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The Impact of Parent Care on Marital Quality and Well-Being in Adult Daughters and Sons

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This study prospectively examined the long-term impact of providing parent care using data from a probability-based U.S. sample of adult daughters and sons who had varying parent care experiences over time (N=716). Parent care × Gender × Time mixed multivariate analyses of covariance using marital quality and well-being indicators as outcomes showed that, on average, experienced caregivers reported less marital happiness, more marital role inequity, and greater hostility than recent adult child caregivers. Significant three-way interactions indicated that experienced and recent caregiving daughters, respectively, showed an increase over time in depressive symptomatology and long-term depression, whereas their male counterparts showed a decline over the same period. Findings are discussed in terms of gender differences in the relative applicability of the wear-and-tear versus adaptation models of caregiving outcomes.

Key Words: Adult child caregivers—Depressed affect—Marital quality—Parent care—Prospective study.

Given current trends of population aging, providing care to an ill or disabled parent or parent-in-law (referred to as parent care herein) is a common experience during the adulthood years. Several recent estimates indicate that adult children are increasingly likely to care for an older parent (e.g., Brody, 2004; Marks, Lambert, & Choi, 2002; Seltzer & Li, 2000). The present study uses a prospective design that spans 15 years (with three waves of data) and a probability-based sample to examine the impact of parent care on the lives of adult daughters and sons.

Impact of Parent Care

Early cross-sectional research indicated that occupation of the parent care role is associated with feelings of burden and negative well-being (e.g., Marks, 1998; Miller, 1989; Penning, 1998; Seltzer & Li, 1996; Strawbridge, Wallhagen, Shema, & Kaplan, 1997). More sophisticated research designs that have used longitudinal or prospective data have yielded equivocal findings. Whereas some of these studies have found support for the negative long-term impact of providing care to a parent on the adult child's well-being (e.g., Amirkhanyan & Wolf, 2006; Choi & Marks, 2006; Marks et al., 2002; Marks, Lambert, Jun, & Song, 2008), others have found little or no negative impact (e.g., Lawton, Moss, Hoffman, & Perkinson, 2000; Seltzer & Li, 2000). Reasons for these inconsistent findings include differences across studies in sampling strategies, duration of the study, and type of parent care experiences examined (e.g., pre- and postinstitutionalization; long-term vs. recent parent care provision). Researchers (e.g., Lawton et al., 2000) have urged that to get a clearer understanding of the impact of parent care for the adult child caregiver, it is important to use probability-based samples, a prospective design where individuals are identified prior to taking on the parent care role, and a study duration that is sufficiently long.

As noted above, several studies have examined the link between parent care and caregiver well-being. Although important, it is a somewhat limited focus inasmuch as providing care to a parent or parent-in-law also can have an impact on other life domains (e.g., Pearlin, Pioli, & McLaughlin, 2001), such as the caregiver's marital relationship (e.g., Stephens & Franks, 1995; Suitor & Pillemer, 1994). Recent research also indicates that marital quality plays an important and complex role in well-being during midlife and beyond (e.g., Bookwala, 2005; Bookwala & Jacobs, 2004), especially in the context of ongoing stressors (e.g., Bookwala & Franks, 2005; Choi & Marks, 2006). A small body of studies has explored the role of parent care in adult child caregivers' marital quality. Suitor and Pillemer (1994), for example, found that more than one third of caregiving daughters and daughters-in-law reported changes in their marital satisfaction during a 1-year panel study of women caring for parents with dementia. Stephens and her colleagues (Martire, Stephens, & Franks 1997; Stephens & Franks 1995) found that caregiving daughters and daughters-in-law reported considerable spillover between the roles of wife and caregiver to a parent and that feelings of adequacy in the caregiver role were associated with greater marital satisfaction. More recently, Bookwala, Pasternak, Pruchno, and Newsom (2007) reported that extended parent care can compromise marital quality and that, relative to caregiving sons, daughters who were providing care to a parent or parent-in-law expected their lives to be more negatively affected if their marriage were to end. With few exceptions (e.g., Bookwala et al., 2007), these studies on parent care and marital variables have examined marital quality in preexisting groups of adult child caregivers, thus allowing only tentative directional conclusions about the effects of parent care on the quality of marriage of the adult child caregivers. The present study prospectively examines the impact of parent care on the marital quality and well-being of adult

child caregivers who varied in their experience of the parent care role in an effort to offer a clearer understanding of the long-term impact of parent care provision.

Assessing Parent Care Outcomes

The two-factor model of caregiving (Lawton, Moss, Kleban, Glicksman, & Rovine, 1991) points out that the impact of caregiving is best understood in terms of beneficial as well as detrimental outcomes that are largely orthogonal in nature. In keeping with this approach, this study incorporates positive and negative indicators of marital quality and well-being to assess caregiver outcomes. Indeed, Fincham and Linfield (1997) conceptualize marital quality as essentially a two-dimensional construct that encompasses both positive and negative aspects of the relationship. The two indicators of marital quality included in the present study are marital happiness (a positive indicator) and marital role inequity (a negative indicator). Marital happiness, which offers a global evaluation of one's marriage, is viewed as an integral component of marital quality and is often treated as a criterion for validating other dimensions of the marriage (Fincham & Bradbury, 1987). The division of household labor between spouses is an indicator of marital role inequity, and studies show that when division of household labor is unequal, it is associated with perceptions of unfairness that, in turn, are related to lower marital quality (e.g., Lavee & Katz, 2002; Pina & Bengston, 1995; Suitor, 1991). Marital role inequity also has been found to increase in the face of stressful demands originating from competing roles (Pittman, Solheim, & Blanchard, 1996).

In keeping with the two-factor model by Lawton et al. (1991), this study also examined caregiver well-being in terms of positive (life satisfaction) and negative (depressed affect and hostility) indicators. Life satisfaction and depressed affect are among the most commonly assessed caregiver outcomes; elevated depressive symptomatology and lower life satisfaction are common in caregiver samples (Bookwala, Yee, & Schulz, 2000; Pinquart & Sörensen, 2003; Schulz, O'Brien, Bookwala, & Fleissner, 1995). Hostility, which represents feelings of resentment, suspiciousness, frequent anger, and cynical distrust, is theorized to be conceptually distinct from general emotional distress (e.g., depressed affect) (Smith & Frohm, 1985). This construct, which has begun to receive increasing attention in the field of caregiving (e.g., Shaffer, Dooley, & Williamson, 2007; Williamson et al., 2005), is higher in caregivers than in noncaregivers (Vitaliano et al., 2005).

Wear-and-Tear Versus Adaptation Models of Caregiving

Two competing models in the caregiving literature offer opposing predictions for the long-term impact of providing care to an ill or disabled family member: the wear-and-tear model and the adaptation models (e.g., Lawton et al., 2000; Townsend, Noelker, Deimling, & Bass, 1989). The wear-and-tear model of caregiving proposes that the accumulation of caregiving demands erodes caregivers' resources and well-being. Thus, the negative impact of caregiving is expected to persist and accrue over time. The adaptation model, in contrast, suggests that the negative impact of caregiving demands occurs early in the caregiving trajectory and that such negative impact is relatively short-lived, followed by a tapering off or even an improvement up to baseline levels after the initial decline in well-being. Longitudinal studies have yielded inconsistent findings regarding the long-term impact of caregiving on well-being. Some studies have found evidence for declines in well-being over time among some groups of caregivers (e.g., Seltzer & Li, 2000; Skaff, Pearlin, & Mullan, 1996; Strawbridge et al., 1997), which is in keeping with the wear-and-tear model of caregiving. Others, however, have reported little evidence for sustained negative effects of providing care, which supports the adaptation model (Lawton et al., 2000; Townsend et al., 1989).

An issue that remains to be tested in the caregiving literature is whether, and to what extent, female and male caregivers vary in the extent to which the competing wear-and-tear versus adaptation hypotheses of caregiving are applicable to these two groups. Women and men are known to vary in outcomes associated with caregiving (e.g., see Pinquart & Sörensen, 2006; Yee & Schulz, 2000), with women typically reporting higher levels of burden and depression and lower levels of subjective well-being and physical health. A plausible explanation for this gender difference may be that the wear-and-tear model of caregiving applies more closely to caregiving women, whereas the adaptation model may more strongly apply to caregiving men. The present study tests the relative applicability of these two models for adult daughters and sons involved in parent care.

Study Goals

The present study provides a rigorous evaluation of the long-term impact of providing care to an ill or disabled parent (or parent-in-law). It uses a prospective design spanning three waves of data collected over a 15-year period and a probability-based sample drawn from the National Survey of Families and Households (NSFH; Sweet & Bumpass, 2002), it focuses on indicators of both well-being and marital quality as caregiver outcomes, and it tests potential gender differences in the relative applicability of the wear-and-tear versus adaptation models of caregiving. The study examines the long-term impact of parent care by comparing the marital quality and well-being over time of four groups of adult daughters and sons, all of whom were not in the parent care role at baseline (*T*1) and varied in terms of their experiences of parent care at Time 2 (*T*2) and Time 3 (*T*3). These groups included those who (a) did not provide parent care at *T*2 or *T*3 (i.e., they remained noncaregivers in all

three waves of the NSFH), (b) remained noncaregivers at *T*2 but were in the parent care role at *T*3 (i.e., recent caregivers), (c) occupied the parent care role at *T*2 and also at *T*3 (i.e., experienced caregivers), and (d) occupied the parent care role at *T*2 but no longer did at *T*3 (i.e., former caregivers). The wear-and-tear hypothesis of caregiving predicts that experienced caregivers would display more negative marital quality and worse well-being on average than recent and former caregivers. These negative effects will remain stable or may even increase from *T*2 to *T*3 among experienced caregivers, whereas marital quality and well-being can be expected to improve among former caregivers during the same time period (because they have relinquished the parent care role by *T*3). In contrast, the adaptation hypothesis predicts that experienced and former caregivers would show an improvement in marital quality and well-being from *T*2 to *T*3 and that both these groups at *T*3 would show better marital quality and well-being than recent caregivers (*T*3 being the first time recent caregivers report occupying the parent care role); former caregivers also can be expected to show better marital quality and well-being than experienced caregivers at *T*3. In addition, this study explored whether gender differences exist in the applicability of the wear-and-tear model of caregiving (stronger for women) versus the adaptation model of caregiving (stronger for men), thereby offering an explanation for the worse caregiving outcomes documented among women caregivers relative to men.

Methods

Participants

Eligible respondents from the three-wave U.S. NSFH (Sweet & Bumpass, 2002) included adults aged 30 years or older who were not caring for a parent or parent-in-law at baseline (*T*1; 1987–1988), were married and remained in the same marriage throughout the study, continued to participate in the NSFH during the second wave (*T*2; 1992–1994) and third wave (*T*3; 2001–2002), were not providing care to a coresiding family member for the length of the NSFH, and had no missing data on the study variables. Parent care status at *T*2 and *T*3 was determined by a 2-step procedure. First, respondents who responded with "yes" at *T*2 and/or *T*3 to the following question were selected: "Sometimes because of a physical or mental condition, illness, or disability, people require assistance of friends or relatives. During the last 12 months, have you, yourself, given anyone not living with you at the time any help or assistance because of their health problem or disability?" Second, from among these respondents, those that indicated that the person they provided care for was a parent or parent-in-law (collectively referred to as "parent" in the remainder of this paper) were selected. In order to ensure that the operationalization of parent care provided in the context of parental disability or illness was distinct from any type of informal support provided to parents, adult daughters and sons in the four parent care groups were compared on the extent to which they offered informal support to their parents at baseline in five domains (i.e., advice or moral support, assistance with transportation, home or automobile repairs, housework, and childcare [e.g., in the case of younger siblings]). The overall mean number of domains in which informal support was provided to parents was 0.73 ($SD = 1.1$, range = 0–5 domains). After controlling for age, race, education, number of children, current employment status, and employment history between *T*2 and *T*3, no differences were obtained by gender, $F(1, 702) = 0.04$, $p > .84$, or Gender × Parent Care Group, $F(2, 702) = 2.42$, $p > .07$, on informal support provision to parents at baseline. A significant main effect was obtained for parent care group, $F(3, 702) = 8.30$, $p < .001$, and thus, informal support provided to parents at baseline was treated as a covariate in the remaining analyses.

The final sample consisted of 716 participants: 119 recent caregivers, 63 experienced caregivers, 106 former caregivers, and 428 noncaregivers. A preliminary analysis examined the amount of time spent in parent care across the three groups that experienced a parent care transition (recent caregivers, experienced caregivers, and former caregivers). At *T*2, experienced caregiving daughters and sons reported providing parent care in the preceding 12-month period for an average of 15.6 weeks ($SD = 18.7$, range = <1–52 weeks) and 9.1 hr/week ($SD = 15.7$, range = <1–75 hr/week), and former caregivers provided parent care for a mean of 18.3 weeks ($SD = 19.1$, range = <1–52 weeks) and 8.6 hr/week ($SD = 12.6$, range = <1–75 hr/week; note: recent caregivers were not included in this comparison because they provided no parent care at *T*2). Using the same covariates as in the earlier analysis plus informal support to parents, no significant main effects were obtained in analyses for number of weeks of parent care and number of hours per week of parent care in the preceding year for gender, Fs(1, 158) < 2.55, $p > .11$, or parent care group, Fs(1, 158) < 0.33, $p > .56$, and no significant Gender × Parent Care Group interaction was obtained, $F(1, 158) < 1.69$, $p > .19$. Similar analyses comparing experienced and recent caregiving daughters and sons at *T*3 on the amount of time spent in parent care during the preceding 12 months indicated that experienced caregiving daughters and sons reported providing parent care in the 12-month period preceding *T*3 for an average of 24.3 weeks ($SD = 20.8$, range = <1–52 weeks) and 8 hr/week ($SD = 14.2$, range = <1–75 hr/week), and recent caregivers provided parent care for a mean of 19.4 weeks ($SD = 19.2$, range = <1–52 weeks) and 10.3 hr/week ($SD = 17.0$, range = <1–75 hr/week). Once again, no support was found for any main effect: for gender, Fs(1, 171) < 2.89, $p > .09$, and for parent care group, Fs(1, 171) < 1.56, $p > .21$; or for Gender × Parent Care Group interaction, $F(1, 171) < 0.73$, $p > .39$. (Note: former caregivers were not included in this comparison because they provided no parent care at *T*3.)

Of those who came to occupy the parent care role at *T*2 and/or *T*3, 65.1% ($N = 188$) had provided care to a parent, 24.3% ($N = 80$) to a parent-in-law, and 10.6% ($N = 20$) to a parent at *T*2 and a parent-in-law at *T*3 or vice versa.

To determine whether providing care to a parent versus a parent-in-law was related to the marital and well-being outcome variables, bivariate correlations were computed between the outcome variables and who was provided with care (coded as 0 = providing care only to a parent and 1 = providing care to a parent or a combination of parent and parent-in-law at *T*2/*T*3). No correlation reached statistical significance ($|r| < .11$, $p > .08$). As a result, this variable was not included in the study analyses.

The sample had a mean age at baseline of 39.2 years ($SD = 6.8$), and 52.1% of the sample were women ($n = 373$). A total of 88.8% of the sample ($n = 636$) identified their ethnicity as Caucasian and 92.5% ($n = 662$) had at least a high school education. On average, caregivers had 2.3 children (range = 0–11; $SD = 1.5$). More than 80% of the sample was employed at *T*2 (when parent care transitions were first identified; 80.7%, $N = 578$), and 61.5% ($N = 440$) of the sample worked continuously between *T*2 and *T*3.

Measures

Marital quality.—Two indicators of marital quality were used: marital happiness (measured at *T*2 and *T*3 in the NSFH) and marital role inequity (measured in all three waves). *Marital happiness* was assessed with an 8-item measure; respondents indicated their level of happiness (1 = very unhappy to 7 = very happy) on eight dimensions of their marital relationship (e.g., understanding received from spouse, the amount of time spent with the spouse, sexual relationship, work the spouse does around the house). Scores on the marital happiness items were averaged to create a measure of marital happiness such that higher scores represented greater marital happiness. We obtained a Cronbach's alpha for marital happiness of .90 and .89 at *T*2 and *T*3, respectively. Means on marital happiness for the entire sample were 5.47 ($SD = 1.2$) at *T*1 and 5.77 ($SD = 1.0$) at *T*2. *Marital role inequity* was assessed via four items regarding fairness or equity in the marital relationship in terms of household chores, working for pay, spending money, and childcare. Marital role inequity scores were computed by counting each item on which the respondent indicated feeling that it was somewhat or very unfair to her or him. Because a count of endorsed responses was used for this measure, Cronbach's alpha was not computed for the marital role inequity measure. Sample means on marital role inequity were 0.43 ($SD = 0.7$), 0.49 ($SD = 0.8$), and 0.30 ($SD = 0.6$) at *T*1, *T*2, and *T*3, respectively.

Well-being.—Three measures of well-being were examined in this study: depressed affect, hostility, and life satisfaction. *Depressed affect* was assessed in the NSFH via two indicators: depressive symptomatology in the preceding week and long-term depression. *Depressive symptomatology* over a 1-week recall period was assessed in all three waves with a 12-item version (Kessler, Foster, Webster, & House, 1992) of the original Center for Epidemiological Studies–Depression Scale (CES-D; Radloff, 1977). The NSFH used an eight-category set of response options to measure the number of days out of the past 7 days (0–7) that each depressive symptom occurred. Item scores were summed with higher scores reflecting greater depressive symptomatology. Cronbach's alpha for the CES-D ranged from .88 to .93 over the three waves of the NSFH. Mean depressive symptoms were 10.87 ($SD = 14.2$) at *T*1, 10.31 ($SD = 12.3$) at *T*2, and 8.9 ($SD = 11.1$) at *T*3. *Long-term depression* was measured in the NSFH at *T*2 and *T*3 using 3 items that assessed more enduring feelings of depression. These items asked participants if they had had 2 weeks or more during the past year during which they had felt sad/blue/depressed or had lost interest in things that they usually cared about or enjoyed; felt depressed or sad much of the time in the past year, and had 2 or more years in their life when they felt depressed or sad most days, even if they felt okay sometimes. Response options for each item were dichotomous, and yes responses were summed to create a long-term depression score such that a higher score represented a higher likelihood of long-term depression. Cronbach's alphas were not computed for this measure because scores were based on a count of endorsed items. Sample means for long-term depression were 0.48 ($SD = 0.8$) at *T*2 and 0.43 ($SD = 0.7$) at *T*3.

Hostility was assessed at *T*2 and *T*3 by summing responses to three items that were developed for the NSFH: How many days during the past week did you (a) feel irritable, or likely to fight or argue; (b) feel like telling someone off; and (c) feel angry or hostile for several hours at a time? Responses were made on a 0–7 scale representing the number of days the participant felt the way described by these items, with higher scores representing greater hostility. A Cronbach's alpha of .82 was obtained at *T*2 and .75 at *T*3 for the hostility measure. Mean hostility scores at *T*2 and *T*3 were 2.60 ($SD = 3.3$) and 2.07 ($SD = 3.0$), respectively.

Life satisfaction was assessed in the NSFH at *T*2 and *T*3 via an 11-item scale about respondents' satisfaction with different life domains (e.g., home, health, neighborhood, financial situation, leisure time). Responses were made on 7-point scales ranging from 1 = very dissatisfied to 7 = very satisfied; scores were averaged such that higher scores reflected greater life satisfaction. Cronbach's alphas of .82 were obtained for the life satisfaction measure at both *T*2 and *T*3. Mean life satisfaction for the entire sample was 5.40 ($SD = 0.9$) at *T*2 and 5.55 ($SD = 0.8$) at *T*3.

Background variables.—Respondents' age, race, education, and number of children; *T*2 employment status and employment history between *T*2 and *T*3; and informal support provided to parents at *T*1 (see Note 1) were treated

Table 1. Means (adjusted for covariates) on Marital Quality Indicators by Parent Care Group (N=716)

	Noncaregivers		Recent CGs		Experienced CGs		Former CGs	
	Sons	Daughters	Sons	Daughters	Sons	Daughters	Sons	Daughters
	(n=220)	(n=208)	(n=56)	(n=63)	(n=22)	(n=41)	(n=45)	(n=61)
Marital happiness[a,b]								
*T*2	5.62	5.45	5.58	5.48	4.91	5.40	5.26	5.29
*T*3	5.86	5.71	5.98	5.93	5.26	5.73	5.80	5.48
Marital role inequity[b,c]								
*T*1	0.19	0.59	0.18	0.52	0.22	0.71	0.30	0.86
*T*2	0.26	0.71	0.21	0.52	0.31	0.79	0.29	0.82
*T*3	0.08	0.45	0.11	0.41	0.34	0.58	0.15	0.60

Notes: Means reported are adjusted for the following covariates: age, race, education, number of children, *T*2 employment status, employment status between *T*2 and *T*3, and informal support provided to parents at *T*1. Higher scores represent greater marital happiness and more marital role inequity. CG = caregiver.

[a] Significant multivariate main effect for time.

[b] Significant multivariate main effect for parent care group.

[c] Significant multivariate main effect for gender.

as background variables and included as statistical controls in the major study analyses.

Data Analyses

To determine whether the data more strongly supported the wear-and-tear hypothesis or the adaptation hypothesis of caregiving and whether gender differences exist in the applicability of these competing hypotheses, a series of mixed multivariate analyses of covariance (MANCOVAs) were performed. Three-way MANCOVAs using as factors Parent Care Group (between-subjects factor; four levels) × Gender (between-subjects factor) × Time (repeated measures factor; two or three levels, depending on the number of assessments that occurred for a specific outcome variable) were performed for each marital quality and well-being indicator. Each model included as covariates respondents' age, race (dichotomized as 1=Caucasian and 2=other), education, number of children, *T*2 employment status, employment status between *T*2 and *T*3, and informal support provided to parents at *T*1.

Results

Impact of Parent Care Transitions on Marital Quality

Means over time on marital happiness and marital role inequity for adult daughters and sons in the four parent care groups, adjusted for the covariates listed above, are presented in Table 1. Because marital happiness was measured in the NSFH only at *T*2 and *T*3, the analysis for this outcome was in the form of a 4 (Parent Care Group)×2 (Gender)×2 (Time) mixed MANCOVA. A significant main effect was obtained for parent care group, $F(3, 701)=3.82$, $p<.05$, partial $\eta^2=.016$. Fisher's least square difference (LSD) post hoc comparisons indicated that, on average, experienced caregivers were significantly less happy in their marriages than recent caregivers; no other groups differed significantly from each other on marital happiness. The analysis also yielded a significant main effect for time, multivariate $F(1, 701)=8.86$, $p<.05$, partial $\eta^2=.012$, with an increase in marital happiness over time seen for the entire sample. No significant main effect for gender and two-way or three-way interaction effects were obtained for marital happiness.

Next, a 4×2×3 mixed MANCOVA was performed for marital role inequity; time was a three-level repeated measures factor because marital role inequity was assessed in all three waves of the NSFH (see means in Table 1). After controlling for the covariates, significant main effects were obtained for parent care group, $F(3, 701)=3.09$, $p<.05$, partial $\eta^2=.013$, and gender, $F(3, 701)=62.74$, $p<.001$, partial $\eta^2=.082$. LSD post hoc comparisons indicated that experienced and former caregivers reported significantly more marital role inequity than recent caregivers; experienced caregivers also reported greater marital role inequity than noncaregivers. As Table 1 reveals, the direction of the gender difference was such that women reported significantly greater inequity in their marriage than men.

Impact of Parent Care Transitions on Well-being

Table 2 provides means on depressive symptomatology, long-term depression, hostility, and life satisfaction for caregiving daughters and sons across time within each parent care group. A 4×2×3 mixed MANCOVA for depressive symptomatology yielded three significant effects—the three-way interaction of Parent Care Group × Gender × Time, multivariate $F(3, 701)=2.95$, $p<.05$, partial $\eta^2=.012$, and main effects for gender, $F(3, 701)=4.82$, $p<.05$, partial $\eta^2=.007$, and time multivariate, $F(3, 701)=4.10$, $p<.05$, partial $\eta^2=.012$; in the presence of the significant three-way interaction, these main effects were not interpreted. The Parent Care Group × Gender × Time interaction was decomposed by performing follow-up analyses in the form of Gender × Time two-way mixed MANCOVAs that were conducted separately for each of the four parent care groups. For noncaregivers, recent caregivers, and former caregivers,

Table 2. Means (adjusted for covariates) on Well-being Indicators by Parent Care Group (N=716)

	Noncaregivers		Recent CGs		Experienced CGs		Former CGs	
	Sons	Daughters	Sons	Daughters	Sons	Daughters	Sons	Daughters
	(n=220)	(n=208)	(n=56)	(n=63)	(n=22)	(n=41)	(n=45)	(n=61)
Depressive symptoms[a,c,e]								
*T*1	9.29	11.39	11.16	8.61	14.53	12.39	8.37	16.33
*T*2	7.90	11.62	8.78	10.89	13.97	11.19	9.69	13.91
*T*3	7.95	9.05	7.65	10.47	9.06	12.56	7.00	10.18
Long-term depression[b,d,e]								
*T*2	0.34	0.56	0.49	0.34	0.83	0.32	0.56	0.78
*T*3	0.31	0.48	0.26	0.45	0.57	0.47	0.52	0.63
Hostility[b]								
*T*2	2.07	2.81	2.70	2.18	4.31	2.38	3.03	3.28
*T*3	2.02	1.96	1.99	1.91	3.10	2.95	2.01	1.99
Life satisfaction[a]								
*T*2	5.41	5.52	5.38	5.49	5.09	5.38	5.22	5.26
*T*3	5.49	5.64	5.45	5.65	5.06	5.75	5.54	5.45

Notes: Means reported are adjusted for the following covariates: age, race, education, number of children, *T*2 employment status, employment status between *T*2 and *T*3, and informal support provided to parents at *T*1. Higher scores represent more depressive symptomatology, long-term depression, life satisfaction, and hostility. CG = caregiver.

[a] Significant multivariate main effect for time.

[b] Significant multivariate main effect for parent care group.

[c] Significant multivariate main effect for gender.

[d] Significant Parent Care Group × Gender interaction effect.

[e] Significant Time × Parent Care Group × Gender interaction effect.

no significant Gender × Time interaction effect was observed (multivariate Fs < 2.58, p > .08, partial $\eta^2 \leq .045$). In contrast, for experienced caregivers, a significant interaction of Gender × Time was obtained, multivariate $F(1, 53) = 3.99$, $p < .05$, partial $\eta^2 = .130$; see Figure 1. Follow-up tests were performed to test gender differences within the experienced caregiver group at each wave of the NSFH. These tests revealed that although experienced caregiving daughters and sons did not vary significantly on depressive symptomatology at *T*1, $F(1, 54) = 0.44$, $p = .51$, partial $\eta^2 = .008$, or *T*2, $F(1, 54) = 0.8$, $p = .37$, partial $\eta^2 = .015$, experienced caregiving sons reported significantly lower depressive symptoms at *T*3 compared with their female counterparts, $F(1, 54) = 4.92$, $p < .05$, partial $\eta^2 = .084$.

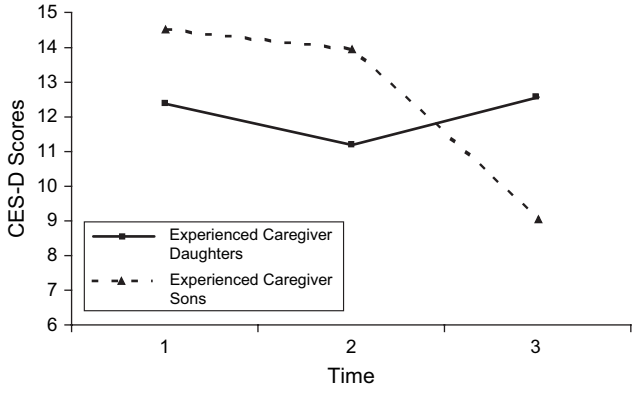

Figure 1. Gender × Time interaction for experienced caregivers. CES-D = Center for Epidemiological Studies–Depression Scale.

A 4 × 2 × 2 mixed MANCOVA (with a two-level repeated measures factor for time) also yielded a significant three-way interaction for long-term depression. Although a significant main effect for parent care group, $F(3, 701) = 3.42$, $p < .05$, partial $\eta^2 = .014$, and a significant Gender × Parent Care Group interaction, $F(3, 701) = 2.84$, $p < .05$, partial $\eta^2 = .012$, also were obtained for long-term depression, these are not interpreted in light of the significant three-way interaction. Follow-up analyses similar to those for depressive symptomatology were performed to decompose the significant three-way interaction. These analyses indicated a significant Gender × Time interaction for recent caregivers, $F(1, 110) = 4.50$, $p < .05$, partial $\eta^2 = .039$, (see Figure 2); a similar, but nonsignificant, trend associated with an effect size of equal magnitude was observed for experienced caregivers, $F(1, 54) = 2.27$, $p = .13$, partial $\eta^2 = .040$. Follow-up tests to examine the significant Gender × Time interaction for recent caregivers in explaining long-term depression indicated that although recent caregiving daughters and sons did not vary in their long-term depression scores at *T*2 (prior to occupying the parent care role), $F(1, 110) = 0.43$, $p = .51$, partial $\eta^2 = .004$, recent caregiving daughters reported significantly higher scores at *T*3 (after experiencing the parent care transition) than did recent caregiving sons, $F(1, 110) = 4.18$, $p < .05$, partial $\eta^2 = .037$.

Mixed MANCOVA analyses also were conducted for hostility and life satisfaction (each with a two-level repeated measures factor for time). On hostility, a significant main effect was obtained only for parent care group, $F(3, 701) = 2.96$, $p < .05$, partial $\eta^2 = .013$. LSD post hoc comparisons indicated that experienced caregivers reported

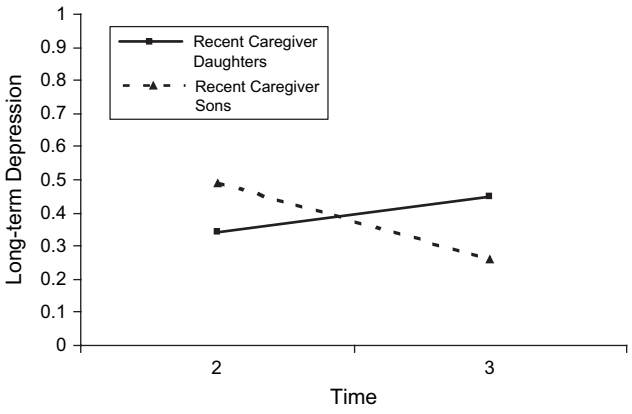

Figure 2. Gender × Time interaction for long-term depression among recent caregivers.

significantly more hostility than did recent caregivers (for means, see Table 2); no other comparisons between other pairs of parent care groups were statistically significant. In the analysis for life satisfaction, significant main effects for time, $F(1, 701) = 5.60$, $p < .05$, partial $\eta^2 = .008$ and gender, $F(1, 701) = 6.86$, $p < .01$, partial $\eta^2 = .010$, were obtained; life satisfaction increased significantly from *T*2 to *T*3 for the entire sample and women reported significantly higher life satisfaction than men. The main effect for parent care group on life satisfaction and all two- and three-way interactions did not reach statistical significance.

Discussion

This study used a prospective design to examine the impact of being in the parent care role on adult daughters' and sons' marital quality and well-being. Specific goals were to compare the relative utility of the wear-and-tear versus adaptation models of caregiving in explaining the long-term impact of parent care and to examine potential gender differences in the applicability of these two models. Using data from the three-wave NSFH (Sweet & Bumpass, 2002), four parent care groups (all of whom were noncaregivers at baseline) were compared on marital quality and well-being: experienced caregivers, recent caregivers, former caregivers, and those who remained noncaregivers. Results for marital quality showed that, after controlling for sociodemographic and background variables, experienced caregivers were significantly less happy in their marriage than recent caregivers, and experienced and former caregivers reported significantly greater marital role inequity than recent caregivers.

The present findings suggest that declines in marital quality may not to be immediate and may accumulate over several years before they become evident. This is because adult daughters and sons who had more recently transitioned into the parent care role, on the aggregate, showed significantly more marital happiness and less marital role inequity than those who had occupied the parent care role at *T*2 and *T*3 (experienced caregivers) and, in the case of marital role inequity, than even those who had entered the parent care role at *T*2 but exited it by *T*3 (former caregivers). These findings are consistent with the general stress outcomes literature, which shows that specific effects of chronic stress may gradually increase and accumulate over time (Wheaton, 1997). The results also are consistent with findings in the field of marital relations that show that external stress can negatively influence marital quality (Karney, Story, & Bradbury, 2005).

The findings on marital quality also more clearly support the wear-and-tear model of caregiving rather than the adaptation model (Lawton et al., 2000; Townsend et al., 1989) because they show that, on average, experienced caregivers have lower marital quality than recent caregivers. These findings also are consistent with those of other studies that report lower mastery (Seltzer & Li, 1996) and more burden (Lawton et al., 2000) among those caring for a parent for a longer period of time than those who have occupied the role for less time. The absence of different trajectories over time across parent care groups in the current findings, however, calls for further research with more extended follow-up periods. This is important because changes in the adult child caregiver's marital quality may be delayed considerably after occupation of the parent care role and, in the case of former caregivers, may take longer to return to baseline levels.

Comparisons over time of the four groups of caregiving daughters and sons on well-being indicators showed that, as with marital quality, experienced caregivers on the aggregate reported significantly more hostility than recent caregivers. Thus, the results for hostility also are more consistent with the wear-and-tear model of caregiving than the adaptation model of caregiving. More interestingly, however, the findings for depressed affect showed that the applicability of the wear-and-tear model versus the adaptation models of caregiving varies based on caregiver gender. Both depressive symptomatology and long-term depression varied over time across women and men but only in specific parent care groups. First, experienced caregiving daughters—that is, those who occupied the parent care role at both *T*2 and *T*3—showed relatively stable depressive symptomatology over time, whereas experienced caregiving sons showed a decline in depressive symptoms over time; further analysis showed that although depressive symptoms among experienced caregiving daughters and sons were comparable at *T*1 and *T*2, experienced caregiving daughters reported significantly greater depressive symptoms at *T*3 than experienced caregiving sons. In other words, experienced caregiving daughters showed support for wear-and-tear in terms of depressive symptoms, whereas experienced caregiving sons showed adaptation over time. The findings for long-term depression are likewise interesting. Recent caregiving daughters experienced an increase in long-term depression

scores from *T*2 to *T*3, and a similar trend was observed among experienced caregiving daughters. In comparison, recent caregiving sons showed (and experienced caregiving sons tended to show) evidence of adaptation via a decrease in long-term depression scores over the same time period. Although long-term depression was assessed only at *T*2 and *T*3, these findings once again suggest that the wear-and-tear model may apply more strongly to caregiving daughters and the adaptation model more strongly to caregiving sons.

Overall, the present data suggest that, at least in the domain of depressed affect, gender differences exist in the relative applicability of the wear-and-tear versus adaptation models of caregiving. These findings may explain the enduring gender differences in psychological well-being favoring male caregivers that are well documented in the caregiving literature (Pinquart & Sörensen, 2006; Yee & Schulz, 2000). Moreover, evidence that the applicability of the wear-and-tear hypothesis versus the adaptation hypothesis in the context of caregiving may vary by gender is an important contribution to the field of caregiving. Past research on the long-term impact of parent care is scant and typically has only sampled daughters and daughters-in-law (e.g., Lawton et al., 2000; Lee & Gramotnev, 2007; Seltzer & Li, 2000) or has not reported on gender differences (e.g., Choi & Marks, 2006; Skaff et al., 1996; Townsend et al., 1989). Future examination of gender differences in the applicability of the wear-and-tear model, especially in disease-specific contexts (e.g., Alzheimer's disease) and with other groups of family caregivers (e.g., spouses), offer new directions for caregiving research. That former caregiving daughters and sons did not significantly decline over time in their experience of depressed affect suggests that no simple relationship exists between relinquishing the parent care role and depressed affect. Examining well-being indicators in former adult child caregivers several years after exiting the parent care role may be another important avenue for future research.

There are specific limitations to the present study, however. The NSFH did not measure variables routinely assessed in caregiving research (e.g., caregiver burden, type of caregiving assistance provided to the noncoresiding care recipient), precluding conclusions related to the amount or type of parent care provided. Moreover, the adult child caregivers in the sample were relatively young (ca. 39 years, on average), due to which their parent care experiences may have been qualitatively different from those of older adult child caregivers who provide care to old-old frail parents. Thus, the present findings may not generalize readily to older samples of adult child caregivers with more extensive parent care demands. Data also are unavailable regarding parent care activities or role occupation during the time lag between data collection waves. In addition, assessments for some outcome variables were administered only at *T*2 and *T*3 in the NSFH. These factors limit the ability to explore caregiving outcome trajectories over time more fully.

Despite the limitations noted above, the present study is marked by several strengths. These include its use of a prospective design spanning 15 years, the identification of adult child caregivers from a probability-based sample of adults residing in the United States, all of whom were noncaregivers at baseline; the examination of the net impact of parent care over time after statistically controlling for relevant background variables; and the comparison of adult sons and daughters on both marital quality and well-being. As such, the present study makes important contributions to our understanding of the long-term impact of parent care.

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