

The Baby Boomers Meet Menopause: Fertility, Attractiveness, and Affective Response to the Menopausal Transition

Judy R. Strauss

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Abstract The purpose of this study was to identify social factors that affect women's concerns about menopause. Data from a sample of 1,037 baby-boomer women who took part in two waves of the Midlife in the United States survey (MIDUS) were utilized. Two waves of survey data were collected in 1996 and 2005 from a nationally representative sample of women born between 1946 and 1964 residing in the United States. Women's concerns about the effects of menopause on attractiveness, fertility, and the cessation of menstruation were examined. Analyses were replicated in Wave I and II of the study. Women who occupied multiple roles had fewer concerns about the loss of fertility. Women who had more symptoms were significantly more concerned about the effects of menopause on attractiveness. Concerns about the effects of menopause were also related significantly to women's age, education, and financial security.

Keywords Women's roles · Menopause · Attitudes · Longitudinal study · Baby boomer generation

Introduction

In the United States and many other industrialized societies, the middle years are known to be a time of upheaval as women change, add, or let go of roles (Brody 2004).

Divorce or loss of a spouse becomes more common between age 40 and 60. Children are usually leaving home at this time or, in some cases, adult children are coming back home to live, while other women in midlife are often called upon to care for elderly and sick family members (McQuaide 1998; Brody 2004). The purpose of the present study was twofold: first, to examine the relationship of attitudes to menopause and women's number of life roles and assumed role combinations. Second, the study examined the ways in which attitudes to menopause were shaped by women's age, experience of menopausal symptoms, education, and financial security. The present investigation will draw upon earlier investigations of factors that affect the menopausal transition among women in the United States in order to understand how social factors can shape attitudes to menopause among women in the baby-boomer generation. This study will build on prior studies that show how contextual factors, such as the multiple roles women occupy in contemporary society, age-related trends in experiences of menopause, education, financial security, and symptom levels, are related to women's identity and well-being. Unless otherwise noted, the research upon which this study was based was conducted in the United States. Finally, the present investigation will build on prior studies by addressing the neglected question of how these contextual factors are associated specifically with women's concerns about physical attractiveness and loss of fertility during menopause.

The menopausal transition marks the start of changes in hormone levels and menstrual cycles in women (Soules et al. 2001). There are three stages of menopause. *Perimenopause* is the first stage of the menopausal transition and the beginning of hormonal changes. On average, perimenopause starts in a woman's forties. Perimenopause, which usually lasts from several years until 12 months after a woman's last

J. R. Strauss (✉)
University of Phoenix, Jersey City Campus,
100 Town Square Place, Suite 305,
Jersey City, NJ 07310, USA
e-mail: Jrstr@phoenix.edu

period can be a long and difficult time for women. The average age of *menopause* for woman in the United States is 51. It is only once a woman has gone a full 12 months without a period that she can be fairly sure that she has been through menopause and is now in *postmenopause*.

The menopausal transition has far-reaching effects on women's health and well-being (Mansfield and Voda 1997). One of the most salient, yet understudied, aspects of the transition concerns changes in two areas that play a critical role in traditional notions of feminine identity and self-worth: i.e., physical attractiveness and fertility (Kittel et al. 1998; Mansfield et al. 2000; Rossi 2004). The meaning and value that women attach to changes in their appearance, and to the loss of fertility, during the menopausal transition may be of particular importance for understanding the impact of menopause on their lives. Early studies of women's attitudes to menopause (e.g., Neugarten et al. 1963) have documented the ways in which attitudes are intertwined with women's experience of the physical, social and psychological impact of menopause (Avis and McKinlay 1991; Hunter et al. 2003). Attitudes to menopause have been found to be systematically related to the social context in which women undergo the menopausal transition (Thiessen et al. 1995; Neugarten et al. 1963). Women who were younger, less educated, or from lower-income households tended to have more negative attitudes toward menopause. In particular, these contextual factors may affect the ways in which women experience issues related to physical attractiveness and fertility during menopause.

The present work will focus on the impact of the menopausal transition in the context of broader social changes that have taken place during the lives of women in the baby-boomer generation in the United States. The number of women undergoing the menopausal transition is increasing steadily, as middle-aged women in the baby boomer generation (born between 1946 and 1964) comprise one of the fastest growing age groups in the United States today (U.S. Census Bureau 2000). Women born between 1946 and 1964 grew up in a different social context than their parents. In particular, women in the baby boomer generation were more likely to be employed outside of the home, to have received higher levels of formal education, and to have deferred child birth, compared with their parents and grand-parents generation (Jacob 2002; Lee and Mather 2008; Mathews and Hamilton 2009). Empirical research on the contribution of multiple roles and other contextual factors will be reviewed below in order to frame the main hypotheses of this study.

Role Enhancement Theory

Role-enhancement theory (Thoits 1983) posits that multiple roles can promote human development by increasing

self-esteem, providing purpose and meaning in life, and increasing one's ability to develop deep connections with others. In addition to providing these cumulative benefits, multiple roles may also serve a protective function, so that when one role entails strain or disappointment, another role may be fulfilling. The perspective of role accumulation theory has received support from numerous studies of women's well being. Crosby (1991) published an extensive literature review on multiple roles and found that women who assume multiple roles are better adjusted and less prone to depression than women who have fewer roles in their lives. Barnett and Hyde (2001) also reviewed the literature on multiple roles. Their results indicated that there are different factors that impact whether multiple roles are beneficial for individuals. The authors found that assuming multiple roles gives one the ability to have multiple successes in some roles, while being able to withstand difficulties in other roles. It appears that having more than one role can act as a buffer, so that one role can compensate for another role if one is successful and the other is not. In the context of the menopausal transition, one would predict that women who occupy multiple roles might not have as much of their identity and self-worth invested in their physical appearance and fertility compared with women who occupy a more limited range of roles in which physical appearance and fertility are more salient.

Chrouser-Aherens and Ryff (2006) conducted research on multiple roles that has supported the role-enhancement hypothesis. The sample included 2,634 individuals (including men and women) from Wave I of the MIDUS survey who occupied up to eight roles each. Psychological well-being was measured in six areas (autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance); positive and negative effects were also measured. The results of hierarchical regression analyses supported the role-enhancement hypothesis, as greater role involvement was associated with greater well-being; the findings suggest that it was only well-educated women with multiple roles who showed higher levels of autonomy. Perceived control was also found to moderate some of the obtained associations. It is unclear if benefits of multiple-role involvement exist across all segments of the population. The research did show that it was the number of roles that one accumulates that was a predictor of well being. The present study will build upon the work of Chrouser-Ahrens and Ryff by extending the analysis of multiple roles to encompass women who participated in Wave I and Wave II of the MIDUS study and by focusing specifically on the ways in which multiple roles may attenuate women's concerns about attractiveness and loss of fertility during menopause.

Multiple Roles and Menopause Among Baby Boomers

In the United States, women baby-boomers have experienced substantial changes in the last several decades in their assumed roles and ability to choose when or if to assume certain roles. (McQuaide 1998), including marriage, motherhood, domestic work as a homemaker, care giving for parents and other family members, and paid employment. Changes in both the availability of multiple roles, as well as increased flexibility in choosing when during the life cycle each role will predominate, have shaped the attitudes of Baby Boomer women towards the loss of fertility during the menopausal transition, and have expanded the foundations upon which identity and self-worth are based.

Spouse and Motherhood

As important as fertility is to women in contemporary society, in earlier generations, marriage and motherhood were the predominant roles occupied by women for most of their adult lives. In the baby boomer generation, the impact of marriage on well-being may depend in part on the nature of the other roles that a woman holds. In the United States, women of the baby boomer cohort have had an unprecedented amount of discretion over the timing of motherhood and family size. They are more likely to have used oral contraceptives, and to have used them earlier, than their mother's generation (Ventura et al. 2000). Additionally, baby-boomers who delayed having children until later in life are now raising young children when they are further along in perimenopausal and menopausal stages than previous cohorts. These changes can affect women's attitudes towards the loss of fertility during the menopausal transition. It is also important to study how the accumulation of multiple roles in women of the baby-boomer generation might affect their attitudes to changes in physical attractiveness during menopause.

Homemaker

In Friedan's bestseller, *The Feminine Mystique* (1966), she asks, "Is the American Woman on a pedestal or in a trap?" In spite of hard-working husbands, lovely houses and beautiful babies and children, Friedan explained that women's lives were not the picture postcard they had imagined. She gave open-ended questions to 200 female classmates in 1957 and the responses showed that most of them felt their lives were shams, and they were far from the happiness they were supposed to feel. Any gratitude they felt for their privileged lives did not make up for the emptiness their lives represented (Friedan 1966).

Friedan defines the root of women's unhappiness as a romanticized image of femininity called the feminine

mystique. Friedan explains this as a larger problem which can lead to problems not only for women, but also for their families. According to Friedan, women have been taught to confine themselves to the narrow roles of housewife and mother, giving up on education and career aspirations at the same time. Friedan's point is that the feminine mystique denies women the opportunity to develop fully. The implication is that, even in 1966, a broader range of roles was considered by Friedan to be an enhancement.

Caregiver Roles and Menopause

As parents live to an older age, an increasing number of baby-boomer women are taking on the role of caregiver for a parent or other family member, even as the caregiver moves into and past menopause. During mid-life, many women assume care giving roles in addition to the multiple roles mentioned above. In particular, employment does not deter women from care giving (Brody and Schoonover 1986; Mathews et al. 1989; Moen et al. 1994). While the role of caregiver poses many challenges for women who occupy multiple roles, it does provide a social identity in which fertility and attractiveness are not emphasized.

Paid Employment

In the United States, levels of paid employment, particularly in full-time, career track jobs, increased to unprecedented levels during the lives of the Baby Boomer cohort (Lee and Mather 2008). The impact on women's well-being of combining paid employment with other roles has received considerable empirical attention. Illustratively, Barnett and Baruch (1985) found that married women with children who worked outside the home in highly prestigious jobs had more positive self-reports of well being compared to unemployed women with children, employed women without children and women with children who were not employed outside of the house. Employment appears to have a positive effect for many women who are also raising children (Thoits 1983, 1986; Barnett and Baruch 1985). The present study will pursue the notion that paid employment provides women with a source of identity and self-worth that is not based upon fertility and physical attractiveness, and thereby reduces women's concerns about changes in these areas during the menopausal transition.

Multiple Roles and Women's Well-Being During Menopause

Little direct attention has been given to the direct relationship between multiple roles and women's attitudes to changes in fertility and appearance during menopause.

Initial studies of the impact of paid work, however, suggest a relationship with experiences of menopause. Prill (1977) reports that 24% of the women who did not have a job outside the home suffered from severe menopausal symptoms, compared with only 8% of those who were working. Polit and Larocco (1980) also observed that women who were undergoing menopause who also worked full-time outside the home reported fewer menopausal symptoms. While these studies provide provocative evidence concerning the importance of multiple roles during the menopausal transition, greater attention to this issue is needed, particularly among baby-boomer women who are more likely than earlier generations to have varied role configurations.

Other Factors Affecting Women's Attitudes

Role enhancement theory suggests that women's attitudes to menopause may be shaped in profound ways by the social context in which this life transition occurs. From the perspective of role enhancement theory, participation in multiple meaningful roles promotes positive adjustment to menopause. Initial studies suggest that other contextual factors may shape women's attitudes towards menopause. Women's perceptions of menopause may vary according to their temporal perspective: is menopause an event that is being anticipated in the near future from a pre-menopausal perspective, or is it a process that has been experienced and understood from a post-menopausal perspective?

Younger women may be more fearful of the impending experience of menopause (Eisner and Kelly 1980; Kresovich 1980), and have more negative attitudes to menopause (Dege and Gretzinger 1982; Koff et al. 1990; Perlmutter and Bart 1982; Thiessen et al. 1995; Wilbur et al. 1995), compared with older women. Negative attitudes towards menopause may arise among younger women due to a lack of intergenerational communication about menstruation in general and menopause in particular (Stubbs and Costos 2004). What is not clear is if older women in these cross-sectional studies have more accepting attitudes based on their life experiences and adjustment to menopause over time, or whether older women perhaps have had more accepting attitudes due to differences in socialization in their youth and middle age. In cross-sectional research, differences in attitudes that arise from experience and perspective are confounded with differences that arise from prior socialization experiences concerning menopause. Only longitudinal research, which follows the same women over time, can disentangle the influence of aging on attitudes from cohort or generational shifts in attitudes to menopause. Scant attention has been given to the relationship between attitudes to menopause among women born in the baby boomer generation. The issue of

untangling age effects from cohort or generational change in attitudes may be particularly critical when studying women who grew up during a period of profound social change concerning women's roles and life opportunities.

Another potential contextual influence on women's attitudes to menopause is their socioeconomic status. Higher SES women may have more resources to cope with menopause, but they may also tend to see menopause as a medical problem rather than a normative life transition. Initial studies have found that women with less education and income tend to have more negative perceptions of the menopausal transition (Eisner and Kelly 1980; Neugarten et al. 1963). Women with less education and income may have more negative attitudes because they experience more severe menopausal symptoms (McKinley et al. 1987; Polit and LaRocco 1980). However, higher SES women are more likely to utilize hormone replacement therapy (Finley et al. 2001), suggesting that they may be more likely to view menopause as a medical condition (Leiblum and Schwartzman 1986). The effects of education and income on attitudes to menopause may merit particular attention among women in the baby boomer generation, who have increasingly attained higher levels of formal education than women in earlier birth cohorts, who have strived to attain higher levels of financial self-sufficiency through paid employment, and who have sought to attain occupational status and career success in ways that are not defined by their spouse's work.

Women's attitudes towards menopause may also be shaped by the frequency and severity of symptoms. Women who report more severe menopausal symptoms have more negative attitudes (Ayers et al. 2010). However, most studies in this area have focused on global attitudes toward menopause (e.g., Avis et al. 1997) or the connotative meaning of menopause (e.g., Wilbur et al. 1995). Relatively little attention has been given to the relationship of symptoms with women's attitudes to more specific and nuanced aspects of the menopausal transition, such as feelings of relief, or concerns about physical attractiveness. It is conceivable that symptom severity is associated differentially with positive feelings (e.g., relief at the cessation of symptoms) as well as negative feelings (e.g., concerns about physical attractiveness and loss of fertility).

The present study examined the ways in which social factors, including multiple roles, age, income, education, and symptom levels, impact women's concerns about menopause in a cohort of women who were born during the "Baby Boom" era (1946–1964). The influence of each of these factors on women's concerns was examined separately in two waves of data collected from this cohort. In order to assess the stability of the findings over time, the analyses were replicated at two time points separated by

9 years. In addition, the effects of aging on attitudes to menopause was assessed by examining change in attitudes among women who participated in both Wave I and Wave II of the MIDUS study using MANOVA and univariate analyses. Finally, to understand better the influence of multiple factors on women's attitudes to menopause, multiple regression was utilized to examine the unique contributions of roles, age, income, education, and menopausal symptoms to the prediction of attitudes in a nationally representative sample of women. Specifically, the following hypotheses were tested:

- Hypothesis 1: Women who occupy more roles exhibit greater relief and less concern about changes in physical attractiveness and fertility related to menopause.
- Hypothesis 2: Older women will exhibit greater relief and less concern about changes in physical attractiveness and fertility.
- Hypothesis 3: Women who have attained higher levels of education exhibit greater relief and fewer concerns about changes in physical attractiveness and fertility.
- Hypothesis 4: Women who report greater financial security will exhibit greater relief and fewer concerns about changes in physical attractiveness and fertility.
- Hypothesis 5: Women who report more frequent or intense menopausal symptom levels will exhibit more concerns about changes in physical appearance and fertility, as well as feelings of relief.

Method

Sample

The study employed data from the National Survey of Midlife Development in the United States (MIDUS). The MIDUS dataset was selected because it includes measures of menopausal attitudes, multiple roles, and the other key variables examined in this study. The MIDUS data are available from the University of Michigan website: The Inter-University Consortium for Political and Social Research (www.icpsr.umich.edu). This study contains two panels: MIDUS I (1994–96) and MIDUS II (2004–06). The sample for the present study consisted of 1,037 women who completed both waves of the MIDUS study, and who were born between 1946 and 1964. Technical information concerning the selection of the sample and data collection procedures is available from the MIDMAC website: (<http://midmac.med.harvard.edu/tech.html>).

Briefly, the initial MIDUS I panel was based on a nationally representative random-digit-dial sample of non institutionalized, English-speaking adults, aged 25 to 74, who had a working telephone number located in the coterminous United States. The response rate to the MIDUS I survey was 61%, based on the proportion of participants who completed both the telephone survey and self-administered questionnaires. Comparisons of the MIDUS I sample with census data suggest that African Americans and adults with a high school education or less are slightly under-represented. The sample is representative of the general population in terms of gender and marital status. All of the participants in the MIDUS I panel were contacted for the MIDUS II follow-up study. The longitudinal response rate for MIDUS II is 75%, adjusting for mortality.

Measures

Attitudes to Menopause

The present study focuses on the following concerns: a) concern with being able to reproduce; and b) concern with being attractive. To measure women's level of concern about these two issues, they were asked to respond to the question "How much do you worry about the following?" on a four-point scale (1 = *A lot*, 2 = *Some*, 3 = *A little*, 4 = *Not at all*). Women were asked to rate their level of concern about "Being too old to have children", and "Being less attractive as a woman". One additional question asked women whether they felt more relief or more regret when their menstrual periods end. Women were asked to respond to the following question regardless of whether their periods had stopped: "Women have different feelings about the time when their menstrual periods stop altogether. Which one of the statements below best describes your feelings about this?" Women responded on a six-point scale (1 = *Great relief*; 2 = *Some relief*, 3 = *Mixed feelings both relief and regret*, 4 = *Some regret*, 5 = *Great regret*, 6 = *No particular feeling one way or another*). Responses that indicated no feelings either way were recoded as neutral, and the relief/regret scale was then recoded so that higher ratings indicated relief.

Roles

Roles were computed by adding together the number of roles occupied by a woman. Thoits (1983) proposed that, in counting roles, prior research had typically analyzed spouse, parent and employee roles, and thus limited the analysis of role enhancement. In this study, four roles were counted: mother, caregiver, employee, and spouse. The following items were utilized to compute the total role

score. Whether a respondent occupied the role of wife was determined by the response to a question about whether she was married, separated, divorced, widowed, or never married (married = 1, any other response = 0). Respondents were coded as occupying the employee role if they indicated that they were currently working full-time at a job (yes = 1, no = 0). With regard to the mother role, women with no children were coded 0, women whose youngest child was 18 years old or more were coded 0.5, and women with children aged under 18 were coded 1. The coding of women as occupying the caregiver role was based on Chrouser-Aheren's and Ryff's (2006) definition. A caregiver is one who provides assistance to any of five different groups of individuals: 1) parents or the people who raised them; 2) parents-in-law; 3) grandchildren or grown disabled children; 4) any other family members or close friends; and 5) anyone else (such as neighbors or people at church). Respondents who indicated that they had provided care to any of these five individuals for at least 20 h per month were coded as 1 for the caregiver role, while all other respondents were coded 0. The multiple-roles variable was created by summing the total number of roles each respondent occupied (scores could range from 0 to 4).

Aging

In the cross-sectional analyses reported below, age serves as a proxy measure for aging. Women were asked to indicate the year in which they were born. Age was calculated by the reported year subtracted from the year of the survey. In the longitudinal analyses, ageing is directly measured by comparing responses to survey items collected 9 years apart.

Financial Comfort

Financial comfort was measured by one question that asked women "In general, would you say you (and your family living with you) have more money than you need, just enough for your needs, or not enough to meet your needs". For the present study, this item was recoded so that higher scores indicated greater financial comfort. In the regression analyses, financial adequacy was coded as a binary variable (0 = not enough money; 1 = enough or more than enough money).

Education

The education variable was combined into four discrete levels: (1) High School graduate or less; (2) Some College or an Associate's degree; (3) College Graduate; and (4) Post-Graduate degree.

Symptoms

A menopausal symptom scale based on the work of Rossi (2004) was used to obtain a score of symptoms for each respondent. Women were asked to rate how often they experienced each of five menopausal symptoms in the past 30 days (insomnia, heavy sweating, painful intercourse, hot flashes, and irritability). Women responded on a six-point scale (1 = *Almost every day*, 2 = *Several times a week*, 3 = *Once a week*, 4 = *Several times a month*, 5 = *Once a month*, 6 = *Never*). For this study, the total symptom score was recoded so that higher scores indicate *more frequent* symptom levels. The resulting scale score exhibited acceptable levels of internal consistency (Cronbach's alpha = .67 at Wave I and .65 at Wave II). Factor analyses of the items indicated that the menopausal symptom items formed a distinct factor separate from measures of overall physical health or attitudes to menopause.

Results

Sample Description

Descriptive statistics for the independent and dependent variables are shown in Table 1. In order to determine whether differences between Wave I and Wave II were significant, a Multivariate Analysis of Variance (MANOVA) was conducted for the following five interval variables: number of roles, symptoms, feelings of relief, concerns about fertility, and concerns about attractiveness. The results of the MANOVA indicated that differences between Wave I and Wave II were statistically significant, $F(1,985)=38.041$, $p<.001$. In order to determine whether specific dependent variables had changed over time, paired sample *t*-tests were utilized. The number of roles that participants occupied decreased significantly from Wave I to Wave II, $t(985)=6.078$, $p<.001$. Symptom scores increased significantly, $t(985)=20.022$, $p<.001$, indicating more problems with symptoms. Women reported having significant more feelings of relief at Time II, $t(985)=2.836$, $p<.01$, as well as less concern about the loss of fertility, $t(985)=9.489$, $p<.001$. No significant differences in concerns regarding attractiveness were found.

In order to determine whether levels of ordinal variables had changed from Wave I to Wave II, The Wilcoxon signed rank test was employed. This procedure was utilized to assess changes in education and financial security, which were measured on ordinal scales. The Wilcoxon procedure tests the hypothesis that the median score in Wave I is equal to the median score at Wave II. The Wilcoxon procedure is more appropriate than the

Table 1 Sample characteristics

Characteristic	Wave I		Wave II		<i>t</i> (df=985)
	M	SD	M	SD	
Age	39.92	5.53	48.87	5.48	
Number of roles	2.37	1.01	2.16	0.96	6.078***
Menopausal symptoms	1.90	0.87	2.58	1.04	20.022***
Feelings of relief	4.51	1.25	4.64	1.33	2.836*
Concerns about fertility	3.56	0.84	3.80	0.62	9.489***
Concerns about attractiveness	2.91	0.92	2.95	0.95	1.089
Characteristic	N	%	N	%	
Education					
HS graduate or less	354	34.2%	314	30.3%	
Some college	314	30.3%	316	30.5%	
4 or 5 yr. College grad	203	19.6%	204	19.7%	
Post college grad	164	15.8%	202	19.5%	
Wilcoxon signed ranks test $Z=-6.758$ ***					
Characteristic	N	%	N	%	
Financial comfort					
More money than needed	144	14.0%	241	23.4%	
Just enough money	573	55.5%	543	52.6%	
Not enough money	315	30.5%	256	24.0%	
Wilcoxon signed ranks test $Z=-6.227$ ***					

* $p<.05$; ** $p<.01$; *** $p<.001$

paired sample *t*-test when the dependent variable in the analysis is measured on an ordinal rather than an interval scale (Wilcoxon 1945). Between Wave I and Wave II, women reported significantly higher levels of Education (Wilcoxon Signed Ranks Test $Z=-6.758$; $p<.001$), and Financial Security (Wilcoxon Signed Ranks Test $Z=-6.227$; $p<.001$).

With few exceptions, women in Wave I were not post-menopausal. Only four women indicated that their periods had stopped due to menopause. By contrast, approximately two-thirds of the women in Wave II were post-menopausal, defined by having gone for a year or more without having a period.

Main Analyses: Hypothesis Testing

Multiple Roles

Hypothesis 1 states that women who occupy more roles have fewer concerns regarding attractiveness and fertility, and are more likely to experience relief than regret following menopause. Consistent with the predictions of Hypothesis 1, Number of Roles was significantly and positively correlated with ratings of the item “worries about fertility as you grow older” at Time I, $r(1008)=.16$, $p<.001$, and Time II, $r(1009)=.07$, $p<.05$. This finding suggests that women with more roles had fewer concerns toward the loss of fertility during menopause. Contrary to

the predictions of Hypothesis 1, the number of roles was not associated significantly with feelings of regret/relief, and concerns about attractiveness.

Age

Hypothesis 2 states that older women have fewer concerns about fertility and attractiveness, and were more likely to experience relief than regret following menopause. Hypothesis 2 received support from the analyses of relief following menopause and attitudes to loss of fertility. Consistent with the predictions of Hypothesis 2, age was significantly, and positively correlated with ratings of relief following the final period in Wave I, $r(1008)=.13$, $p<.001$, and Wave II, $r(1009)=.11$; $p<.001$. Also consistent with Hypothesis 2 was the finding that older women reported fewer concerns about being too old to have a child in Wave I, $r(1008)=.32$, $p<.001$, and Wave II, $r(1009)=.23$, $p<.001$. However, Hypothesis 2 received mixed support from the analyses of attitudes concerning attractiveness. Age had different effects on attitudes concerning attractiveness, depending on the state of menopause that women were in. In Wave I, when women were perimenopausal, age was not associated significantly with concerns about attractiveness. However, in Wave II, when women had undergone menopause, older women had fewer concerns about attractiveness, $r(1009)=.08$, $p<.05$. Cumulatively, these findings suggest that older women have fewer

concerns regarding menopause, particularly as they move further into the menopausal transition.

Because the MIDUS study collects data in two waves of study from the same cohort of women, it was also possible to see whether women's attitudes to menopause changed as they moved through menopause between Wave I and Wave II. In order to examine changes concerns about attractiveness and fertility, and feelings of relief, dependent-groups *t*-tests were utilized. As noted earlier in the preliminary analyses, ratings of two of the three items assessing attitudes to menopause showed significantly less concern about menopause at Wave II. Ratings of relief increased significantly from Wave I ($M=4.51$, $SD=1.25$) to 9 years later in Wave II ($M=4.64$; $SD=1.33$). The increase in ratings of relief following the last period was statistically significant, $t(985)=2.836$, $p<.01$. Ratings concerning the loss of fertility increased significantly from Wave I ($M=3.56$; $SD=.84$) to Wave II ($M=3.80$; $SD=.62$), indicating less concern at Wave II. The change in ratings of concern about the loss of fertility was significant, $t(985)=9.489$, $p<.001$. These findings are consistent with the predictions of Hypothesis 2, as are the findings reported above of a significant positive relationship between age, relief, and fertility. No significant differences were found between Wave I and Wave II in the degree to which women expressed concerns about physical attractiveness. The findings pertaining to concerns about attractiveness are not consistent with the predictions of Hypothesis 2.

Education

Hypothesis 3 suggests that Women who have attained higher levels of education have fewer concerns about attractiveness and fertility, and are more likely to experience relief following menopause. In order to examine the relationship between levels of education and each of these

items, one way ANOVAs were utilized. Separate analyses were conducted for Wave I and Wave II.

Hypothesis 3 was not supported by the results of these analyses. Indeed, the pattern of findings was opposite to the one predicted by Hypothesis 3. As shown in Table 2, women who were college graduates were *less* likely to report feelings of relief at the last period during the Wave I, $F(3,1006)=7.616$, $p<.001$, and Wave II data collections, $F(3,1007)=9.807$, $p<.001$. In addition, women who were college graduates reported *more* concerns regarding loss of fertility during Wave I, $F(3,1006)=7.245$, $p<.001$, though not in Wave II. No significant association was found between education and concerns about attractiveness.

Financial Adequacy

Hypothesis 4 states that women who report greater comfort with finances have fewer concerns regarding attractiveness and fertility, and are more likely to report relief following menopause. In order to examine the relationship between comfort with finances and each item, one way ANOVAs were conducted at Wave I and Wave II.

Hypothesis 4 received mixed support from the analysis of attitudes to loss of fertility, attractiveness, and relief (see Table 3). No significant differences in women's concerns were found in Wave I. However, in Wave II, women who reported that they had adequate financial resources reported less concern over loss of fertility, $F(2,1008)=5.603$, $p<.01$, and attractiveness, $F(2,1008)=4.513$, $p<.05$, in agreement with the predictions of Hypothesis 4.

Menopausal Symptoms

Hypothesis 5 suggests that women who report more frequent symptoms have more concerns regarding attractiveness and fertility. Negative correlations between the

Table 2 Attitudes to menopause and education

	Education								F
	High school or less		Some college		College graduate		Post graduate		
	Mean	(SD)	Mean	(SD)	Mean	(SD)	Mean	(SD)	
Relief									
Wave I	4.67 _a	(1.25)	4.61 _a	(1.28)	4.27 _b	(1.22)	4.24 _b	(1.20)	9.007***
Wave II	4.86 _a	(1.32)	4.77 _a	(1.27)	4.43 _b	(1.33)	4.30 _b	(1.36)	9.953***
Fertility									
Wave I	3.67 _a	(0.74)	3.61 _a	(0.80)	3.48 _{a,b}	(0.88)	3.33 _b	(1.01)	7.245 ***
Wave II	3.84	(0.57)	3.81	(0.60)	3.80	(0.62)	3.70	(0.73)	2.120
Attractiveness									
Wave I	2.91	(0.93)	2.91	(0.92)	2.94	(0.90)	2.89	(0.94)	0.087
Wave II	2.98	(0.97)	2.98	(0.98)	2.92	(0.88)	2.88	(0.97)	0.586

F values test the significance of differences between levels of education using a one-way analysis of variance. Cells with different subscripts differ significantly ($p<.05$) according to Tukey post-hoc comparisons. Wave I $df=(3,1006)$; Wave II $df=(3,1007)$

* $p<.05$; ** $p<.01$; *** $p<.001$

Table 3 Financial adequacy and attitudes to menopause

	Financial adequacy						F
	Not enough money		Just enough money		More money than you need		
	M	(SD)	M	(SD)	M	(SD)	
Feelings of relief							
Wave I	4.59	(1.34)	4.47	(1.21)	4.41	(1.24)	1.275
Wave II	4.62	(1.44)	4.68	(1.29)	4.54	(1.31)	0.931
Fertility							
Wave I	3.48	(0.91)	3.60	(0.80)	3.57	(0.81)	2.234
Wave II	3.68 _a	(0.75)	3.82 _b	(0.59)	3.86 _b	(0.54)	5.603**
Attractiveness							
Wave I	2.86	(0.96)	2.93	(0.89)	2.97	(0.95)	0.807
Wave II	2.79 _a	(1.09)	3.00 _b	(0.90)	2.99 _b	(0.91)	4.513*

F values test the significance of differences between levels of financial security using a one-way analysis of variance. Cells with different subscripts differ significantly ($p < .05$) according to Tukey post-hoc comparisons. Wave I $df = (3, 1006)$; Wave II $df = (3, 1007)$. * $p < .05$; ** $p < .01$; *** $p < .001$

frequency of symptoms and ratings of attitudes concerning physical attractiveness and fertility are consistent with the predictions of Hypothesis 5. Consistent with the predictions of Hypothesis 5, women who reported more frequent menopausal symptoms were more likely to report concerns about the impact of menopause on attractiveness at Wave I, $r(1008) = -.16, p < .001$, and Wave II, $r(1009) = -.08, p < .05$. No significant relationship was found in either wave between the frequency of menopausal symptoms and concerns about loss of fertility. Hypothesis 5 also suggested that women who reported more menopausal symptoms were more likely to report relief following the last period. Consistent with this suggestion, higher symptom levels were associated with relief at Wave I, $r(1008) = .14, p < .001$, and Wave II, $r(1009) = .12, p < .001$.

Regression Analyses

Multiple regression analyses were conducted to examine the unique contributions of independent variables to the prediction of attitudes to menopause. Given the number and scope of variables that predict attitudes, it was important to identify those predictors that had significant unique effects on each attitudinal variable after controlling statistically for the effects of the other independent variables. All independent variables with significant effects at either Wave I or Wave II were entered into the model: i.e., number of roles, age, education, perceived financial comfort, and symptoms.

Based on the results of the ANOVA analyses, financial comfort were categorized into two levels: not enough money versus enough money and more than enough money. Education level was entered as a continuous variable. Separate analyses were performed for concerns about fertility, attractiveness, and feelings of relief at Wave I and Wave II. Correlations between predictor variables in the model were modest, as shown in Table 4, suggesting that multicollinearity among the independent variables is not likely to be a problem. In order to assess potential problems of multicollinearity, the tolerance and variance inflation factor (VIF) statistics for each analysis were inspected.

For Wave I, the regression equation accounted for a significant portion of the variance in feelings of relief, $R^2 = .05, F(5, 1004) = 10.522, p < .001$, fertility, $R^2 = .169, F(5, 1004) = 40.889, p < .001$, and attractiveness, $R^2 = .027, F(5, 1004) = 5.474, p < .001$. Collinearity diagnostics revealed no problems with multicollinearity among the predictor variables. All VIF statistics were substantially lower than 4, suggesting that estimates of the model parameters were not inflated by shared variance between predictors (Fox 1991). The regression parameters are shown in Table 5. The model accounted for 16% of the variance in concerns about fertility. After controlling for the effects of all other variables in the model, age, education, number of roles, and financial comfort all made unique contributions to the prediction of concerns about

Table 4 Correlations among predictor variables

	AGE	EDU	ROL	SYM	FI
Age	–	–.06	–.25***	.14***	–.01
Education Level (EDU)	.01	–	.06	–.17***	.16***
Number of Roles (ROL)	–.12***	–.12***	–	–.10**	.09**
Symptoms (SYM)	.11***	–.18***	–.04	–	–.10**
Financial Comfort (FIN)	–.02	.12***	–.02	–.16***	–

Correlations among predictors at Wave I are presented below the diagonal, correlations at Wave II are presented above the diagonal * $p < .05$, ** $p < .01$, *** $p < .001$

Table 5 Multiple regression for attitudes to menopause at Wave I and Wave II

Variable	Wave I		Wave II	
	β	t	β	t
Feelings of relief				
Age	.13	4.00***	.10	3.03**
Education level	-.13	-4.00***	-.15	-4.66***
Number of roles	.02	.64	.04	1.11
Symptoms	.10	3.16**	.10	2.95**
Financial comfort	-.01	-0.39	.05	1.44
Overall Model F	10.522***		9.468***	
Fertility				
Age	.35	11.98***	.26	8.11 ***
Education level	-.14	-4.67***	-.08	-2.53*
Number of roles	.19	6.44 ***	.13	4.03***
Symptoms	-.01	.02	-.02	.49
Financial comfort	.09	3.22***	.10	3.25***
Overall Model F	40.889***		17.929***	
Attractiveness				
Age	.04	1.17	.09	2.60 **
Education level	-.03	-.99	-.06	-1.90
Number of roles	.01	.24	-.01	-0.16
Symptoms	-.16	5.02***	-.08	2.50*
Financial comfort	.02	50	.09	2.75**
Overall Model F	5.474***		7.840 ***	

* $p < .05$; ** $p < .01$; *** $p < .001$;
Wave I $df = (5, 1004)$, Wave II $df = (5, 1005)$

fertility. Women with fewer concerns about fertility were older, less educated, had more roles, and were more financially established. The model accounted for a more modest portion of the variance in feelings of relief and concerns about attractiveness. Women who were more likely to express relief were older, less educated, and had more frequent menopausal symptoms. Only symptom levels predicted levels of concern about attractiveness: women with fewer symptoms were less concerned about the effect of menopause on physical attractiveness.

For Wave II, the regression equation accounted for a significant portion of the variance in feelings of relief, $R^2 = .046$, $F(5, 1005) = 9.648$, $p < .001$, fertility, $R^2 = .082$, $F(5, 1005) = 17.929$, $p < .001$, and attractiveness, $R^2 = .019$, $F(5, 1005) = 7.840$, $p < .001$. Collinearity diagnostics again revealed no problems with multicollinearity among the predictor variables: VIF values were consistently lower than 4. The model parameters are shown in Table 5. In Wave II, as in Wave I, age, education, roles, and financial comfort made significant unique contributions to the prediction of concerns about the loss of fertility: women with fewer concerns about fertility were older, less educated, had more roles, and were more financially established. As in Wave I, women who were more likely to express relief were older, less educated, and had poorer symptom levels. As in Wave I, symptom levels were a

consistent predictor of concerns about the effects of menopause on attractiveness, only in Wave II, age and financial comfort contribute to the prediction of attitudes concerning attractiveness as well.

Discussion

The main prediction of the present study was that women with multiple roles would negotiate the menopausal transition with fewer concerns about fertility and attractiveness, and a general feeling of relief. The predictions of role enhancement theory were born out in the analyses predicting concerns about loss of fertility. Consistently, in Wave I and Wave II, multiple roles were the most powerful predictor of concerns about fertility. By contrast, multiple roles were not related significantly to concerns about physical attractiveness or to feelings of relief about menopause.

Other contextual factors were associated with feelings of concern about fertility and attractiveness, as well as relief. Consistent with Hypothesis 2, older women had fewer concerns about fertility, and were more likely to experience relief. In addition, in Wave II, older women had fewer concerns about attractiveness. The findings of the present study contradict Hypothesis 3. In Wave I, women with less

education had fewer concerns about the effects of menopause on fertility. In both Waves, women with less education were more likely to express relief after menopause. Hypothesis 4 received partial support in Wave II. Older women who had more financial security expressed fewer concerns about attractiveness and fertility. Consistent with Hypothesis 5, women who experienced more menopausal symptoms expressed fewer concerns about attractiveness. However, contrary to prediction, women with more symptoms were more likely to express relief following menopause. The findings for each of the above factors will be discussed in turn.

Multiple Roles and Effects of Menopause

This study provides some support for the concept that more roles can impact women positively and give them greater opportunities throughout their reproductive history. Women with multiple roles reported significantly fewer concerns about the loss of fertility. This finding supports the view of role enhancement or accumulation theory that multiple roles provide women the ability to find different kinds of satisfaction from their various roles or the combination of roles they assume, creating more balance in their lives (Coser 1961; Marks and MacDermid 2004). Multiple roles are thought to have a protective function for women to the extent that difficulties in one role may be compensated by success and fulfillment in alternative roles (Thoits 1983; Marks and MacDermid 2004). However, most of the research on the impact of multiple roles during menopause has examined their effects on women's physical and psychological symptoms. The findings of the present study are among the first to suggest a direct link between multiple roles and attitudes to the loss of fertility during menopause. Multiple roles appear to serve a protective function with regard to concerns over the loss of fertility because women are provided with numerous meaningful social identities that are not based on fertility and childbirth.

Age and Attitudes to Menopause

Consistent with expectations, older women had fewer concerns about menopause. Numerous studies have reported that concerns about menopause tend to be lower among older women (Neugarten et al. 1963; Kresovich 1980; Eisner and Kelly 1980). A large proportion of younger women are pre-menopausal or peri-menopausal. At this stage in life, menopause is a life transition that has yet to be experienced, much less assimilated. The physical, social and emotional changes associated with menopause are often the focus of anticipatory anxiety. One of the highlights of studying the same women at two different time points is that we get to look at the effects of aging by

examining change in women's attitudes and concerns across time, as well as conducting cross-sectional analyses. The results of the present study not only replicate the cross-sectional findings from prior studies suggesting that women have more positive attitudes as they grow older; they also extend the results of these studies in two ways. First, the present study demonstrates the effects of aging on attitudes in a longitudinal framework, following the same baby boomer women over time. Cross-sectional findings that appear to link aging with attitudes are open to an alternate explanation: i.e., those differences between older and younger women reflect initial cohort differences in socialization concerning menopause, rather than the effects of aging. In a purely cross-sectional study, it would be difficult to rule out the possibility that the older women in the sample might have always held more positive attitudes to menopause, even when they were younger, because of ways in which women born in the earlier years of the baby boomer might have been socialized. Because the present study follows the same sample of women for almost 9 years, we can document the fact that these women's attitudes indeed became more positive as they aged.

The findings presented above build on earlier work on aging and attitudes in another way. The results of the multiple regression analyses suggest that age has significant unique effects on attitudes, after controlling for the effects of other variables that are associated with attitudes toward menopause (i.e., multiple roles, symptoms, education, and financial comfort). This finding suggests that the association of age with attitudes is not explained by changes in these other social and demographic variables that may occur, as women grow older. Because the longitudinal analyses show significant effects for aging on women's attitudes, we can be more confident that the effects of age in the cross-sectional analyses reflect aging rather than prior differences in socialization.

Education

Contrary to expectations, less educated women had fewer concerns about menopause. Prior studies (McKinley et al. 1987; Dege and Gretzinger 1982; Leiblum and Schwartzman 1986) suggest that more educated women have lower symptom levels. However, patterns that have been found in research on symptom levels do not appear to generalize to attitudes toward menopause. A possible explanation for this unexpected finding might be that women with greater exposure to information about menopause, as well as access to medical care, may have more trepidation about the process and outcome of the menopausal transition. The view of menopause as a medical problem, rather than a normative transition, may have become more pervasive in recent decades (Mansfield and Voda 1997). On the other hand

women, with less exposure to information, and less access to medical care, may have less preconceived notions of what to expect and therefore may better attitudes towards the experience. In that case, less educated women may not be as socialized as better educated women into the viewpoint that menopause is a negative life transition.

Financial Security and Attitudes

Financial security played a greater role in shaping the attitudes and concerns of older women. In Wave II, women who reported more financial security also expressed fewer concerns regarding loss of fertility and their attractiveness. Prior research has found that women who have the greater financial security have fewer concerns about menopause (Leiblum and Schwartzman 1986; McQuaide 1998). However, these investigations have not accounted for this relationship in terms of women's financial needs at different stages of their lifespan. The findings of the present research suggest that financial security may have somewhat greater importance for older women than for younger ones. Potentially, financial security may be more important for women as they approach retirement age. With fewer working years left before retirement, older women have less chance to add to their pensions, unless retirement is deferred.

Symptom Levels and Attitudes

Symptom levels had mixed effects on attitudes towards menopause. Women who reported lower symptom levels were less likely to report relief following the last period, possibly because they experienced less physical discomfort and distress during the perimenopause. On the other hand, women with lower symptom levels reported significantly fewer concerns about the effects of menopause on their attractiveness.

Limitations of the Present Work and Directions for Future Research

The findings of the present study suggest a number of further lines of inquiry for clinical practice and theory. The following suggestions for practice may be viewed as tentative proposals for further research, in view of salient limitations to the findings from the present study. First, in many of the areas discussed below, the present work has examined new connections between the context of women's lives and their attitudes to menopause that await further replication. Further, the effect sizes obtained in the present study are typically modest, in the sense that less than ten percent of the variance in measures of women's attitudes is explained by the independent variables. The modest effect

sizes obtained may be due in part to the use of single-item indicators for the dependent variables, as well as modest reliability in the multi-item measures of menopausal symptoms (Cronbach's $\alpha < .7$). Stronger effect sizes might have been obtained if all constructs had been assessed with reliable, multi-item measures. Much greater attention is also needed to the quality of women's roles as paid employees, caretakers, spouses, parents, and community members. The literature on role enhancement calls attention to the fact that the quality of roles, and not just the total number, influences women's well-being. Illustratively, husbands may provide varying levels and types of social support for their wives during the menopausal transition (Mansfield et al. 2003). The present study used a dataset (MIDUS) that did not provide information on the quality of roles. Future research on role enhancement and adjustment to menopause may benefit from including measures of role quality as well as role strain. Similarly, information about women's desire to bear children, and their feelings about menstruation, would be helpful. Finally, certain limitations on the cross-cultural generality of these findings should be noted. This study utilized data that was collected entirely within the United States. The social context of menopause in other societies might not be well represented in these data. In particular, many of the social changes that have affected women in the Baby Boom generation in the United States, such as increased full-time labor force participation and choice over roles, may not have occurred to the same extent in many societies.

This study improves our understanding of the impact of different and multiple roles on attitudes to menopause. While numerous studies have focused on multiple roles or on menopause, there have been relatively few focusing strictly on women's multiple roles and menopause together that are not intermingled with medical literature about menopause. In addition, studies focusing on medical measures of menopausal symptoms do not explore the impact of changing roles or multiple roles on menopausal women's attitudes. Within the social sciences, some attention is now being paid to menopausal women of different social populations, such as the study by Tuchman (2007) of menopausal methadone-users, or McQuaide's (1998) work. The present study is one of the first to identify multiple roles as an important factor in shaping attitudes to menopause in the general population of women.

The Culture of the Baby Boomers and Attitudes to Menopause

Attention to the impact of multiple roles on attitudes to menopause may be particularly important for understanding the impact of menopause on women in the baby-boomer generation. Women born between 1946 and

1964, the baby-boomer generation, have led very different lives than previous cohorts that have been studied regarding the impact of menopausal aging on women's overall health and well-being. Women of this cohort have had more choices about if and when to assume various life roles (Brody 2004). Some of these options have led to happier lives and more freedom. However, more challenging roles such as caregiver are often thrust upon baby-boomers midlife women with little notice or choice, but with far-reaching consequences.

A particular point of interest with regards to menopause and attitudes to menopause was the impact of aging. If menopause is to be evaluated as a normal life process, it needs to be included in the literature on aging. McQuaide (1998) refers to menopause as "...the quintessential biopsychosocial experience. It is both crisis and opportunity" (p. 132). Significant results from the current study indicate that age is a variable closely related to attitudes to menopause; the older a woman is the better she feels about menopause. Younger women in the baby-boomer generation may be having a harder time accepting the various changes, physically and psychologically that come along with menopause. From Neugarten et al. (1963) to more recent work (e.g., Avis and McKinlay 1991; Wilbur et al. 1995), it seems that as women mature, and progress through the menopausal life transition, their attitudes reflect more acceptance, resilience, and a more positive outlook. Clinicians who are aware that age ameliorates concerns about menopause will have a better understanding of what symptoms mean when women complain in the middle years. Practitioners interfacing with menopausal women who are aware of the impact of multiple roles can better recognize when women are in need of medical care or if they are simply passing through a difficult period and can expect more a positive outlook as the menopausal transition proceeds.

The present investigation can also be extended longitudinally. The data can be further analyzed when another round of the MIDUS study is continued to further waves. The longitudinal structure of this dataset allows us to consider ways in which roles, timing and stages of menopause, demographic characteristics, and experiences of symptoms in Wave I affect trajectories of change in attitudes to menopause, as well as the ways in which attitudes may be shaped by changes in role configurations between Wave I and subsequent waves (e.g., finding of employment or loss of a spouse).

At present in this country midlife women are transitioning through menopause in a youth-oriented society. DeAngelis points out, "Women at midlife remain an oddly invisible group. Despite the strides they have made in living lives of meaning and power, youth still reigns supreme, as popular TV shows and magazine covers attest"

(2003, p. 14). This study can make menopausal aging, which is considered the last stage of a woman's reproductive cycle, more visible in mental health training and research, and will help mental health care practitioners to develop a fuller understanding of the biological, psychosocial, and emotional issues that baby-boomer women face while transitioning through menopause.

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