Features:

Active sample includes participants residing in 50 states and 25 foreign countries (see Figure A.1)

Intergenerational Data

(836 mother-daughter pairs (313 active) and

72 grandmother-mother-daughter sets (22 active) in database)

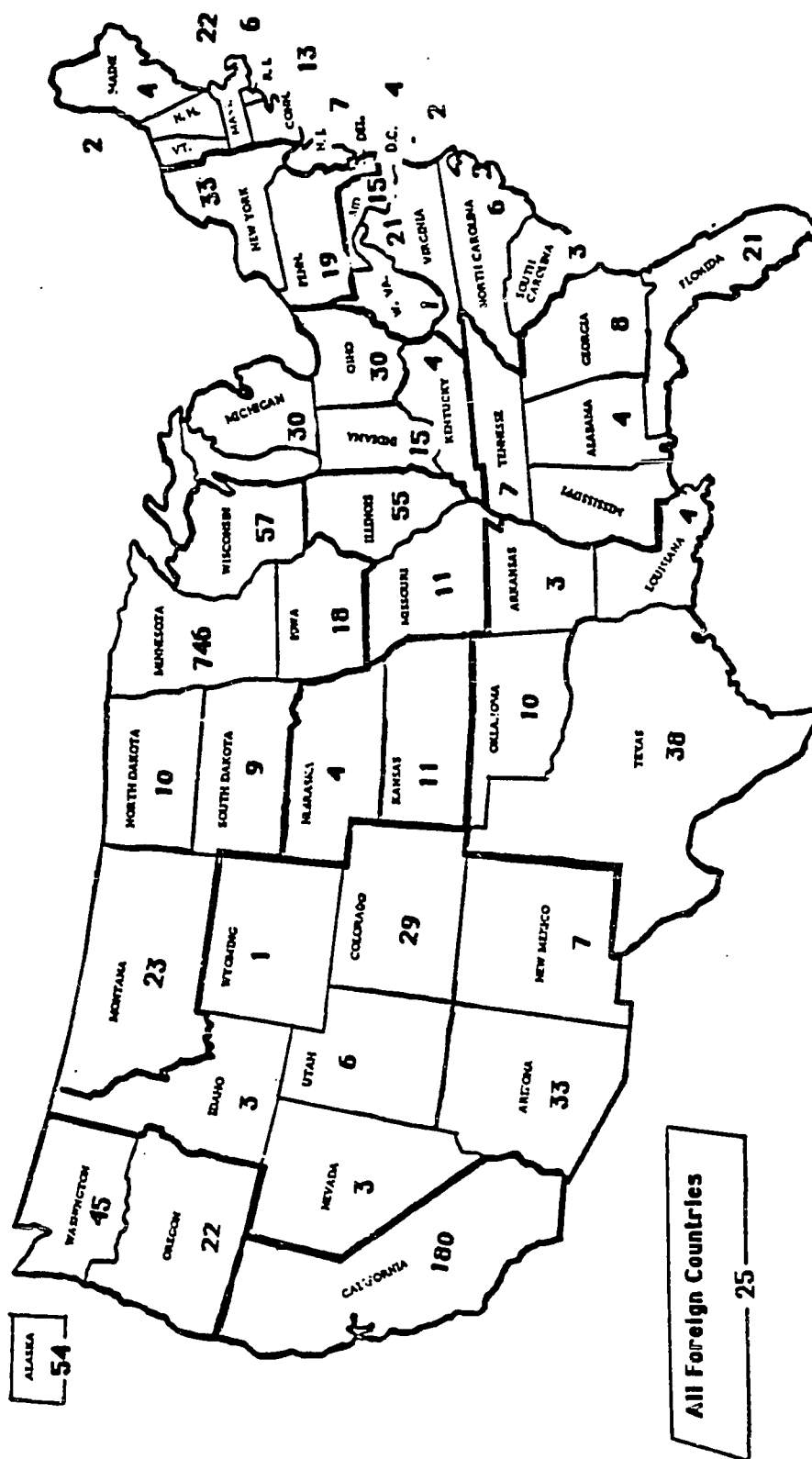


Figure A.1. Geographic distribution of active Tremim Trust participants.

**APPENDIX B**

**INFORMATIONAL LETTER TO POTENTIAL PARTICIPANTS**



Celebrating 40 Years  
of Nursing Excellence  
in 1988

THE TREMIN TRUST  
RESEARCH PROGRAM

Dear

Mid-year greetings from The Tremin Trust! As you know, The Trust occasionally conducts special surveys of select participants. Because you and your mother comprise a unique mother-daughter pair in The Trust Research Program you have been selected to participate in a special study titled "The Mother-Daughter Relationship in Menopause and the Aging Process". The study will be conducted by The Trust and Carol A. Patsdaughter, a doctoral student in Nursing at the University of Washington. Be assured that all information you provide will be treated confidentially, and no mother or daughter will be given access to each other's responses; nor will Ms. Patsdaughter have access to your name or address. This study has been reviewed and approved by The Tremin Trust Scientific Advisory Committee and The Committee for the Protection of Human Subjects.

This study is designed to expand the understanding of (1) how mother and daughter relate to each other in the post-reproductive years of adult life, (2) how mother's and daughter's experiences of menopause and the aging process are similar or different, (3) how women learn about menopause and the aging process, (4) how women feel about menopause and the aging process, and (5) how women's prior life experiences and reproductive health may influence menopausal and aging experiences and health in general during as well as after the change of life.

Your participation in this special study will involve filling out the enclosed questionnaire that covers the topics listed above. The questions should not take more than an hour of your time to read through and answer. Although complete information is important, you are free to choose not to answer any item or question that seems too personal or sensitive to you. If you agree to participate in this study, some past and recent information that you have provided The Trust will be used to save time and avoid repetition (for example, menstrual and reproductive events reported in the past).

Should you choose not to participate in this study, as Director of The Tremin Trust I want to personally assure you that such refusal will in no way affect your future participation in The Trust Research Program. Also, since all materials for this special study are being mailed from Utah and will return to Utah, no one other than Tremin Trust research staff will have access to your name or address. Information provided by you on the special menopause questionnaire will become a permanent part of your Tremin Trust record. As you know, menopause and post-menopausal experiences are my own special research areas. Thus, the data provided in the questionnaire will be of great interest to me.

College of Nursing  
25 South Medical Drive  
Salt Lake City, Utah 84112  
(801) 581-8262

Again, let me emphasize, all information is completely confidential. If you have any questions or concerns about this special study, please contact me at The Tremin Trust phone or address below. Completion and return of the questionnaire in the enclosed envelope will be considered as your willingness to voluntarily participate in this study.

Sincerely,



Ann M. Voda, R.N., Ph.D.  
Director, The Tremin Trust  
University of Utah College of Nursing  
25 So. Medical Drive  
Salt Lake City, Utah 84112

**APPENDIX C**

**TREMIN TRUST 1987 HEALTH REPORT FORM**

## THE TREMIN TRUST

University of Utah College of Nursing  
25 South Medical Drive  
Salt Lake City, Utah 84112  
(801) 581-8272

HEALTH REPORT FORM  
1987

Please answer all appropriate questions. The questions will require you to think back over the entire year (Jan. 1 - Dec. 31, 1987). You'll note that the questions are xeroxed on front and back. If you need additional space to answer a question feel free to write on an extra sheet of paper, and number the questions to correspond with the question number on this form. Skip questions that do not apply to you. Thank you for your efforts. All answers are confidential.

## Background Information .....

A. Name: \_\_\_\_\_ I.D. Number: \_\_\_\_\_

B. Address: \_\_\_\_\_

street city state ZIP

C. Phone number: ( ) \_\_\_\_\_

D.  Please X box if your address changed this year  
Date you moved: \_\_\_\_\_ Old Address: \_\_\_\_\_

E. Birth Date: \_\_\_\_\_ Current Height: \_\_\_\_\_ Current Weight: \_\_\_\_\_

F. Occupation: (please list all jobs you held in 1987 with approximate dates of employment. If you were not working please list that as well):

Job	Dates
_____	_____
_____	_____
_____	_____

G. Current Marital Status \_\_\_\_\_  
Did your marital status change in 1987? No \_\_\_\_\_ Yes \_\_\_\_\_  
If YES, what happened? were you divorced, separated, etc?: \_\_\_\_\_

## Menstrual Information .....

1. To check our records, would you again indicate your current menstrual status:  
 I am still menstruating. Go to Question 2.  
 I think I am in the menopause transition. Go to Question 2.  
 I am postmenopausal. My last period was on \_\_\_\_\_ (date). Go to Question 15, page 5.  
 I am postmenopausal because (please check one):  
 I had my uterus removed on \_\_\_\_\_ (date).  
 I had radiation treatment on \_\_\_\_\_ (date).  
 I had chemotherapy treatment on \_\_\_\_\_ (date).  
 I went through menopause naturally, \_\_\_\_\_ (date).



8. Did you breast-feed at all in 1987?

No, I have not breast-fed.

Yes. I have breast-fed \_\_\_\_\_ children. Would you write down how long (months) you breast-fed each child this year?

	Child's First Name	Months of Breast-feeding
1	_____	_____
2	_____	_____
3	_____	_____

9. Have you or your partner had problems with infertility in 1987? No \_\_, Go to Question 12.

I haven't been trying to get pregnant. Go to Question 12.

Yes

If YES, Would you briefly describe the difficulties?

10. Were you or your partner treated or counseled for infertility in 1987? No \_\_\_\_ Yes \_\_\_\_

If YES, please describe briefly any counseling, medications taken (eg. Clomid) or procedures performed on either you or your partner for infertility and the dates of treatment):

11. Would you share with us anything else that comes to mind about your experience with infertility treatment? What did/do you or your partner think and/or feel about it? Was it effective?

12. Did you use any form of birth control in 1987? No \_\_\_\_ Yes \_\_\_\_  
 If YES, please check (✓) below all the type(s) of birth control used and months of use. Again, think carefully over the whole year.

\_\_\_\_ Oral Contraceptive Pills, please indicate all O.C. pills taken this year:

Brand : \_\_\_\_\_  
 Dose: \_\_\_\_\_ (this is very important so please check)  
 months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

Brand : \_\_\_\_\_  
 Dose: \_\_\_\_\_ (this is very important so please check)  
 months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

Brand : \_\_\_\_\_  
 Dose: \_\_\_\_\_ (this is very important so please check)  
 months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ IUD, Type \_\_\_\_\_  
 months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Condom alone, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Condom with foam or sponge backup, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Sponge alone, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Foam/Jellies/Creams alone, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Diaphragm, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Cervical Cap, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Injectable contraceptive (Depo provera), months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Withdrawal, months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Rhythm (sex only during "safe" days), months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Abstinence (no sex at all), months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

\_\_\_\_ Others, \_\_\_\_\_ months used: \_\_\_\_\_ to \_\_\_\_\_ (start to stop dates)

13. Why did you choose the method(s) of birth control you checked above?

14. Take a moment to think about the types of contraception you used during this past year. What did you like or dislike about them?



18. Did you experience hot flashes in 1987? No \_\_\_ Yes \_\_\_  
 If YES, describe how they feel: where on your body they start, when they occur (time of day),  
 what triggers them, how intense they usually are (mild, moderate, severe), and how long they  
 last?

WHERE: \_\_\_\_\_

WHEN: \_\_\_\_\_

TRIGGERS: \_\_\_\_\_

INTENSITY: \_\_\_\_\_

HOW LONG?: \_\_\_\_\_

19. Whether or not you are now menopausal, please share with us your thoughts, feelings, fears,  
 expectations, of menopause:

**Medical Information** .....

20. Did you receive any radiation treatment in 1987? No \_\_\_ Yes \_\_\_  
 If YES, please explain why you were treated, dates, how much exposure you  
 received, what part of your body was treated, and the specific form of radiation:

21. Did you take any kind of drug that required a prescription from a Doctor in 1987 (except  
 birth control pills, and menopausal estrogens and hormones)? This includes antibiotics,  
 antidepressants, pain killers, heart pills, high blood pressure medication, diuretics, other  
 hormones, injections, pills, dermal patches, etc. No \_\_\_ Yes \_\_\_  
 If YES, please name the drug you were prescribed, the reason it was prescribed,  
 and the dates you took this drug)

Drug Name	Reason Prescribed	Dates Taken
1. _____	_____	_____
2. _____	_____	_____
3. _____	_____	_____

22. Did you take any kind of over-the-counter drug in 1987? This includes pain killers (aspirin,  
 Tylenol), cold medications, diet pills, etc. No \_\_\_ Yes \_\_\_  
 If YES, please name the drug taken, the reason it was taken, the month(s) it was  
 taken, and the reason you chose a particular brand

Drug Name	Reason Taken	Month(s) Taken	Reason for that Brand
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____

23. Were you or your partner surgically sterilized in 1987? No  Yes   
 If YES, check all surgeries that apply to you or to your partner. If you're not sure about the surgery you had, would you please call your Doctor and find out?  
 Thanks!

Vasectomy, Date: \_\_\_\_\_  
 Tubal ligation (tubes tied), Date: \_\_\_\_\_  
 Oophorectomy (only one ovary)  
 Oophorectomy (both ovaries removed, or had a remaining ovary removed), Date: \_\_\_\_\_  
 Hysterectomy (only your uterus removed), Date: \_\_\_\_\_  
 Panhysterectomy (both ovaries and uterus removed),  
 Date: \_\_\_\_\_

24. Have you had any other kind of surgical procedures, major or minor, including D & C's, in 1987? If so, please specify the type of surgery, the reasons for surgery, and the day and month of the surgery.

Surgery	Reason	Date (Day/Month)

25. Have you been diagnosed as having a chronic illness, for example, diabetes, arthritis, cancer, high blood pressure, heart disease, allergies, dermatitis, lymphoma etc.? No  Yes   
 If YES, indicate the specific chronic illnesses, when diagnosed, severity and frequency of recurrences of illness in 1987.

26. Did you have any major stress in your life during 1987, such as a death of a close family member, marriage, job promotion or loss, illness, car accidents, accidental injuries, or divorce for example? Please think over the entire year—it is easy to forget things that happened early in 1987.  
 No  Yes   
 If YES, please describe the stress(es) and the date(s) occurred:

27. If you answered YES to question 26, were you hospitalized?  
 No.  
 No, I was treated in an emergency room and sent home.  
 Yes, I was in the hospital from \_\_\_\_\_ to \_\_\_\_\_ (dates).

28. Please check (✓) any of the following conditions which you have experienced in 1987:-

Weight Gain	_____	Dizzy Spells	_____
Cold Flash	_____	Flooding	_____
Irritability	_____	Cold Chills	_____
Flooding with Clots	_____	Depression	_____
Skin Crawls	_____	Backaches	_____
Forgetfulness	_____	Urinary Leakage	_____
Cold Hands/Feet	_____	Excitability	_____
Vaginal Dryness	_____	Numbness	_____
Can't Concentrate	_____	Joint Pain	_____
Mood Changes	_____	Breast Pains	_____
Crying Spells	_____	Vaginal Infections	_____
Constipation	_____	Feeling Suffocated	_____
Feeling Fright/Panic	_____	Periodontal Disease	_____
Diarrhea	_____	Insomnia	_____
Tiredness	_____	Heart Pounding	_____
Tingling	_____	Headaches	_____
Worry about Nervous Breakdown	_____		

29. Did you exercise regularly in 1987? For example, did you run, swim, lift weights, walk, at least once a week? No \_\_\_\_\_ Yes \_\_\_\_\_

If YES, describe your normal weekly exercise routine (what you do, how many times each week you do it, and how many minutes/hours you exercise):

<u>What you do</u>	<u>Times per week</u>	<u>Duration (minutes/hours)</u>
_____	_____	_____
_____	_____	_____
_____	_____	_____

30. Indicate your total family 1987 yearly income category:

_____ less than \$10,000	_____ \$26,000 - 30,000
_____ \$10,000 - 15,000	_____ \$31,000 - 40,000
_____ \$16,000 - 20,000	_____ \$41,000 - 50,000
_____ \$21,000 - 25,000	_____ over \$50,000

31. Your current educational level\* \_\_\_\_\_

\* for educational level, put highest grade completed, for example: finished high school = 12, or finished college = 16.

32. Are you supporting anyone outside of your household on the income indicated in question 30? No \_\_\_\_\_ Yes \_\_\_\_\_

33. Are you the major care giver and/or support person of an older or younger person? (mother, aunt, grandfather, sister, son, other non-relative?) No \_\_\_\_\_ Yes \_\_\_\_\_

If YES, please explain:

34. Please answer the following questions using the people who live with you in your household, who are supported by the income you indicated in question 30. A household is where you sleep and eat. If how you live is difficult to fit into this definition, would you please describe your living situation on the back of this page.

People in Your Household

An example is provided.

first name	relationship to you	age	sex	# of months lived in household during 1987	their educational level*	their occupation	hours they worked per week
Robert	Husband	37	M	12	16	International Insurance Agent	40

\* for educational level, put highest grade completed, for example: finished high school = 12, or finished college = 16.

The purpose of the next 3 questions is to get a smoking history. Because smoking is such an important health risk, and because it has not been asked on earlier medical report forms, please answer this question in terms of your entire life, not just 1987.

35. Have you ever smoked more than 100 cigarettes in your entire life? Yes \_\_\_\_ Go to Question 36  
No \_\_\_\_ That's all! You can skip the rest of the questions.
36. Do you smoke now?  
\_\_\_\_ No. Now many cigarettes did you smoke per day when you did smoke? \_\_\_\_  
\_\_\_\_ Yes. How many cigarettes do you smoke per day? \_\_\_\_
37. If you smoke now, or have smoked in the past, what was the year you started smoking?  
Year started smoking: \_\_\_\_\_
38. Have you ever quit smoking? No \_\_\_\_ Yes \_\_\_\_  
If YES, indicate all the time periods (months or years) that you have quit:

Thank you for taking the time to fill out this Health Report. The information you supply to The Trust is invaluable. We are always trying to improve our questionnaires, so if you have any comments or questions about this new form please write or call. The address and phone number are on the letterhead.

**APPENDIX D**  
**STUDY QUESTIONNAIRE**

**SECTION 1:**

The following statements pertain to the mother-daughter relationship. On a 1 (not true) to 7 (always true) scale, please rate these statements about your relationship with your mother for two different time frames: (1) as you can recall from the time in the past when she was the age that you are now (for example, if you are now 45, rate your relationship with her when she was 45), and (2) as you perceive it at the present time. Here is an example of a completed item:

**EX. We spend time talking about childcare.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

Since this daughter's children are now grown, discussions about childcare occur less frequently between mother and daughter at the present time than when the mother was 45 and the daughter was 22. Proceed through the 50 statements in this way responding to each statement twice – for the past and for the present.

**1. We want to spend time together.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**2. We comfort each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**3. She shows that she loves me.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**4. We're honest with each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**5. We can accept each other's criticism of our faults and mistakes.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**6. We spend time talking about our relationship.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**7. We're dependent on each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**8. She can ask me anything.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**9. We're able to share private things face-to-face.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**10. We talk about female problems.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**11. We like each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**12. We respect each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**13. We share a mutual trust.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**14. We share attitudes toward family.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**15. I'm concerned about her.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**16. I worry about her.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**17. Our relationship is somewhat strained.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**18. We enjoy our relationship.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**19. Our lives are better because of each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**20. We feel like we're a unit.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**21. There's a great amount of unselfishness in our relationship.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**22. We think alike.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**23. She always thinks of my best interest.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**24. There's a sensitivity between us.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**25. We understand each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**26. I don't like her behavior.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**27. We anticipate each other's moods.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**28. We nurture each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**29. I feel like I want to support her.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**30. She is closer to me than others are.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**31. In general, she and I agree on the way money should be spent.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**32. We can support each other in difficulties.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**33. She cares about the way I feel.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**34. I'm lucky to have her in my life.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**35. She always makes me feel better.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**36. We're emotionally dependent on each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**37. We share a feeling that nothing can come between us.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**38. We can express both good and bad feelings to each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**39. When we anticipate being apart, our relationship intensifies.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**40. We anticipate each other's needs.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**41. We're tolerant of our differences.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**42. There's a resiliency in our relationship.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**43. We're open to each other about the things we're afraid of.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**44. Our best times are with each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**45. We know each other well.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**46. We're devoted to each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**47. She's important to me.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**48. We have mutual interests.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**49. We love each other.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

**50. I'm sure of this relationship.**

PAST:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7
PRESENT:	Not True 1	Rarely True 2	Sometimes True 3	True About 1/2 time 4	Mostly True 5	Almost Always True 6	Always True 7

For items 51 to 54, please place a check next to the best response:

51. How far did you live from your mother at the time in the past when she was the age that you are now?

- same household
- same neighborhood/city
- less than 50 miles away
- between 50 and 100 miles away
- more than 100 miles away

52. How often did you have the following types of contact with your mother at the time in the past when she was the age that you are now?

**Visits:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

**Telephone Calls:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

**Letter Writing:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

53. How far do you live from your mother at the present time?

- same household
- same neighborhood/city
- less than 50 miles away
- between 50 and 100 miles away
- more than 100 miles away

54. How often do you have the following types of contact with your mother at the present time?

**Visits:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

**Telephone Calls:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

**Letter Writing:**

- every day
- several times a week
- about once a week
- several times a month
- about once a month
- several times a year
- about once a year
- less than once a year

**SECTION 2:**

Women learn about various physical and psychological changes associated with the events and stages in their lives from talking with or observing many different sources. Please indicate to what extent and how [i.e., (-2) very negatively, (-1) somewhat negatively, (0) neither negatively nor positively, (1) somewhat positively, (2) very positively] each of the following sources have influenced your expectations, experiences, and knowledge regarding (a) menstruation, (b) pregnancy and reproductive processes (e.g., contraception, fertility), and (c) menopause.

**MENSTRUATION:****1. talking with your physician**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**2. talking with another health care provider (for example, nurse or pharmacist)**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**3. talking with your mother**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**4. observing your mother's experiences with menstruation**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**5. talking with other female relatives**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**6. observing other female relative's experiences with menstruation**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**7. talking with female friends**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**8. observing female friends' experiences with menstruation**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
--------------------------	------------------------------	---	-----------------------------	-------------------------

**9. listening to the radio or watching television/movies**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
--------------------------	------------------------------	---	-----------------------------	-------------------------

**10. reading books, magazines, newspapers**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**11. other sources (please list and rate separately):**


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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
--------------------------	------------------------------	---	-----------------------------	-------------------------

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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**PREGNANCY AND REPRODUCTIVE PROCESSES:****1. talking with your physician**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**2. talking with another health care provider (for example, nurse or pharmacist)**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**3. talking with your mother**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**4. observing your mother's experiences with pregnancy and reproductive processes**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**5. talking with other female relatives**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**6. observing other female relative's experiences with pregnancy and reproductive processes**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**7. talking with female friends**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**8. observing female friends' experiences with pregnancy and reproductive processes**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**9. listening to the radio or watching television/movies**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**10. reading books, magazines, newspapers**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**11. other sources (please list and rate separately):**

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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**MENOPAUSE:****1. talking with your physician**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**2. talking with another health care provider (for example, nurse or pharmacist)**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**3. talking with your mother**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**4. observing your mother's experiences with menopause**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**5. talking with other female relatives**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**6. observing other female relative's experiences with menopause**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**7. talking with female friends**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**8. observing female friends' experiences with menopause**

Very Negatively	Somewhat Negatively	Neither Negatively Nor Positively	Somewhat Positively	Very Positively
-2	-1	0	1	2

**9. listening to the radio or watching television/movies**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**10. reading books, magazines, newspapers**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**11. other sources (please list and rate separately):**


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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**POSTMENOPAUSE AND AGING:****1. talking with your physician**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**2. talking with another health care provider (for example, nurse or pharmacist)**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**3. talking with your mother**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**4. observing your mother's postmenopausal and aging experiences**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**5. talking with other female relatives**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**6. observing other female relative's postmenopausal and aging experiences**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**7. talking with female friends**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**8. observing female friends' experiences with postmenopause and aging**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**9. listening to the radio or watching television/movies**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**10. reading books, magazines, newspapers**

Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**11. other sources (please list and rate separately):**


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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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Very Negatively -2	Somewhat Negatively -1	Neither Negatively Nor Positively 0	Somewhat Positively 1	Very Positively 2
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**SECTION 3:**

The statements below represent various attitudes toward menopause that different people have. Please indicate your present opinions about each statement by circling whether you (1) strongly agree, (2) mildly agree, (3) mildly disagree, or (4) strongly disagree. There are no right or wrong answers, only opinions. Please try to respond to each statement.

**1. Women often use the change of life as an excuse for getting attention.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**2. Unmarried women have a harder time than married women do at the time of the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**3. If the truth were really known, most women would like to have themselves a fling at this time in their lives.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**4. Women who have trouble with the menopause are usually those who have nothing to do with their time.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**5. A woman should see a doctor during the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**6. A woman in menopause is apt to do crazy things she herself does not understand.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

7. **Women who have trouble in the menopause are those who are expecting it.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

8. **The thing that causes women all their trouble at menopause is something they can't control: changes in their bodies.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

9. **A good thing about the menopause is that a woman can quit worrying about getting pregnant.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

10. **Menopause is a mysterious thing which most women don't understand.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

11. **A woman is concerned about how her husband will feel toward her after the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

12. **Going through the menopause really does not change a woman in any important way.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

13. **Menopause is one of the biggest changes that happens in a woman's life.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 14. A woman's body may change in menopause, but otherwise she doesn't change much.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 15. The only difference between a woman who has not been through the menopause and one who has is that one menstruates and the other doesn't.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 16. Women are generally calmer and happier after the change of life than before.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 17. After the change of life, a woman feels freer to do things for herself.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 18. Women worry about losing their minds during the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 19. After the menopause, a woman is more interested in sex than she was before.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 20. It's no wonder women feel "down in the dumps" at the time of menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

21. After the change of life, a woman gets more interested in community affairs than before.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

22. Women think of menopause as the beginning of the end.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

23. Life is more interesting for a woman after the menopause.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

24. Women generally feel better after the menopause than they have for years.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

25. After the change of life, women often don't consider themselves "real women" anymore.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

26. A woman has a broader outlook on life after the change of life.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

27. A woman gets more confidence in herself after the change of life.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

28. Menopause is an unpleasant experience for a woman.

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**29. Women often get self-centered at the time of the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**30. Menopause is a disturbing thing which most women naturally dread.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**31. After the change of life, a woman has a better relationship with her husband.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**32. It's not surprising that most women get disagreeable during the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**33. In truth, just about every woman is depressed about the change of life.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**34. Women should expect some trouble during the menopause.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**35. Many women think menopause is the best thing that ever happened to them.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

Comparing your present attitudes toward menopause to attitudes you can recall from the time in the past when your mother was going through menopause, would you say that in general your attitudes toward menopause have:

- become more negative over time
- stayed about the same
- become more positive over time

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**SECTION 4:**

The statements below represent various attitudes toward women's roles in society that different people have. Please indicate your present opinions about each statement by circling whether you (1) strongly agree, (2) mildly agree, (3) mildly disagree, or (4) strongly disagree. Again, please try to respond to each statement.

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- 1. Swearing and obscenity are more repulsive in the speech of a woman than of a man.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 2. Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 3. Both husband and wife should be allowed the same grounds for divorce.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 4. Telling dirty jokes should be mostly a masculine prerogative.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 5. Intoxication among women is worse than intoxication among men.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 6. Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing the dishes and doing the laundry.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 7. It is insulting to women to have the "obey" clause remain in the marriage service.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 8. There should be a strict merit system in job appointment and promotion without regard to sex.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 9. A woman should be as free as a man to propose marriage.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 10. Women should worry less about their rights and more about becoming good wives and mothers.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 11. Women earning as much as their dates should bear equally the expense when they go out together.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 12. Women should assume their rightful place in business and all the professions along with men.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 13. A woman should not expect to go to exactly the same places or to have quite the same freedom of action as a man.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 14. Sons in a family should be given more encouragement to go to college than daughters.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 15. It is ridiculous for a woman to run a locomotive and for a man to darn socks.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 16. In general, the father should have greater authority than the mother in the bringing up of children.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 17. Women should be encouraged not to become sexually intimate with anyone before marriage, even their fiancés.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 18. The husband should not be favored by law over the wife in the disposal of family property or income.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 19. Women should be concerned with their duties of childbearing and house tending, rather than with desires for professional and business careers.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 20. The intellectual leadership of a community should be largely in the hands of men.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

21. Economic and social freedom is worth far more to women than acceptance of the ideal of femininity which has been set up by men.

Strongly Agree 1	Mildly Agree 2	Mildly Disagree 3	Strongly Disagree 4
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22. On the average, women should be regarded as less capable of contributing to economic production than are men.

Strongly Agree 1	Mildly Agree 2	Mildly Disagree 3	Strongly Disagree 4
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23. There are many jobs in which men should be given preference over women in being hired or promoted.

Strongly Agree 1	Mildly Agree 2	Mildly Disagree 3	Strongly Disagree 4
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24. Women should be given equal opportunity with men for apprenticeship in the various trades.

Strongly Agree 1	Mildly Agree 2	Mildly Disagree 3	Strongly Disagree 4
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25. The modern girl is entitled to the same freedom from regulation and control that is given to the modern boy.

Strongly Agree 1	Mildly Agree 2	Mildly Disagree 3	Strongly Disagree 4
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Comparing your present attitudes toward women's roles to attitudes you can recall from the time in the past when your mother was the age that you are now (that is, recall back again to the age you used as a reference point in Section 1), would you say that in general your attitudes toward women's roles have:

- become more negative over time  
 stayed about the same  
 become more positive over time

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**SECTION 5:**

The statements below represent various attitudes toward aging and older persons that different people have. Please indicate your present opinions about each statement by circling whether you (1) strongly agree, (2) mildly agree, (3) mildly disagree, or (4) strongly disagree. Again, please try to respond to each statement.

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- 1. Most older people are really no different from anybody else; they're as easy to understand as younger people.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 2. Most older people get set in their ways and are unable to change.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 3. People grow wiser with the coming of old age.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 4. Most older people make one feel ill at ease.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 5. One of the most interesting qualities of most older people is their accounts of their past experiences.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 6. There are a few exceptions, but in general most older people are pretty much alike.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 7. Most older people should be more concerned with their personal appearance.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 8. Most older people are cheerful, agreeable, and good humored.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 9. Most older people are constantly complaining about the behavior of the younger generation.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 10. Most older people make excessive demands for love and reassurance.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 11. Most older people are dependent on others for care and daily needs.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 12. Most older people are generally able to function adequately and are in relatively good health.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 13. Most older people plan for retirement and are financially secure.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

- 14. Most older people have poor coordination and suffer many accidents and falls.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**15. Most older people need less food than younger people.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**16. Most older people cannot see, are hard of hearing, and have lost most of their teeth.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**17. Most older people need less sleep than younger people.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**18. Most older people are absent minded and forgetful.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**19. Most older people learn different things and in different ways than younger people.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**20. Most older people have the capacity for a satisfactory sex life.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**21. Most older people feel that their children neglect them.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

**22. Most older people are in the happiest period of their lives.**

Strongly Agree	Mildly Agree	Mildly Disagree	Strongly Disagree
1	2	3	4

Comparing your present attitudes toward aging and older persons to attitudes you can recall from the time in the past when your mother was the age that you are now (that is, recall back again to the age you used as a reference point in Section 1), would you say that in general your attitudes toward aging and older persons have:

- become more negative over time
- stayed about the same
- become more positive over time

**SECTION 6:**

On a scale of 0 to 3 (0 = not at all; 1 = mild; 2 = moderate; 3 = severe), please circle the extent to which you have experienced the following symptoms for two different time frames: (1) as you can recall from the time in the past when your mother was the age that you are now (that is, recall back again to the age you used as a reference point in Section 1), and (2) at the present time.

**1. hot flushes**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**2. cold sweats**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**3. weight gain**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**4. flooding**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**5. rheumatic pains**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**6. aches in back of neck**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**7. cold hands and feet**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**8. numbness and tingling**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**9. breast pains**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**10. constipation**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**11. diarrhea**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**12. skin crawls**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**13. tired feelings**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**14. headaches**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**15. pounding of heart**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**16. dizzy spells**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**17. blind spots before eyes**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**18. irritable and nervous**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**19. feel blue and depressed**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**20. forgetfulness**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**21. excitable**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**22. trouble sleeping**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**23. can't concentrate**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**24. crying spells**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**25. feeling of suffocation**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**26. worry about body**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**27. feeling of fright/panic**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**28. worry about nervous breakdown**

PAST:	Not At All 0	Mild 1	Moderate 2	Severe 3
PRESENT:	Not At All 0	Mild 1	Moderate 2	Severe 3

**SECTION 7:**

On a scale of 0 (poor) to 10 (excellent) scale, please rate yourself on the following physical characteristics for two different time frames: (1) as you can recall from the time in the past when your mother was the age that you are now (that is, recall back again to the age you used as a reference point in Section 1), and (2) at the present time. Please circle your response.

**1. eyesight**

PAST:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10
PRESENT:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10

**2. shape of body**

PAST:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10
PRESENT:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10

**3. teeth**

PAST:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10
PRESENT:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10

**4. energy level**

PAST:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10
PRESENT:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10

**5. weight**

PAST:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10
PRESENT:	Poor 0	1	2	3	4	5	6	7	8	9	Excellent 10

**6. sex life**

	Poor										Excellent
PAST:	0	1	2	3	4	5	6	7	8	9	10
	Poor										Excellent
PRESENT:	0	1	2	3	4	5	6	7	8	9	10

**7. health**

	Poor										Excellent
PAST:	0	1	2	3	4	5	6	7	8	9	10
	Poor										Excellent
PRESENT:	0	1	2	3	4	5	6	7	8	9	10

**8. hearing**

	Poor										Excellent
PAST:	0	1	2	3	4	5	6	7	8	9	10
	Poor										Excellent
PRESENT:	0	1	2	3	4	5	6	7	8	9	10

**9. hair condition**

	Poor										Excellent
PAST:	0	1	2	3	4	5	6	7	8	9	10
	Poor										Excellent
PRESENT:	0	1	2	3	4	5	6	7	8	9	10

**APPENDIX E**

**TESTS FOR REPRESENTATIVENESS OF SAMPLE**

Table E.1

Total Sample: Tests for Differences BetweenMother Nonparticipants (n = 6) and Mother Participants (n = 50)

	Test Statistic <sup>a</sup>	d.f.	p
<u>Demographic Variables</u>			
Chronological Age	.04	54	.97
Number of Persons in Household	.22	54	.83
Geographic Residence	4.88	6	.56
Marital Status	3.33	3	.34
Education	5.11	1	.02*
Income	4.35	7	.74
Employment Outside of Home	.57	1	.45
Major Caregiver Role	.00	1	1.00
<u>Background Variables</u>			
Menstrual/Reproductive and Menopausal Variables			
Menstrual Cycle Variations	-----	--	---
Menopausal Status	-----	--	---
Postmenopausal Status	.01	1	.91
Estrogen Replacement Therapy	.24	1	.62
History of Oral Contraceptive Use	1.99	1	.16
Lifestyle and Risk Factor Variables			
Regular Exercise	.47	1	.49
Smoking History	2.34	2	.31
Chronic Conditions/Illnesses	.00	1	1.00
Regular Prescription Drug Use	.00	1	1.00
Regular Over-The-Counter Drug Use	.00	1	1.00
Major Stress in Past Year	3.70	1	.06
<u>Dyadic Age Difference</u>	-1.60	54	.97

<sup>a</sup>Test statistic for interval-level variables (i.e., age, number of persons in household, dyadic age difference) was *t*; test statistic for nominal-level variables was  $\chi^2$ .

Table E.2

Total Sample: Tests for Differences BetweenDaughter Nonparticipants (n = 8) and Daughter Participants (n = 49)

	Test Statistic <sup>a</sup>	d.f.	p
<u>Demographic Variables</u>			
Chronological Age	.14	55	.89
Number of Persons in Household	-.03	55	.97
Geographic Residence	1.24	6	.98
Marital Status	.80	3	.85
Education	1.90	2	.39
Income	4.26	6	.64
Employment Outside of Home	.01	1	.94
Major Caregiver Role	.06	1	.81
<u>Background Variables</u>			
<u>Menstrual/Reproductive and Menopausal Variables</u>			
Menstrual Cycle Variations	.00	1	1.00
Menopausal Status	.81	2	.67
Postmenopausal Status	.58	2	.75
Estrogen Replacement Therapy	.00	1	1.00
History of Oral Contraceptive Use	1.99	1	.16
<u>Lifestyle and Risk Factor Variables</u>			
Regular Exercise	.40	1	.53
Smoking History	1.65	2	.44
Chronic Conditions/Illnesses	1.02	1	.31
Regular Prescription Drug Use	.00	1	1.00
Regular Over-The-Counter Drug Use	.08	1	.77
Major Stress in Past Year	.00	1	1.00
<u>Dyadic Age Difference</u>	.29	55	.77

<sup>a</sup>Test statistic for interval-level variables (i.e., age, number of persons in household, dyadic age difference) was *t*; test statistic for nominal-level variables was  $\chi^2$ .

Table E.3

Dyadic Subsample: Tests for Differences Between Mother Individual Participants (n = 7) and Mother Dyadic Participants (n = 43)

	Test Statistic <sup>a</sup>	d.f.	p
<u>Demographic Variables</u>			
Chronological Age	.63	48	.54
Number of Persons in Household	.40	48	.69
Geographic Residence	3.24	6	.79
Marital Status	.32	3	.96
Education	.00	1	1.00
Income	10.86	7	.15
Employment Outside of Home	1.88	1	.17
Major Caregiver Role	1.06	1	.30
<u>Background Variables</u>			
<u>Menstrual/Reproductive and Menopausal Variables</u>			
Menstrual Cycle Variations	—	—	—
Menopausal Status	—	—	—
Postmenopausal Status	1.05	1	.31
Estrogen Replacement Therapy	.00	1	1.00
History of Oral Contraceptive Use	.00	1	1.00
<u>Lifestyle and Risk Factor Variables</u>			
Regular Exercise	.31	1	.58
Smoking History	2.27	2	.32
Chronic Conditions/Illnesses	1.13	1	.29
Regular Prescription Drug Use	.00	1	1.00
Regular Over-The-Counter Drug Use	.31	1	.58
Major Stress in Past Year	1.02	1	.31
<u>Dyadic Age Difference</u>	.10	48	.92

<sup>a</sup>Test statistic for interval-level variables (i.e., age, number of persons in household, dyadic age difference) was t; test statistic for nominal-level variables was  $\chi^2$ .

Table E.4

Dyadic Subsample: Tests for Differences Between Daughter Individual  
Participants (n = 6) and Daughter Dyadic Participants (n = 43)

	Test Statistic <sup>a</sup>	d.f.	p
<u>Demographic Variables</u>			
Chronological Age	1.81	47	.08
Number of Persons in Household	-.87	47	.39
Geographic Residence	7.18	6	.30
Marital Status	3.93	3	.27
Education	3.77	2	.15
Income	9.41	6	.15
Employment Outside of Home	.00	1	1.00
Major Caregiver Role	.07	1	.79
<u>Background Variables</u>			
<u>Menstrual/Reproductive and Menopausal Variables</u>			
Menstrual Cycle Variations	.00	1	1.00
Menopausal Status	1.16	2	.56
Postmenopausal Status	1.43	2	.49
Estrogen Replacement Therapy	.06	1	.81
History of Oral Contraceptive Use	.01	1	.95
<u>Lifestyle and Risk Factor Variables</u>			
Regular Exercise	.00	1	1.00
Smoking History	2.23	2	.33
Chronic Conditions/Illnesses	.78	1	.38
Regular Prescription Drug Use	.01	1	.95
Regular Over-The-Counter Drug Use	.01	1	.95
Major Stress in Past Year	.00	1	1.00
<u>Dyadic Age Difference</u>	-1.81	47	.08

<sup>a</sup>Test statistic for interval-level variables (i.e., age, number of persons in household, dyadic age difference) was t; test statistic for nominal-level variables was  $\chi^2$ .

**APPENDIX F**  
**GEOGRAPHIC DISTRIBUTION OF STUDY PARTICIPANTS**

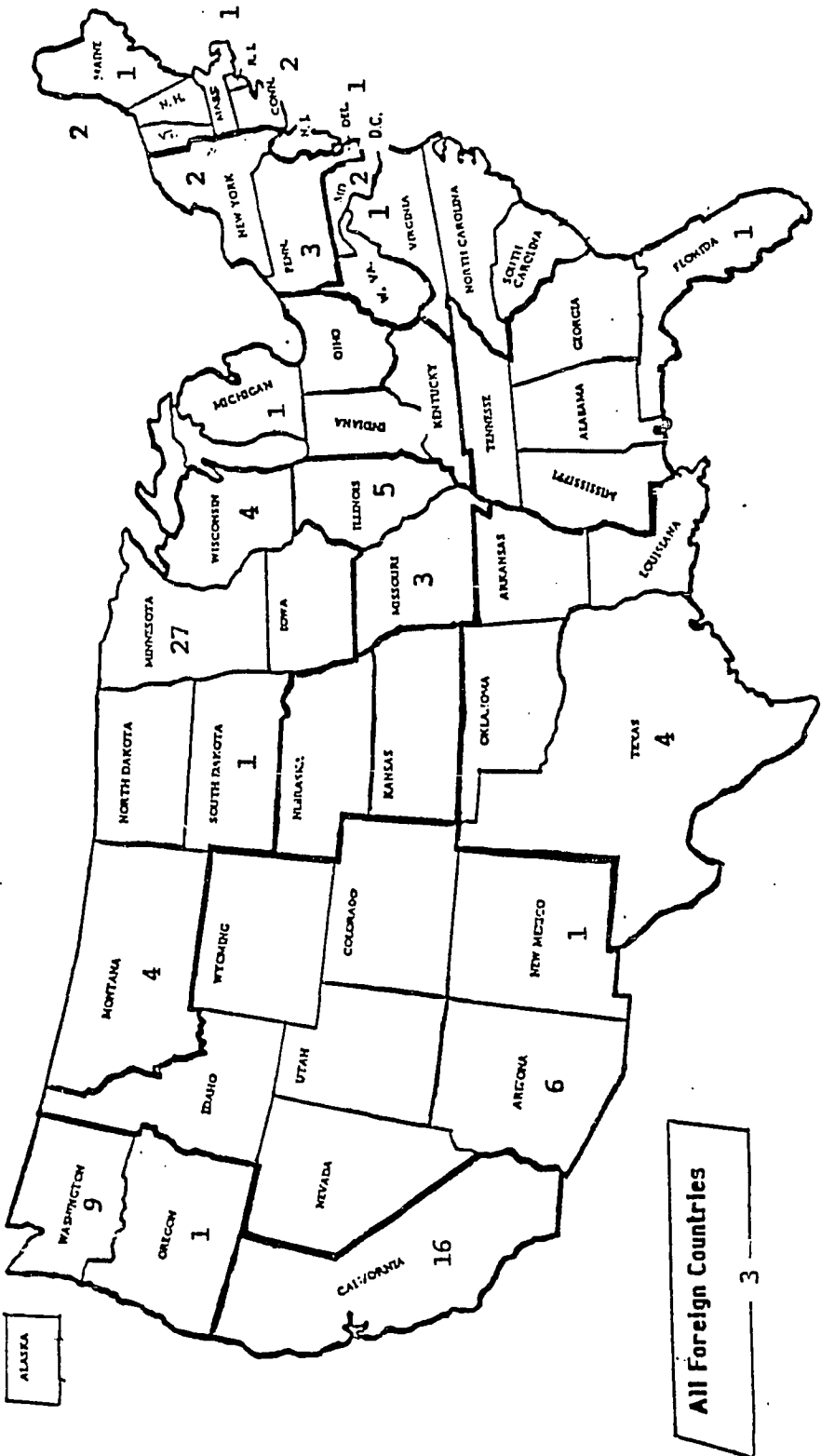


Figure F.1. Geographic distribution of study participants.

**APPENDIX G**  
**SUPPLEMENTAL TABLES**

Table G.1

Intercorrelations Between Total Relationship Scale and Subscales  
at T1 and T2 for Mothers and for Daughters

Subscale	Mothers				Daughters			
	T1 ( <u>n</u> = 49)		T2 ( <u>n</u> = 50)		T1 ( <u>n</u> = 48)		T2 ( <u>n</u> = 49)	
	2	3	2	3	2	3	2	3
1. Total Scale	.87	.96	.84	.91	.91	.94	.91	.97
2. Attachment	---	.72	---	.60	---	.81	---	.82
3. Intimacy		---		---		---		---

Note. All correlations (Pearson  $r$ ) significant at  $p < .001$ .

Table G.2

Intercorrelations Between Total Symptom Scale and Subscales  
at T1 and T2 for Mothers and for Daughters

	Mothers							
	T1 ( $\underline{n} = 50$ )				T2 ( $\underline{n} = 50$ )			
	2	3	4	5	2	3	4	5
1. Total	.94	.91	.66	.83	.95	.78	.75	.84
2. Blatt	---	.80	.73	.82	---	.73	.80	.75
3. Somatic	---	---	.43	.56	---	---	.44	.37
4. Psychosomatic	---	---	---	.53	---	---	---	.52
5. Psychologic	---	---	---	---	---	---	---	---

	Daughters							
	T1 ( $\underline{n} = 48$ )				T2 ( $\underline{n} = 49$ )			
	2	3	4	5	2	3	4	5
1. Total	.93	.73	.85	.88	.95	.87	.88	.94
2. Blatt	---	.55	.91	.87	---	.83	.88	.88
3. Somatic	---	---	.43	.36	---	---	.68	.68
4. Psychosomatic	---	---	---	.76	---	---	---	.79
5. Psychologic	---	---	---	---	---	---	---	---

Note. All correlations (Pearson  $r$ ) significant at  $p < .001$ , with the exception of (a) somatic-psychosomatic and somatic-psychologic for mothers at T2 ( $p < .01$ ), and (b) psychosomatic-psychologic for daughters at T1 ( $p < .01$ ).

Table G.3

Frequencies and Percentages of Sample Rating Direct and Indirect Socialization Influence of Mother as Negative, Neither Negative or Positive, and Positive and Tests of Association Between Mother as Direct and Indirect Source

	<u>Daughters</u> (n = 49)					
	Negative		Neither		Positive	
<b>Menstruation</b>						
Direct	11	22.4	10	20.5	28	57.1
Indirect	11	22.4	17	34.7	21	42.9
	$\chi^2 = 24.24, 4, p < .001$					
<b>Pregnancy/Reproduction</b>						
Direct	6	12.2	17	34.7	26	53.1
Indirect	6	12.2	32	65.4	11	22.4
	$\chi^2 = 14.66, 4, p < .01$					
<b>Menopause</b>						
Direct	4	8.1	24	49.0	21	42.9
Indirect	14	28.6	15	30.6	20	40.8
	$\chi^2 = 22.25, 4, p < .001$					
	<u>Mothers</u> (n = 46) <sup>a</sup>					
<b>Menopause</b>						
Direct	6	13.0	22	47.8	18	39.2
Indirect	10	21.7	18	39.1	18	39.2
	$\chi^2 = 30.41, 4, p < .001$					
<b>Postmenopause/Aging</b>						
Direct	3	6.5	26	56.5	17	37.0
Indirect	7	15.2	20	43.5	19	41.3
	$\chi^2 = 19.39, 4, p < .001$					

<sup>a</sup>Four mothers reported that their mothers had died prior to reaching menopause and postmenopause/aging.

Table G.4

Chi-Square Tests of Association for Socialization Influence  
of Mother Between Major Life Events, Processes and Stages

	$\chi^2$
<u>Daughters (n = 49)</u>	
Direct	
Menstruation-Pregnancy/Reproduction	35.51***
Menstruation-Menopause	12.17*
Pregnancy/Reproduction-Menopause	9.68*
Indirect	
Menstruation-Pregnancy/Reproduction	10.27*
Menstruation-Menopause	17.35**
Pregnancy/Reproduction-Menopause	2.72
<u>Mothers (n = 46)<sup>a</sup></u>	
Direct	
Menopause-Postmenopause/Aging	30.28***
Indirect	
Menopause-Postmenopause/Aging	30.67***

<sup>a</sup>Four mothers reported that their mothers had died prior to reaching menopause and postmenopause/aging.

\*p < .05. \*\*p < .01. \*\*\*p < .001.

Table G.5

Sources of Socialization Identified from Open-Ended Item and  
Ratings of Influence as Negative, Neither Negative or Positive, or  
Positive

Socialization Sources	Negative (n)	Neither (n)	Positive (n)
<u>Daughters</u>			
Menstruation			
father	1	1	1
boyfriend		2	1
husband			1
men in general		3	
school health class	1		2
own personal experiences	1		
product advertisement	1		
Pregnancy/Reproduction			
husband			1
childbirth education class			1
midwife			1
own professional education		1	
professional journals			1
own desires/values		1	
Menopause			
husband			1
<u>Mothers</u>			
Menopause			
husband			3
classes			1
own personal experiences			1
own professional education			2
professional journals			2
Postmenopause/Aging			
husband			1
family attitudes			1
nursing home environment	1		

Table G.6

Frequencies and Percentages of T1 and T2 Somatic, Psychosomatic,  
and Psychologic Symptom Experiences for Mothers and for Daughters

	Mothers				Daughters			
	T1		T2		T1		T2	
	( <u>n</u> = 49)		( <u>n</u> = 50)		( <u>n</u> = 48)		( <u>n</u> = 49)	
	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%	<u>n</u>	%
<b>Somatic Symptoms</b>								
hot flushes <sup>b</sup>	19	38.0	16	32.0	3	6.3	11	22.4
cold sweats <sup>b</sup>	9	18.0	5	10.0	2	4.2	5	10.2
weight gain	24	48.0	31	62.0	22	45.8	35	71.4
flooding	19	38.0	0	0.0	13	27.1	19	38.8
rheumatic pains <sup>b</sup>	8	16.0	36	72.0	3	6.3	12	24.5
aches in neck	14	28.0	30	60.0	9	18.8	21	42.9
cold hands and feet	21	42.0	29	58.0	20	41.7	25	51.0
numbness/tingling <sup>b</sup>	4	8.0	21	42.0	2	4.2	18	36.7
breast pains	13	26.0	5	10.0	10	20.8	30	61.2
constipation	22	44.0	18	36.0	16	33.3	18	36.7
diarrhea	12	24.0	18	36.0	11	22.9	17	34.7
skin crawls <sup>b</sup>	1	2.0	5	10.0	1	2.1	5	10.2
<b>Psychosomatic Symptoms</b>								
tired feelings <sup>b</sup>	28	56.0	44	88.0	21	43.8	40	81.6
headaches <sup>b</sup>	23	46.0	20	40.0	24	50.0	36	73.5
pounding of heart <sup>b</sup>	3	6.0	10	20.0	2	4.2	18	36.7
dizzy spells <sup>b</sup>	2	4.0	14	28.0	3	6.3	14	28.6
blind spots	5	10.0	7	14.0	2	4.2	7	14.3
<b>Psychologic Symptoms</b>								
irritable/nervous <sup>b</sup>	30	60.0	32	64.0	20	41.7	33	67.3
feel blue/depressed <sup>b</sup>	24	48.0	28	56.0	21	43.8	26	53.1
forgetfulness	16	32.0	43	86.0	8	16.7	22	44.9
excitable	31	62.0	30	60.0	19	39.6	22	44.9
trouble sleeping <sup>b</sup>	16	32.0	32	64.0	9	18.8	21	42.9
can't concentrate	10	20.0	28	56.0	7	14.6	17	34.7
crying spells	10	20.0	7	14.0	15	31.3	21	42.9
feeling suffocated	0	0.0	4	8.0	1	2.1	1	2.0
worry about body	12	24.0	29	58.0	14	29.2	32	65.3
feeling fright/panic	6	12.0	8	16.0	6	12.5	12	24.5
worry about	3	6.0	2	4.0	2	4.2	8	16.3
nervous breakdown								

Note. <sup>b</sup> indicates symptoms in the Blatt Menopause Index (BMI).

Table G.7

Means and Standard Deviations for T1 and T2 Physical, Sensory, and Functional Items of the General Health Perceptions Measure for Mothers and for Daughters

		Mothers ( <u>n</u> = 50)		Daughters ( <u>n</u> = 49)	
		T1	T2	T1	T2
Eyesight	<u>M</u>	7.99	5.94	7.86	5.84
	<u>SD</u>	2.02	2.01	2.57	2.29
Shape of Body	<u>M</u>	7.90	5.94	7.04	5.84
	<u>SD</u>	1.63	2.19	2.18	2.29
Teeth	<u>M</u>	7.80	6.80	7.88	7.37
	<u>SD</u>	2.03	2.25	2.09	2.60
Energy Level	<u>M</u>	8.44	6.04	8.15	7.20
	<u>SD</u>	1.47	2.06	1.70	2.10
Weight	<u>M</u>	7.88	6.64	7.31	6.04
	<u>SD</u>	1.93	2.22	2.21	2.51
Sex Life	<u>M</u>	7.36	3.42	2.23	6.31
	<u>SD</u>	2.47	3.41	2.85	3.16
Health	<u>M</u>	8.68	7.36	8.69	8.45
	<u>SD</u>	1.80	1.82	1.63	1.72
Hearing	<u>M</u>	8.92	7.26	9.38	8.57
	<u>SD</u>	1.44	2.52	1.10	1.93
Hair Condition	<u>M</u>	9.72	7.76	9.15	8.71
	<u>SD</u>	1.59	2.12	1.32	1.83

Note. Items were rated on a scale from poor (0) to excellent (10).

## BIOGRAPHICAL NOTE

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