MARRIAGE, STRESS AND MENOPAUSE: MIDLIFE CHALLENGES AND JOYS

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Abstract: This study investigated the relationship of two contextual variables (the marital relationship and stress) with the experience of menopause for 224 married midlife women. These women completed the Dyadic Adjustment Scale, the Quality of Relationship Inventory, the Women's Health Questionnaire, the Index of Sexual Satisfaction, and the Life Events Questionnaire for Middle-Aged Women. Marital quality, marital satisfaction, and stress predicted menopausal symptomatology. Women in dissatisfying marriages, characterized by less social support, less depth, and higher conflict, reported increased stress and more menopausal symptomatology than did women in satisfying marriages. Sexual satisfaction was positively related to marital satisfaction. No differences were found due to menopausal stage. These findings suggest that relationship variables may override menopausal status in importance as midlife women move through the menopausal transition.

Key words: women, menopause symptomatology, marital quality, stress.

Casamento, *stress* e menopausa: Desafios e prazeres da meia-idade (resumo): Este estudo investigou a relação de duas variáveis contextuais (a relação conjugal e o *stress*) com a experiência de menopausa em 224 mulheres de meia-idade, casadas. As mulheres responderam à Dyadic Adjustment Scale, Quality of Relationship Inventory, Women's Health Questionnaire, Index of Sexual Satisfaction e Life Events Questionnaire for Middle-Aged Women. A qualidade conjugal, a satisfação conjugal e o *stress* permitiram prever a sintomatologia menopáusica. As mulheres com casamentos insatisfatórios, caracterizados por menos suporte social, menor profundidade e maior conflito, referiram um aumento de *stress* e mais sintomatologia menopáusica do que as mulheres com casamentos satisfatórios. A satisfação sexual está positivamente relacionada com a satisfação conjugal. Não se encontraram diferenças devidas ao estatuto de menopausa. Estes resultados suge-

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PSICOLOGIA, Vol. XIX (1-2), 2005, Edições Colibri, Lisboa, pp. 87-106

rem que quando as mulheres atravessam a transição da menopausa, as variáveis relacionais podem ultrapassar em importância o estatuto de menopausa.

Menopause – if women live long enough, they will experience it. From a biomedical perspective, the menopausal process is depicted as the deterioration of women's ability to reproduce. Other factors, however, are integral to the menopausal transition, and more than just biological changes need to be considered when trying to understand how women experience menopause. This study examined how contextual variables in a woman's life are related to her experience of menopause. Although several contextual factors can affect adjustment to menopause, of interest in the current study were the marital relationship and stress.

Increasingly, researchers have demonstrated that it is not just being married but the quality and interactions within the marriage that positively or negatively influence the physical and mental health of spouses. In a survey of 1004 couples, Schmoldt, Pope, and Hibbard (1989) reported a positive relationship between cohesive, cooperative, and companionable marriages and the general health and well-being of marital partners. Similarly, Levenson, Carstensen, and Gottman (1993) found that couples in satisfying marriages had better physical and psychological health than those in dissatisfying marriages. For couples who reported being dissatisfied, the wives had significantly lower levels of both physical and psychological health than their husbands. Even in earlier research (Gove, Hughes, & Briggs-Style, 1983), being unhappy in one's marriage was found to be more detrimental to one's psychological well-being than being single, divorced, or widowed. Marital relationship quality has emerged as an important contextual variable needing to be considered when studying women's lives.

Increasingly, marital quality is being linked to women's health concerns. In studies of women with breast cancer, the buffering effects of a supportive marital relationship in the adjustment processes have been demonstrated (Gove, Briggs-Style & Hughes, 1990; Hibbard & Pope, 1993; Hoskins *et al.*, 1996). Even more significant is the research reporting the negative impact of unhappy marriages on women's health (Fielder, 1998; Manne & Zautra, 1989; Roth-Roemer & Robinson Kurpius, 1996; Spiegel, Bloom, & Gottheil, 1983). Although menopause is a life transition and not a disease, it has strong health-related components. For example, research has shown that women in unhappy marriages experience more menopausal symptomatology such as sleep disturbance and vasomotor problems (Robinson Kurpius *et al.*, 2001).

Research by Kiecolt-Glaser and colleagues (1993) sheds light on the biological effects of being in a conflictual relationship. They found T-cell suppression and impairment of immune system functioning during negative and hostile marital interactions. It is evident from their findings that relationships wrought with tension and conflict may have a particularly negative impact on women's health and well-being.

Another aspect of a marital relationship related to women's experiences of menopause is sexual satisfaction. It is widely assumed that biological components, especially the naturally occurring depletion of hormones that signify the onset and course of menopause, are largely responsible for changes in midlife women's sexual behavior and satisfaction (Abernethy, 1997). There is, however, evidence that midlife women's sexual functioning and satisfaction are influenced by psychosocial considerations as well (Channon & Ballinger, 1986). Mansfield, Koch, and Voda (1998) found that sexual difficulties during peri-menopause may stem more from dissatisfying marital relationships than from the physical symptoms concomitant with menopause. While 60% of their women did not report changes in their sexual responsiveness due to menopause, they did identify qualities of their relationships that they would like to change, including improved passion, more romance and affection, and better communication.

Midlife women's sexual satisfaction may also be related to their menopausal status. Studying menopausal status, menopausal symptomatology, and various aspects of sexual functioning in midlife women, Cawood and Bancroft (1996) reported that hot flashes, night sweats, vaginal dryness, and reduced interest in sex were each significantly correlated with menopausal stage, with post-menopausal women reporting the worst symptomatology. No relationship, however, was established between menopausal status and frequency of sexual intercourse, pain during intercourse, and frequency of sexual thoughts. Interestingly, the women who identified themselves as being satisfied with their marriages reported fewer menopausal symptoms related to sexual functioning than did those who were less satisfied. In addition to studying the interaction of marital quality with the experience of menopause, it is also important to take into consideration the sexual component of the marital relationship.

A second contextual variable that may be related to the experience of menopause is stress. Stress is often credited with causing hot flashes, a commonly reported and often distressing menopausal symptoms (Vliet, 1995). Swartzmann, Edelberg, and Kemmann (1990) challenged this causal assumption when they found that women were not more likely to report hot flashes following several stressors than they were at the beginning of a session designed to elicit a stress response. Saab, Matthew, Stoney, and

McDonald (1989) offered an interaction hypothesis. They found that post--menopausal women, as compared to pre-menopausal women, exhibited increased cardiovascular responses to behavioral stressors and that menopausal status interacted with the nature of stressors to moderate the stress response. It is, therefore, important to consider the nature of the stressors when studying stress and menopausal symptomatology.

Stressors, particularly those heightened by relationship variables, may play an important role in midlife women's lives. In the early 1980s, Greene and Cook conducted two studies examining stress and menopausal symptomatology. In the first study, Greene and Cooke (1980) found that while women may experience increased menopausal symptomatology across the climacterium, the severity of symptoms was directly related to life stressors, not to menopausal status. Their second study demonstrated an additive effect for the type of life-event stressors that commonly occur during the midlife years (Cooke & Greene, 1981). More recently, Peterson and Schmidt (1999) found that midlife women who reported increased stress due to sleep problems, home stress, and financial stress also reported stress related to sex difficulties. When cross-sectional data were examined, peri-menopausal women who reported increased stress related to their sexual relationship also reported greater sleep difficulties and increased stress related to marital problems. These relationships were not found for the pre-or post-menopausal groups.

It is reasonable to assume that stress and marital quality can be interactive. For example, the importance of relationship quality as a buffer against stress was demonstrated by Craddock (1996) who found that couples experiencing lower stress reported higher levels of satisfaction with the quality of their marriages and with their immediate and extended families than did couples experiencing higher stress. After a year, couples who had reported higher stress reported greater deterioration in marital quality and family relationships than did those who had reported lower stress. This suggests a reciprocal process between stress and relationship quality.

Another area that may cause stress stems from the multiple demands on midlife women, particularly those as wife (Franks & Stephens, 1992). About 60% reported lack of companionship with their husband and conflict over childrearing practices as top stressors. Over half also identified poor communication, not enough appreciation from the husband, and the unavailability of the husband as stressful. Approximately 40% complained about their husband's emotional or job problems, about not getting along with their husband, and about sexual relationship problems. Increased stress from a variety of sources, particularly a husband, was related to poorer well-being. Friedemann and Webb (1995) also found that the

quality of marital and family relationships was implicated in the ability of women to cope with life stressors. Factors that contributed to feelings of cohesion and togetherness in their relationships appeared to buffer them against the impact of stress.

Social support has been consistently identified as a buffer against stress. For a married woman, the most important and readily available source of social support is her husband (Smith, Redman, Burns, & Sager, 1986). Supportive relationships in which couples demonstrated care and concern, affection, helpfulness, and sensitivity toward one another appeared to provide a buffer against emotional distress for each other (Conger, Rueter, & Elder, 1999).

The above review reflects the complexity of midlife women's lives, particularly as they experience menopause. Contextual factors such as a marital relationship (i.e., marital quality, satisfaction, and sexual relationship) and stress have been related to this midlife transition; however, they have not been studied concurrently. This study sought to enhance understanding of midlife women by investigating the inter-relationships among stress, marital quality, sexual satisfaction, and menopausal symptomatology. It was predicted that: 1) Stress would be highest for peri-menopausal women while sexual satisfaction would be highest among pre-menopausal women; 2) Quality of the marital relationship, marital satisfaction, and stress, would significantly predict menopausal symptomatology, with quality of marital relationship as the most powerful predictor; 3) Sexual satisfaction would be significantly related to menopausal symptomatology; 4) Perceived stress related to husband would be negatively related to marital satisfaction and positively related to conflict in the marital relationship, while perceived social support from husband would be positively related to marital satisfaction and negatively related to stress; 5) Stress and sexual satisfaction would predict marital satisfaction; and 6) Women in satisfying marriages would report lower levels of stress and less menopausal symptomatology than would women in dissatisfying marriages.

Method

Participants and Recruitment

Midlife women were recruited from university settings, elementary and junior high school staff, business offices, and medical settings across the United States to participate in this study. They had to be married or living in a committed relationship for at least one year, to be between the ages of 40 and 60, and to identify their partner or spouse as their most

significant relationship. Women recruited through medical offices could be as young as 37, if they had been diagnosed with menopausal symptomatology. Of the 332 respondents, 224 met the study criteria. For these women, age ranged from 37 to 60 years ($M = 46{,}75$, $SD = 5{,}40$), and 220 were married (mean years married = 18,32, $SD = 10{,}11$). Four were living in a committed relationship for a mean of 7 years ($SD = 4{,}87$) and were subsequently classified as married. Most ($n = 187$; 83,5%) had children. The average number of children was 2,36 ($SD = 1{,}11$). Over two-thirds had a mean yearly income over $60,000 and had at least an undergraduate degree. The women, who were primarily Caucasian ($n = 213$; 95,1%), represented suburban, urban, and rural areas.

The majority ($n = 144$; 64,3%) self-identified their menopausal status based on behavioral descriptions provided by Hunter and colleagues (1986) of menstrual cycles for the previous 12 months. Pre-menopausal women indicated that they menstruated on a regular and predictable cycle for the past 12 months ($n = 55$; 38,2%). Peri-menopausal women indicated that they menstruated but experienced irregularities related to frequency, duration, and flow, and were experiencing menopausal symptomatology ($n = 28$; 19,4%). Post-menopausal women reported no menstrual cycles for the past 12 months ($n = 61$; 42,4%). For an additional 80 women, menopausal status was based on medical data obtained when they sought help for menopausal concerns and agreed to participate in the study. Of these, nine (11,3%) were diagnosed as pre-menopausal, 46 (57,5%) as peri-menopausal, and 25 (31,3%) as post-menopausal.

Design

Women were classified according to menopausal status and by marital quality. Menopausal status had three levels: pre-menopausal ($n = 64$; 28,6%); peri-menopausal ($n = 74$; 33,0%); and post-menopausal ($n = 86$; 38,4%). Using procedures established by Roth-Roemer and Robinson Kurpius (1996), women were also classified by marital satisfaction-satisfied ($n = 61$; 27,8%), moderately satisfied ($n = 109$; 49,8%), and dissatisfied ($n = 49$; 22,4%) based on their Dyadic Adjustment Scale (Spanier, 1976) score. Five women did not complete this scale.

Instrumentation

Participants completed a demographic questionnaire and five self--report instruments. The instruments were randomly ordered to control for an order effect.

Women's Health Questionnaire (WHQ). Total scores from the 37--item WHQ (Hunter, Battersby, & Whitehead, 1986) were used to assess

menopausal symptomatology, defined as the physical, emotional, and behavioral changes that are associated with the menopausal phase of life. Based on self-reports of experiences during the last few days, the WHQ has nine sub-scales that measure various areas of menopausal symptomatology: depressed mood (8 items), somatic complaints (7 items), anxiety (4 items), menstrual symptoms (4 items), concerns over memory and concentration (3 items), sexual behavior (3 items), sleep problems (3 items), vasomotor symptoms (2 items), and attractiveness (2 items). One item was neutral. One point is given for either "yes, definitely;" or "yes, sometimes" responses, while zero points are given for either "no, not at all," or "no, not much" responses. Total possible scores can range from zero to 36, with higher scores reflecting more menopausal symptomatology. Sample items are "I am more irritable than usual," and "I have hot flushes". Construct validity for the WHQ was established through comparisons the General Health Questionnaire (r = 0,78) (Hunter, 1992). Hunter reported a one-week test-retest reliability of 0,86. In her study with midlife women seeking medical intervention for menopausal concerns, Maresh (1998) have reported an internal consistency of 0,64. For a random sample of 50 women in this study, the internal consistency was 0,79.

Index of Sexual Satisfaction (ISS). The ISS (Hudson, Harrison, & Crosscup, 1981) assesses sexual discord in dyadic relationships with 25 items with a seven-point Likert-type response format. The instrument assesses the quality of the sexual relationship (e.g., "I enjoy the sex techniques that my partner likes or uses.") and the positive or negative consequences of sexual quality (e.g., "I think that our sex is wonderful"). Total scores are standardized to range from 0 to 100, with higher scores indicating greater sexual dissatisfaction. An alpha coefficient of 0,92 and a one--week test-retest reliability of 0,93 were reported by Hudson and colleagues Maresh (1998) and Fielder (1998) reported internal consistencies of 0,76 and 0,93, respectively. Hudson and colleagues reported that the ISS discriminated between respondents with and without sexual problems and that the ISS has strong concurrent validity with similar instruments.

Quality of Relationship Inventory (QRI). The QRI (Pierce, Sarason, & Sarason, 1992) measures three aspects reflecting quality of an identified relationship: perceived social support (7 items), degree of conflict (14 items), and relationship depth (8 items). Social support is defined as how dependable and available a partner is to listen and provide help with problems or to engage in social activity (e.g., "To what extent could you count on this person for help with a problem?"). Conflict is defined as negative emotions, such as anger, guilt, and mistrust related to interpersonal interactions with the spouse (e.g., "How angry does this person make you feel?"). Depth of relationship is defined as the significance of the relation-

ship in a participant's life (e.g., "How much would you miss this person if the two of you could not see or talk with each other for a month?"). Participants responded to each statement on a Likert-type format that ranged from 1 (not at all) to 4 (very much). Scores within each subscale were summed and then averaged to range from one to four, with higher scores indicating a greater presence of social support, conflict, and depth. Pierce and colleagues reported alpha coefficients that ranged from 0,83 to 0,91. Fielder (1998) reported alphas of 0,88 for social support, 0,87 for conflict, and 0,88 for depth.

Dyadic Adjustment Scale (DAS). Comprised of 32 questions, the DAS (Spanier, 1976) assesses four facets of marital or cohabitating relationship adjustment: dyadic consensus; dyadic satisfaction; dyadic cohesion; and affectional expression. A total score, derived by summing the scores on each of the four subscales, reflects overall marital satisfaction and adjustment. Possible scores range from 0 to 151, with higher scores indicating greater satisfaction. Women in this study reported an average score of 107,51 (SD = 18,21) on the DAS. Spanier (1976) reported a total scale internal consistency of .96. Studies targeting midlife women have also shown strong Cronbach alphas ranging from 0,85 to 0,95 (Fielder, 1998; Robinson Kurpius and colleagues, 2001; St. Peter, 1997). Spanier established construct validity for the DAS with correlations of 0,86 for married subjects and 0,88 for divorced subjects with the Locke-Wallace Marital Adjustment Scale.

Life Events Questionnaire for Middle-Aged Women (LEQMW). Ballinger (1983) added 18 items to the 67-item Tennant Andrews instrument to form the LEQMW. The modified version consists of three scales: total events, total change, and total distress. Each scale is divided into events related to personal stress (37 items), to husband/partner stress (18 items), and to family/friend stress (30 items). Provided with a list of events, participants answer "yes" or "no" based on whether they have experienced each event and then rate on a 4-point scale ranging from "none" to "extreme" the amount of change the event caused and the intensity of distress felt. A total score for each of the events, change, and distress scales is derived by summing the points related to each scale for each of the three sources (self, husband, and family). Sample items include "You have been unemployed and seeking work for a month or more?"; "There have been increasing serious arguments with your husband or partner?" and "A close family friend or relative died (e.g., parent, sibling, etc.)?". Higher scores indicate more events, more change required, and more distress felt. The three distress scales (self, husband, and family) were used as measures of perceived stress in this study.

Results

Preliminary Analysis

Initially, potential differences between women recruited through medical offices and women recruited from community sites were tested by computing Student *t*-tests on demographic and outcome variables. Significance was set at $p = 0{,}01$ due to the number of tests run. As expected, the women seeking medical treatment for their menstrual concerns had higher incomes, were younger, and had greater menopausal symptomatology than did the community women. It stands to reason that younger women and women experiencing more menopausal symptomatology and sexual dissatisfaction would be more likely to seek medical treatment than women whose symptoms coincide with age-appropriate developmental timelines. Women seeking medical care also reported greater distress related to self, which may have motivated them to seek medical help. Private specialized medical care is often costly and, therefore, more accessible to women with higher incomes. While it is important to be aware of these differences, they are somewhat expected. Also, since only three of the nine outcome variables revealed significant differences, women from both recruitment sites were treated as one sample.

Test of Hypotheses

The first hypothesis predicted that stress would be highest for peri--menopausal women and that sexual satisfaction would be highest for pre--menopausal women. A multivariate analysis of variance (MANOVA) comparing the three menopausal status groups failed to reveal any differences on the three stress measures, Wilks Lambda $F < 1{,}00$. An analysis of variance (ANOVA) also failed to find group differences on sexual satisfaction, $F < 1{,}00$. Menopausal status does not appear to be related to experienced stress or sexual satisfaction.

To assess whether martial satisfaction, stress, and quality of the marital relationship would predict menopausal symptomatology (H2), hierarchical regressions were conducted. Three clusters of variables were created to represent the constructs of interest: marital quality, marital satisfaction, and stress. The marital quality cluster consisted of the social support, conflict, and depth subscales, marital satisfaction consisted of the total score from the DAS (Spanier, 1976), and the stress cluster consisted of perceived distress related to husband, self, and family. Marital quality was entered first, followed by marital satisfaction, then by stress. The full

regression model was significant, F (7, 207) = 9,37, p = ,001, and explained 24,1% of the variance in menopausal symptomatology (see regression 1 in Table 1). Each construct in the full model was then tested alone to determine whether its inclusion enhanced the regression model.

When stress was tested by itself in the regression model, the R--square value was 0,154, F (3, 216) = 13,13, p < 0,001 (see regression 2 in Table 1). When stress was tested in the presence of marital satisfaction the R-square value became 0,20, F (4, 210) = 13,09, p < 0,001 (see regression 3). Marital satisfaction accounted for 4,6% of the variance above and beyond that of stress. Next, the marital satisfaction variable was tested alone in the regression model (see regression 4). This resulted in an R-square value of 0,128, F (1, 217) = 31,80, p = 0,001. When marital satisfaction was tested in the presence of marital quality the R-square value changed to 0,179, F (4, 214) = 11,66, p = 0,001. Marital quality added 5.1% to the accounted for variance above and beyond marital satisfaction alone. The F change (4, 214) = 1,66, p = 0,001 (see regression 5) was significant. When marital quality was tested in the regression model by itself (see regression 6), an R-square of 0,14, F (3, 220) = 11,95, p = 0,001, was found. All construct clusters accounted for significant variance in menopausal symptomatology, with each cluster enhancing the model. Examination of the zero-order correlations indicated that relationship conflict (r = 36, p < 0,01) and all three sources of stress (self: r = 0,30, p < 0,01; husband: r = 0,37, p < 0,01; family: r = 0,18, p < 0,01) were positively related to menopausal symptomatology, while social support (r = -0,27, p < 0,01), depth of the marital relationship (r = -0,17, p < 0,01), and marital satisfaction (r = -0,38, p < 0,01) were negatively related to menopausal symptomatology.

The third hypothesis, which predicted that sexual satisfaction would be significantly related to menopausal symptomatology, was tested with a Pearson Product Moment correlation. Prior to testing H3, all items assessing menopausal symptomatology related to sexual concerns were removed from the WHQ in order to control for potential overlap in instrument content. There was a significant relationship between sexual satisfaction and non-sexual menopausal symptomatology (r = 0,23, p = 0,001). The greater a woman's sexual dissatisfaction, the more she reported non-sexual menopausal symptoms.

Table 1: Hierarchical Regression for Marital Quality, Marital Satisfaction, and Stress

	β	R^2	ΔR	*F*	*p*
Regression 1		0,24	0,04	9,37	0,001
Marital quality					
Support	- 0,09				0,32
Conflict	0,17				0,08
Depth	0,28				0,003
Satisfaction	- 0,26				0,01
Stress					
Husband	0,17				0,03
Self	0,16				0,03
Family	- 0,01				0,84
Regression 2		0,154	0,154	13,13	0,001
Stress					
Husband	0,27				0,001
Self	0,13				0,07
Family	0,07				0,27
Regression 3		0,200	0,046	13,09	0,001
Stress					
Husband	0,17				
Self	0,14				
Family	0,02				
Satisfaction	- 0,25				0,001
Regression 4		0,128	0,128	31,80	0,001
Satisfaction	- 0,36				0,001
Regression 5		0,179	0,051	11,66	0,001
Satisfaction	- 0,31				0,003
Quality					
Support	- 0,07				0,12
Conflict	0,25				0,001
Depth	0,26				0,10
Regression 6		0,140	0,140	11,95	0,001
Quality					
Support	- 0,15				0,12
Conflict	0,35				0,001
Depth	0,15				0,10

It was also predicted that stress related to husband would be negatively related to marital satisfaction and positively related to conflict in the marital relationship and that social support from the husband would be positively related to marital satisfaction and negatively related to stress (H4). Product Moment correlations indicated that husband distress was negatively related to marital satisfaction (r = -0,50, p = 0,001) and positively related to conflict in the relationship (r = 0,48, p = 0,001). Women who reported greater distress related to their husband were more likely to report greater conflict in their relationships and less overall marital satisfaction. In contrast, social support from the husband was positively related to marital satisfaction (r = 0,68, p = 0,001) and negatively related to all three sources of stress: husband (r = -0,36, p = 0,001), self (r = -0,23, p = 0,001) and family (r = -0,15, p = 0,01).

The fifth hypothesis predicted that stress and sexual satisfaction would significantly predict marital satisfaction. Before testing this hypothesis, items comprising the affection scale, which assessed content similar to that assessed by items on the sexual dissatisfaction scale, were deleted from the DAS total score (Spanier, 1976). Next, a series of three hierarchical regressions was computed with sexual satisfaction placed at the top of the hierarchy, followed by the stress cluster. In the first regression, sexual satisfaction and stress were analyzed concurrently and, together, accounted for 44,4% of the variance in marital satisfaction, F (4, 196) = 39,13, p = 0,001 (see regression 1 in Table 2). When stress was tested by itself, the R-square value became 0,262, F (3, 211) = 25,02, p = 0,001. Sexual satisfaction accounted for 17,8% of the variance in marital satisfaction over and beyond stress. Because stress by itself was a significant predictor of marital satisfaction, it was left in the model (see regression 2 in Table 2). When sexual satisfaction was tested by itself in the regression model, the R-square value was 0,266, F (1, 203) = 73,64, p = 0,001 (see regression 3 in Table 2). Each cluster (sexual satisfaction and stress) enhanced the regression model. Greater sexual dissatisfaction was related to less marital satisfaction, (r = -0,52, p < 0,001). Similarly, more distress related to self (r = -0,30, p < 0,001), to husband (r = -0,50, p < 0,001), and to family (r = -0,26, p < 0,001) was related to less marital satisfaction.

To test the final hypothesis, women were classified by satisfaction with their marriages based on their mean scores on the DAS (Spanier, 1976). Women scoring one-half a standard deviation (SD = 18,21) above the sample mean (M = 107,51) were classified as satisfied (n = 61). Those scoring one-half a standard deviation below the mean were considered dissatisfied with their marriages (n = 49). The moderate group was not used to test in the analysis. A MANOVA using stress and menopausal

symptomatology as the dependent variables indicated that there were differences between these two groups, F (4, 105) = 10,35, $p = 0{,}001$. To determine which dependent variables discriminated between these two groups of women, a discriminant analysis was performed. The Standard Discriminant Function (SDF) coefficients revealed that menopausal symptomatology ($SDF = 0{,}67$) and distress related to the husband ($SDF = 0{,}65$) had the strongest discriminating power. Moderate discriminating power was found for distress related to self ($SDF = -0{,}42$) and distress related to family ($SDF = 0{,}32$). The discriminant analysis results were also confirmed by ANOVAs. There were significant differences between groups for menopausal symptomatology, F (1, 108) = 25,05, $p = 0{,}001$, for distress related to husband, F (1, 108) = 23,67, $p = 0{,}001$, for distress related to self, F (1, 108) = 4,17, $p = 0{,}04$, and for distress related to family, F (1, 108) = 7,63, $p = 0{,}01$. Women who were satisfied with their marriages experienced less symptomatology and distress ($M = 10{,}03$, $SD = 1{,}23$; family ($M = 3{,}84$, $SD = 4{,}18$) than did women dissatisfied with their marriages (symptomatology $M = 16{,}58$, $SD = 7{,}85$; self $M = 9{,}01$, $SD = 8{,}09$; husband $M = 3{,}41$, $SD = 4{,}42$; family, $M = 6{,}84$, $SD = 7{,}10$).

Table 2: Hierarchical Regression for Sexual Satisfaction and Stress predicting Marital Satisfaction

	β	***R²***	**ΔR**	***F***	***p***
Regression 1		0,444	0,444	39,13	0,000
Sex	- 0,43				0,000
Stress					
Husband	- 0,36				0,000
Self	0,01				0,89
Family	- 0,16				0,01
Regression 2		0,262	0,262	25,02	0,000
Stress					
Husband	- 0,45				0,000
Self	- 0,01				0,86
Family	- 0,13				0,04
Regression 3		0,266	0,266	73,64	0,000
Sex	- 0,52				0,000

Discussion

These results underscore the importance of contextual factors, particularly the marital relationship and stress, in the lives of midlife women experiencing the menopausal transition. It was expected that women would report differing levels of stress, marital satisfaction, and sexual satisfaction based on their menopausal status. This was not so, however. A woman's satisfaction with her marriage and sexual life and her perceived stress were not related simply to her menopausal status. Although Engel (1987) reported menopausal status differences in overall health and life satisfaction, this study found no differences among the three groups. This can perhaps be explained by the limitations of looking only at group classifications. The important variable may not be the menopausal but rather may be the symptomatology related to the menopausal transition.

When stress, marital satisfaction, and marital quality were used to predict menopausal symptomatology, they accounted for 24% of the variance in menopausal symptomatology. The less satisfying the marriage, the less perceived social support and depth and more perceived conflict in the relationship, and the more distress related to self, husband, and family, the more menopausal symptomatology reported. This suggests a pattern in which negative relationship qualities and increased stress play an important role in experienced symptomatology.

Studying the relationship of marital quality and satisfaction to menopausal symptomatology, Robinson Kurpius and colleagues, (2001) reported that more marital anger and hostility and lower marital satisfaction predicted increased menopausal symptomatology. Cooke and Green (1981) found an additive effect across types of stress on menopausal symptomatology. In addition, the typical life stressors experienced by midlife women include problems related to the marriage (e.g., poor quality, separation), to family (e.g., adolescent children and aging parents) and to financial problems (Samsom & Farnill, 1997). These stressors may be present regardless of women's menopausal status, just as marital quality can vary within menopausal status groups rather than just across them. The current findings support the conclusion in that stress, as well as marital quality and marital satisfaction, is related to menopausal symptomatology.

It is also interesting that the sexual relationship was related to the experience of symptomatology with more sexual dissatisfaction related to more symptomatology. This is often explained by the depletion of reproductive hormones during peri- and post-menopause that negatively impact sexual functioning (Abernethy, 1997; Vliet, 1995). Estrogen depletion causes dryness, atrophy, and reduced elasticity of the vagina that may result in discomfort, even pain, during sexual intercourse. Decreased

levels of androgens lessen a woman's desire for sex, her responsiveness to sexual stimuli, and her ability to climax. Sexual concerns have also been associated with stress and marital satisfaction, two contextual constructs. Peterson and Schmidt (1999) reported positive relationships between sex difficulties, sleep difficulties, home stress, and financial stress for peri--menopausal women but not for either pre or post-menopausal women. Those who reported increased stress due to sexual difficulties also reported increased stress related to marital problems. Similar findings were noted by Cawood and Bancroft (1996) who reported that women satisfied with their marriages reported fewer menopausal symptoms related to sexual functioning than did women less satisfied.

It is possible that relationship characteristics undermine the sense of connectedness midlife women experience through their sexual relationships. Women may be less likely to achieve sexual satisfaction in the absence of relationship qualities that allow for their subjective feelings of cohesion and intimacy during love making (Mansfield *et al.*, 1998). Midlife women may successfully adjust to the deleterious physical side effects of hormone deficiency when they benefit from the social support, cohesion, and depth that characterize good quality marriages.

When women were categorized by marital satisfaction into extreme groups, those who were in dissatisfying marriages reported more menopausal symptomatology. This again confirms a connection between marital satisfaction and symptomatology. In addition, women in dissatisfying marriages reported more husband-related distress than did those in satisfying marriages. The two other sources of distress (self and family) had only moderate discriminating power, but both were higher for women in dissatisfying marriages. Taken together, these findings indicate that menopausal symptomatology is not simply a byproduct of biological, hormonal changes at midlife. In order to understand women's experience of menopause, contextual variables, such as the marital relationship, need to be considered.

For women in this study, sexual satisfaction and stress predicted marital satisfaction. This supports previous research that demonstrated the strong predictive power of sexual satisfaction for marital satisfaction (Kaplan, 1992; Silberman, 1995). Sex for midlife women is less of a physical act than it is an expression of the cohesion, depth, and intimacy in a relationship (St. Peter, 1997). It is not surprising, therefore, that the women in this sample who reported greater sexual satisfaction also reported greater marital satisfaction. Mansfield and colleagues (1998) reported that peri--menopausal women desired more passion, romance, affection, creativity, and communication in their sex lives, while Kaplan (1979) found that perceptions of affection, trust, and communication with their partner

influenced women's sexual satisfaction. These characteristics mirror the qualities depictive of good marriages. In fact, women in satisfying marriages have a greater desire for sex, increased arousal, and greater sexual satisfaction than do women in dissatisfying marriages (Hurlbert & Apt, 1994). It seems logical that there is an interaction between sexual satisfaction and marital satisfaction, with each enhancing the other.

How stress interacts with marital satisfaction was also examined. A consistent pattern emerged that illuminates the important role stress related to a husband plays in women's perception of their marital relationship. As women experience more distress related to their husbands' lives, the more dissatisfied they are with the overall marital relationship. Husband related distress was also positively related to conflict within the marriage. Since these findings are correlational, one cannot say which came first – husband stress, conflict, or marital dissatisfaction. Still, it is evident that these three are intertwined. It makes sense that as a husband experiences stressful events that are distressing to his wife, the couple may have conflict over these events. One aspect of marital quality is cohesion and joint decision--making. When there is conflict, perhaps the couples lose their ability to make decisions and discuss issues cooperatively, thus lowering their marital satisfaction. It is also possible that women interpret conflict as a sign of marital problems and, therefore, report lower marital satisfaction.

The relationship between stress and social support from their husband was also strong for these midlife women. Specifically, women reported less social support when they perceived greater stress related to their husband, to themselves, and to their family. Life events that cause stress for a husband, such as job or financial difficulties, may hinder his ability and willingness to be available to provide social support for his wife. The items representing stress from the husband of the LEQMW (Ballinger, 1983) also describe physical and emotional distance between partners created by marital difficulties. These sources of stress may result in the woman feeling neglected and lonely, feelings that may, in turn, create personal stress for women. It should be remembered, however, that the relationship between stress and support is not causal.

The relationships among stress, social support and conflict are explained by the existing literature on marital quality and health and well--being. Schmoldt and colleagues (1989) established that cohesive, cooperative, and companionable marriages are predictive of better health and well being in couples, with cohesion the strongest predictor of well--being for wives. The negative aspects of relationship components, such as conflict, may adversely impact women's health and well-being by increasing stress. Indeed, considerable research has shown this negative

relationship (Fielder, 1998; Manne & Zautra, 1989; Roth-Roemer & Robinson Kurpius, 1996).

When levels of stress and menopausal symptomatology were examined, women who were dissatisfied with their marriages reported greater stress related to all three sources (husband, self, and family) and greater menopausal symptomatology than did women in satisfying marriages. These findings are consistent with previous research (Cooke & Greene, 1981; Greene & Cooke, 1980). Greater stress was also related to less perceived social support from their husband for all women, regardless of marital satisfaction. It is often assumed that marriage automatically provides women with a readily available source of social support that serves as a buffer against stress (Quick, Nelson, Matuszek, Whittington, & Quick, 1996). The assumption is inaccurate. Midlife women in dissatisfying marriages have reported poorer psychological health than their single, divorced, or widowed cohorts (Gove *et al.*, 1983) and more depression and anger, stressful emotions, than have happily married women (Robinson Kurpius *et al.*, 2001). Indeed, Kiecolt-Glaser and colleagues (1993) found a physical link between angry and hostile interactions between spouses and immune system functioning.

It is evident that interpersonal relationships are important to women, and the characteristics of their marital relationship help to shape their life experiences. Relationships characterized by strong support may help to buffer midlife women against the stress resulting from stressful life events while relationships fraught with conflict may adversely impact women's perceived stress, menopausal symptomatology, and marital satisfaction.

There are study limitations that need to be noted. Because the sample was homogenous, generalization of the findings is limited in terms of ethnicity, education, and socioeconomic status. Second, two-thirds of the women self-identified their menopausal status based on behavioral symptoms. It would also help to establish whether women had entered menopause naturally or forcibly through surgery or other medical treatment. Finally, the sole use of self-report assessments may have introduced mono-method bias to the study's findings.

The necessity for research into the midlife years of women is illustrated by the current study. Longitudinal designs would help mental health providers understand women's experience as they move through the menopausal transition and would help pinpoint possible causal relationships. Qualitative studies that allow women to reflect on their experiences and perceptions during midlife would broaden understanding of this transitional life phase.

Several psychosocial variables combine to help shape the experiences of women during their midlife years. While menopause is an

important milestone in women's development, it may have less impact on women's health and happiness than do marital relationship variables (Robinson Kurpius & Foley Nicpon, 2003). In this study, sexual satisfaction, stress, marital satisfaction, marital quality, and menopausal symptomatology were all interrelated. Together they paint a more complete picture of midlife women than each taken separately. For psychologists particularly interested in the health and well-being of women, addressing these factors in counseling and in future research will help to support women as they journey through their midlife years.

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