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# *Parent Care, Intergenerational Relationship Quality, and Mental Health of Adult Daughters*

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This study examined the effects of parent care on the quality of adult daughter–aging parent relationships and the effects of these relationships on the mental health of daughters. One hundred ninety-six daughters who participated in the first two waves (18 months apart) of a longitudinal study of women in Wisconsin were included in this analysis. Structural equation modeling results show that providing care to a parent with both cognitive and physical impairments, but not to a parent with physical impairments only, takes a toll on the quality of the daughter–parent relationship. The quality of the daughter–parent relationship was found to be negatively associated with depressive symptoms in the daughter, and this association is largely accounted for by the daughter’s self-esteem.

**Keywords:** *caregiving; intergenerational relationships; daughter caregivers*

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## *CAREGIVING AND PARENT-CHILD RELATIONSHIP QUALITY IN LATER LIFE*

The literature suggests that most adult children have good relationships with their aging parents and that the quality of intergenerational

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relationships improves with age (Carstensen 1992; Rossi and Rossi 1990). However, the extent to which parent care has an impact on the quality of intergenerational relationships is unclear. Some studies have shown that the quality of a parent-child relationship deteriorates as the aging parent becomes more dependent and requires help from the adult child (Creasey et al. 1990; Jarrett 1985; Kaufman and Uhlenberg 1998; Mindel and Wright 1982; Rossi and Rossi 1990). For instance, Rossi and Rossi (1990) found that daughters felt less close to their parents when the parents were in poor health. However, this association was not characteristic of sons. They reasoned that the finding was due to the greater likelihood of daughters than sons to be caregivers for their parents. Caregiving, as suggested by the literature, poses extra demands on the time and energy of caregivers (Brody 1985; Li, Seltzer, and Greenberg 1999; Schulz, Visintainer, and Williamson 1990), which may introduce strains in the relationships between adult child caregivers and their parents.

Other studies, however, have suggested that parent care does not necessarily lead to the disruption of an ongoing parent-child relationship but may draw the parent-child dyad closer (Horowitz and Shindelman 1983; Walker and Pratt 1991; Walker, Shin, and Bird 1990). For example, Walker et al. (1990) found that most daughter caregivers reported no change or improvement in their relationships with their mothers after taking on the caregiving role, and only 5.4% reported that the caregiving situations affected their relationships negatively. From the perspective of attachment theory, Cicirelli (1991) argued that caregiving is a form of protective behavior of an adult child to maintain the survival of his or her parent (attachment figure) and preserve the concomitant emotional security. Hence, caregiving could strengthen the attachment bond.

The inconsistency of past research may be related in part to the nondifferentiation of the parent's type of impairment, namely whether the parent who needs care has cognitive impairments. From the perspective of attachment theory, parents are a source of emotional comfort and security to children, and on that basis, the parent-child relationship is maintained throughout the life course (Atkinson 1989). Parents suffering from cognitive impairments, however, are likely to decrease in their ability to provide psychological comfort and security to their children, whereas parents who need care for physical impairments only and have no cognitive impairments may still be able to

perform this function. Hence, the interpersonal effects may differ when caregiving is provided to a parent with or without cognitive impairments. Some studies have found that care recipients' levels of cognitive performance, but not physical functioning, are related to closeness and conflict between adult child caregivers and their parent care recipients (Townsend and Franks 1995).

To answer the question of whether providing care to a parent affects the quality of the aging parent–adult child relationship, it is necessary to compare this relationship in the caregiving context with this relationship in the noncaregiving context. Without a comparison group, it is difficult to test the effect of parent care. Moreover, whether care is provided to a parent with or without cognitive impairments should be differentiated, because interpersonal consequences may differ. In this study, we compared two groups of daughter caregivers—one of daughters caring for parents with both physical and cognitive impairments and another of daughters caring for parents with physical impairments only—to a third group of daughter noncaregivers whose parents were healthy and did not need care. With the comparison group, we could examine whether the quality of the daughter–parent relationship in each of the two caregiving contexts differed from the situation in which the parents did not need care.

*RELATIONSHIPS WITH PARENTS AND  
MENTAL HEALTH OF ADULT CHILDREN*

Attachment theory posits that children's adaptation and adjustment to the environment benefit from continued attachment and parental nurturance (Cicirelli 1996). There is evidence to suggest that adult children's quality of relationships with their parents is related to their mental health (Barnett et al. 1991; Roberts and Bengtson 1993; Umberson 1992; Welsh and Stewart 1995). For example, Umberson (1992) found that social support from their mothers decreases depressive symptoms in adult children, whereas relationship strains with both mothers and fathers increase depressive symptoms. Welsh and Stewart (1995) found that daughters' reports of the quality of their relationships with their mothers at age 43 predicted the daughters' subjective well-being 5 years later.

One mechanism that has been proposed to link intergenerational relationships and mental health of adult children is based on the

perspective of symbolic interactionism, which suggests that parents are significant others who have an important influence on children's self-concept (Roberts and Bengtson 1993). A close relationship with our parents provides us with self-knowledge and affirmation, which contribute to a positive self view, regarded as a psychological resource that is connected directly with various aspects of mental health (Gecas 1982; Kaplan and Pokorny 1969; Turner and Roszell 1994). For instance, a number of studies have found an inverse relationship between self-esteem and depression (Harter 1990; Krause 1987), and self-esteem has been shown to buffer the negative effects of stressful events on mental health (Brown, Harris, and Bifulco 1986; Shamir 1986). Therefore, it is reasonable to conceptualize self-esteem as an intervening mechanism that links the quality of the daughter-parent relationship with the mental health of the daughter.

#### *RESEARCH QUESTIONS AND HYPOTHESES*

On the basis of the literature, we asked two interrelated questions in this study. First, does providing care to aging parents have an effect on the quality of the relationship between adult daughters and their parents, and is this effect different for daughters caring for parents with cognitive compared to physical impairments? We hypothesized that daughters caring for parents with cognitive impairments would have poorer and deteriorating relationships with their parents than daughters in the comparison group, whose parents did not need care. However, we did not expect daughters caring for parents with physical impairments only to differ from the comparison group in the quality of the daughter-parent relationship.

Second, we asked whether the quality of the relationships between adult daughters and their aging parents is associated with depressive symptoms in the daughters and to what extent this association is mediated by the daughters' self-esteem. We hypothesized that the quality of the daughter-parent relationship would be negatively associated with depressive symptoms in the daughters. Further, on the basis of the perspective of symbolic interactionism, we hypothesized that the effect of relationship quality on depressive symptoms would be mediated by self-esteem. We also hypothesized that prior levels of relationship quality with parents would be associated with subsequent levels of depressive symptoms of the daughters and that self-

esteem is a mechanism that links their association over time. Note that the “causal directionality” of relationship quality, self-esteem, and depressive symptoms assumed in our model was for conceptual and analytical purpose only. We do not intend to imply a “cause-effect” relationship between these variables, and we recognize that there are alternative models besides the one we proposed.

### *Methods*

#### *DATA*

Data for this study came from the first two waves (18 months apart) of a four-wave longitudinal study of women in Wisconsin, titled *The Well-Being of Women*. In 1991, using random-digit dialing procedures, Wisconsin's Bureau on Aging identified two probability samples: 2,250 persons aged 60 years or older and 500 persons who were younger than age 60 and who provided care to relatives older than age 60. Our staff telephoned all these persons in 1993 to determine their current caregiving status. To ensure a sufficiently large pool of caregivers for the study, the base was supplemented with an additional 1,000 households, which were also drawn by random-digit dialing procedures. For additional details about the sampling plan, see Li et al. (1999).

A daughter was classified as a caregiver if she provided assistance to a parent aged 60 years or older with at least one of the following tasks because of the parent's illness or disability: housework, preparing meals, managing finances, yard work, shopping, taking medications, getting around inside the house, eating, dressing, using the toilet, getting in and out of bed, and remembering things. This approach generated a group of care recipients who were quite heterogeneous in their primary reasons for needing care, some of whom could be classified as having both physical and cognitive impairments, whereas others could be classified as having physical impairments only (definitions are provided below). In addition, the study included a comparison group of daughter noncaregivers whose parents did not need any care because they had no limitations in any of the daily life activities or cognitive areas mentioned above.

Of those who met the study criteria, 79.3% of the daughter caregivers and 76.2% of the daughter noncaregivers agreed to participate. At wave 1, there were 279 daughters in the study. Of these sample members, 83 were not included in this analysis because of the following reasons: death of the parent prior to wave 2 (in the case of 37 daughter caregivers and 5 daughter noncaregivers), death of the daughter (in the case of 1 daughter caregiver), a change in caregiving status (16 daughter noncaregivers became caregivers between wave 1 and wave 2), a change in the parent's type of impairment (the parents of 4 daughter caregivers who had no cognitive impairments at wave 1 had developed cognitive impairments by wave 2), the mental illness of the parent (in the case of 7 daughter caregivers), a refusal to be interviewed at wave 2 (5 daughter caregivers and 4 daughter noncaregivers), and missing data on key variables (3 daughter caregivers and 1 daughter noncaregiver). The final sample, therefore, consisted of 196 daughters—70 caring for parents with both physical and cognitive impairments, 69 caring for parents with physical impairments only, and 57 not caring for their parents.

The participants ( $n = 196$ ) and excluded sample members ( $n = 83$ ) were similar in most of the sociodemographic characteristics measured at wave 1 (including race, education, income, marital status, employment status, parental status of the daughter, and sex and marital status of the parent), except in age, with both the daughters and the parents being significantly younger for the participants than those excluded. The daughters in the sample averaged 56.3 years of age. Virtually all were White (95.9%). Somewhat fewer than half (45.4%) had some college education, but only 16.3% had graduated from college. Their annual family income in 1993, on average, was \$40,574. More than half (58.2%) were employed. The majority were married (89.3%) and had children (89.8%). Most of the focal parents in the study were mothers (82.7%), widowed (71.9%), with an average age of 82.1 years old.

#### DATA COLLECTION AND MEASURES

Data were collected by personal interviews with the daughters in their homes and by self-administered questionnaires completed by the daughters after the interviews. The key study variables were measured as follows.

*Parent's type of impairment.* We constructed a three-category variable to indicate the daughter's caregiving status and the parent's type of impairment: daughter noncaregivers, daughters caring for parents with both physical and cognitive impairments, and daughters caring for parents with physical impairments only. Daughter noncaregivers were the reference (omitted) category in the analysis.

The group of daughters caring for parents with both physical and cognitive impairments included daughter caregivers whose parents had been diagnosed with Alzheimer's disease or had similar cognitive limitations. Operationally, if a daughter reported that her parent had Alzheimer's disease at wave 1, the parent was considered as having a cognitive impairment. In addition, if at wave 1 the parent had cognitive limitations, as measured by the Cognitive Status Scale (Pearlin et al. 1990), equal to or more than one half standard deviation below the mean of those with Alzheimer's disease, the parent was also classified as having a cognitive impairment.<sup>1</sup> The rationale for this second inclusion criterion was that some parents may have had symptoms of Alzheimer's disease that were not recognized by the daughters or not yet diagnosed. Using a measure of cognitive limitations of the parent as an additional criterion helped identify these cases. In our sample, all parents who were classified as having cognitive impairments also had physical problems (e.g., arthritis, heart trouble, stroke).

The group of daughters caring for parents with physical impairments only, then, was composed of daughters whose parents needed care for physical problems only and who did not have significant cognitive problems. Operationally, daughter caregivers whose parents did not meet the criteria that define cognitive impairment mentioned above (i.e., either had Alzheimer's disease or had cognitive limitations equal to or more than one half standard deviation below the mean of those with Alzheimer's disease) were included in this group.

*Relationship quality.* The quality of the relationships between adult daughters and their parents was conceptualized as the daughters' perceptions of positive sentiments in their relationships with their parents. This variable was measured by the 10-item Positive Affect Index (Bengtson and Black 1973), of which 5 items ask about the daughter's feelings toward her parent (i.e., how much the daughter understands, trusts, is fair to, respects, and has affection for the parent) and the other 5 ask about the daughter's perception of the parent's feeling toward

her (i.e., how much the daughter feels that the parent understands her, trusts her, etc.). Each item is rated from 1 (*not at all*) to 6 (*extremely*). For this analysis, we treated relationship quality as a latent variable with two indicators—one was the sum of the 5 items measuring the daughter's feelings toward her parent, and the other was the sum of the 5 items measuring the daughter's perception of her parent's feelings toward her.

*Depressive symptoms.* The mental health of the daughters was indicated by depressive symptoms, measured by the Center for Epidemiological Studies Depression Scale (CES-D) (Radloff 1977). The scale assesses how often in the previous week the respondent had experienced 20 symptoms of depression. Past studies have shown that the CES-D is composed of four subscales: depressed mood, psychomotor retardation, lack of well-being, and interpersonal difficulties (Gatz and Hurwicz 1990). These four subscales were used as indicators of the latent variable depressive symptoms in the analysis.

*Self-esteem.* The self-esteem of the daughters was measured by the Rosenberg Self-Esteem Scale (Rosenberg 1965). The scale consists of 10 items that require respondents to report feelings about their selves. A sample item is "I feel that I'm a person of worth, at least on an equal plane with others." We used the total score of the scale to indicate the latent variable self-esteem in the analysis and fixed its measurement errors on the basis of the  $\alpha$  reliability of the scale ( $\alpha = .86$  at both waves 1 and 2), as suggested by Bollen (1989).

A number of sociodemographic variables were controlled in the analysis, including age, education, marital status, parental status, employment status of the daughter, and gender and marital status of the parent. These variables were controlled because they have been shown to be correlated with parent-child closeness in adulthood (Aquilino 1999; Kaufman and Uhlenberg 1998; Richards, Bengtson, and Miller 1989; Rossi and Rossi 1990; Suito et al. 1994; Umberson 1992), as well as self-esteem and depressive symptoms in women (Helson, Elliot, and Leigh 1990; Lee and Shehan 1989; Mirowsky and Ross 1989).

The ages of the daughters were measured in years. Education was a dichotomous variable, some college or more versus high school or below. Marital status also had two categories: married and unmarried.

The parental status of the daughters referred to whether they had children or not. Employment status was coded as employed or unemployed. The marital status of the parents was categorized as widowed versus nonwidowed.

#### DATA ANALYSIS

We used structural equation modeling (SEM), estimated with LISREL 8.3 (Joreskog and Sorbom 1999), to analyze the data. The advantages of using SEM are that it provides a means of contending with measurement errors and dealing with correlated measurement errors across time. We used two-wave panel data (18 months apart) to model simultaneously both the cross-sectional and longitudinal relationships among the variables of interest. For our first research question, the model specified that daughters caring for parents with both physical and cognitive impairments (compared to daughter non-caregivers) and daughters caring for parents with physical impairments only (compared to daughter noncaregivers), and all control variables (i.e., education, age, marital status, parental status and employment status of the daughter, and gender and marital status of the parent) had a direct effect on relationship quality in both waves. In addition, wave 1 relationship quality was modeled to have a direct effect on wave 2 relationship quality. Thus, the effects of any exogenous variable on wave 2 relationship quality could be interpreted as predicting changes in relationship quality during the 18-month study period. For both waves, relationship quality was measured with two indicators—daughters' feelings toward their parents and daughters' perceptions of their parents' feelings toward them at wave 1 and wave 2, respectively. The measurement errors of the corresponding indicators across waves were allowed to correlate.

Past studies have shown that the demands and context of caregiving differ between dementia and nondementia caregivers, with the former providing a greater amount of care and receiving less assistance and support than the latter (Biegel, Sales, and Schulz 1991; Birkel and Jones 1989; Ory et al. 1999). Caregiving context variables, such as amount of care and caregiving support, therefore, could confound the effects of the parent's type of impairment on daughter-parent relationship quality and should be controlled. However, these variables were not measured for the comparison group because none of their parents

received any care. Thus, caregiving context variables could not be included in the present three-group analysis. To examine the extent to which these variables might confound the results, we conducted additional analyses that included only the two groups of daughter caregivers (caring for parents with both physical and cognitive impairments and caring for parents with physical impairments only) and found that none of these variables (i.e., amount of care, caregiving support, and functional limitations of parents) were correlated with relationship quality with parents and that the pattern of results with and without these variables in the model was largely the same (data available from the first author).

For our second research question, the model specified that wave 1 relationship quality and all control variables had a direct path to wave 1 self-esteem, wave 1 depressive symptoms, wave 2 self-esteem, and wave 2 depressive symptoms. In addition, wave 1 self-esteem had a direct path to wave 1 depressive symptoms and wave 2 self-esteem, wave 1 depressive symptoms had a direct path to wave 2 depressive symptoms, and wave 2 self-esteem had a direct path to wave 2 depressive symptoms. Relationship quality and depressive symptoms were measured with multiple indicators, and correlated measurement errors across waves were allowed.

Some researchers have suggested that the role of the child becomes more salient as the parent needs care (Atkinson 1989; Roberts and Bengtson 1993). According to the identity salience hypothesis (Stryker 1968), experiences related to more salient roles would have stronger psychological impacts to an individual than those related to less salient roles (Burke 1991). Thus, we had explored whether the effects of relationship quality on self-esteem and depressive symptoms vary for the three groups of daughters, using multigroup analysis in LISREL. We found that equality constraint of all parameters across all three groups of daughters is the best model, compared to other less constrained models (e.g., allowing the path from wave 1 relationship quality to wave 1 self-esteem to be free for each group of daughters or allowing this path to be equal between the two groups of daughter caregivers but different from daughter noncaregivers). These additional analyses suggest that the mediating process is similar across all daughters, regardless of their parent care responsibilities and their parents' type of impairment. Therefore, the model reported for research question 2 below was estimated with the total sample.

## *Results*

### *COMPARISON OF THREE GROUPS OF DAUGHTERS*

We first compared the three groups of daughters (i.e., daughters caring for parents with both physical and cognitive impairments, daughters caring for parents with physical impairments only, and daughter non-caregivers) on all study variables. Table 1 shows that they did not differ with respect to any of the daughters' characteristics (i.e., age, education, employment status, marital status, or parental status), nor in their parents' gender or marital status. In other words, the three groups of daughters were quite similar in their sociodemographic characteristics.

We also compared their scores on the Positive Affect Index (the sum of 10 items), the CES-D (the sum of 20 items), and the Rosenberg Self-Esteem Scale (the sum of 10 items). At wave 1, daughters caring for parents with cognitive impairments had lower Positive Affect Index scores than daughters caring for parents with physical impairments only, indicating less positive feelings toward the relationship for the former. At wave 2, those whose parents had cognitive impairments had lower Positive Affect Index scores than either those whose parents had physical impairments only or those in the comparison group. The three groups of daughters did not differ significantly on the Rosenberg Self-Esteem Scale or the CES-D at either wave.

### *TYPE OF PARENTAL IMPAIRMENT AND RELATIONSHIP QUALITY*

We used SEM to examine the effect of parent care on intergenerational relationship quality (see Figure 1). The model fit the data quite well—both the chi-square and root mean square error of approximation were not statistically significant, and both the goodness-of-fit index and the comparative fit index exceeded .90. As shown in Figure 1, daughters caring for parents with both physical and cognitive impairments had significantly poorer relationships with their parents at wave 1 than the comparison group. Daughters caring for parents with physical impairments only, however, did not differ from the comparison group on wave 1 relationship quality.

Figure 1 also shows that daughters whose parents had cognitive impairments differed significantly from the comparison group with

TABLE 1  
Comparison of Three Groups of Daughters on Study Variables

	<i>Cogimp</i> <sup>a</sup> (n = 70)	<i>Phyimp</i> <sup>a</sup> (n = 69)	DNC <sup>a</sup> (n = 57)	<i>F</i> / $\chi^2$ <i>Test</i>
Daughters' characteristics				
Age (years), <i>M</i> ( <i>SD</i> )	57.49 (10.06)	57.06 (9.88)	53.79 (10.88)	<i>ns</i>
Education (% some college or more)	50.00	43.48	42.11	<i>ns</i>
Employment (% employed)	44.29	66.67	64.91	<i>ns</i>
Marital status (% married)	92.86	84.06	91.23	<i>ns</i>
Parental status (% have children)	91.43	89.86	87.72	<i>ns</i>
Parents' characteristics				
Gender (% female)	78.60	84.10	86.00	<i>ns</i>
Marital status (% widowed)	74.29	76.81	63.16	<i>ns</i>
Standardized scale scores				
Wave 1 Positive Affect Index	46.52 (8.46)	50.30 (6.69)	49.60 (9.03)	4.27*
Wave 2 Positive Affect Index	46.06 (8.72)	49.77 (7.17)	50.51 (7.85)	5.96**
Wave 1 Rosenberg Self-Esteem Scale	33.47 (4.41)	33.91 (4.52)	33.37 (4.01)	<i>ns</i>
Wave 2 Rosenberg Self-Esteem Scale	34.37 (4.75)	34.98 (4.20)	34.09 (4.38)	<i>ns</i>
Wave 1 CES-D	10.76 (9.39)	8.50 (8.45)	9.38 (6.82)	<i>ns</i>
Wave 2 CES-D	9.06 (7.38)	8.57 (7.77)	8.30 (6.95)	<i>ns</i>

NOTE: CES-D = Center for Epidemiological Studies Depression Scale.

a. *Cogimp* = daughters caring for parents with both physical and cognitive impairments; *Phyimp* = daughters caring for parents with physical impairments only; DNC = daughter noncaregivers.  
\**p* < .05. \*\**p* < .01. \*\*\**p* < .001.

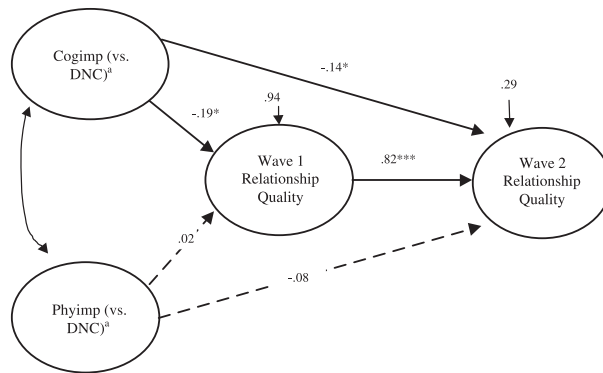


Figure 1: Model for Parent Care and Relationship Quality

NOTE:  $\chi^2 = 11.65$ , *df* = 40, *p* = .86; root mean square error of approximation = .00, *p* = .99; goodness-of-fit index = .99; comparative fit index = 1.00. Coefficients shown are standardized. Results adjusted for education, age, marital status, parental status and employment status of the daughter, and gender and marital status of the parent.

a. *Cogimp* = daughters caring for parents with both physical and cognitive impairments; *Phyimp* = daughters caring for parents with physical impairments only; DNC = daughter noncaregivers.

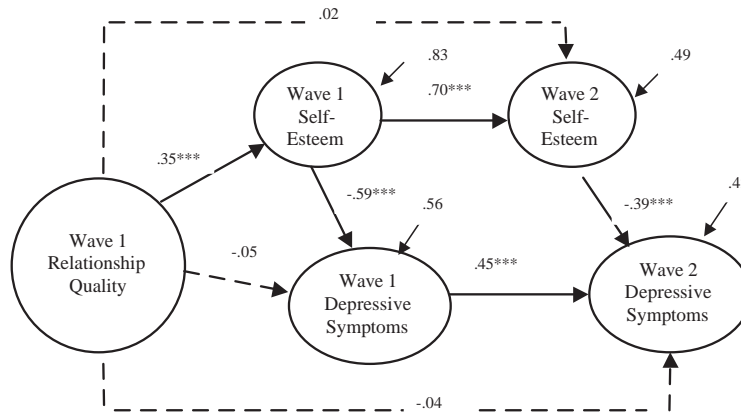
\**p* < .05; \*\**p* < .01; \*\*\**p* < .001; dashed lines indicate statistically nonsignificant paths (*p* < .05).

respect to wave 2 relationship quality, net of the effect of wave 1 relationship quality. This indicates that the quality of the daughter-parent relationship deteriorated over the 18-month study period for daughters caring for parents with cognitive impairments, compared to daughter noncaregivers. No significant difference was found between daughters whose parents had physical impairments only and the comparison group with respect to change of relationship quality with their parents. As expected, wave 1 relationship quality had a strong positive effect on wave 2 relationship quality. But none of the control variables had a statistically significant effect on either wave 1 or wave 2 relationship quality.

We found support for our hypothesis that daughters caring for parents with cognitive impairments have poorer relationships with their parents than daughter noncaregivers, with deterioration in relationships over time. However, daughters caring for parents with physical impairments only do not differ in the quality of the daughter-parent relationships, either cross-sectionally or longitudinally, from daughter noncaregivers.

*RELATIONSHIP QUALITY, SELF-ESTEEM,  
AND DEPRESSIVE SYMPTOMS*

The analysis for our second research question (whether the quality of relationships with aging parents is associated with depressive symptoms in adult daughters and the extent to which self-esteem contributes to this association) is presented in Figure 2. The model fit the data reasonably well, although the chi-square was significant ( $p = .05$ ). Figure 2 shows that wave 1 relationship quality had a statistically significant direct effect on wave 1 self-esteem, wave 1 self-esteem had a statistically significant direct effect on wave 1 depressive symptoms, and the direct effect of wave 1 relationship quality on wave 1 depressive symptoms was not statistically significant. The mediating role of self-esteem became clearer when decomposing the effects of wave 1 relationship quality on wave 1 depressive symptoms, which is shown in Table 2. As shown, the total effects of wave 1 relationship quality on wave 1 depressive symptoms were statistically significant and negative; however, 80.8% of the total effects were accounted for by indirect effects via wave 1 self-esteem. The direct effects of wave 1 relationship quality on wave 1 depressive symptoms were not statistically



**Figure 2: Model for Relationship Quality, Self-Esteem, and Depressive Symptoms**

NOTE:  $\chi^2 = 134.86$   $df = 109$ ,  $p = .05$ ; root mean square error of approximation = .04,  $p = .91$ ; goodness-of-fit index = .94; comparative fit index = .97. Coefficients shown are standardized. Results adjusted for parents' type of impairment, education, age, marital status, parental status and employment status of the daughter, and gender and marital status of the parent. \*\*\* $p < .001$ ; dashed lines indicate statistically nonsignificant paths ( $p > .05$ ).

significant, after taking into account the indirect effects. In other words, wave 1 self-esteem fully mediated the effects of wave 1 relationship quality on wave 1 depressive symptoms.

Other exogenous variables that were found to be associated with wave 1 self-esteem or wave 1 depressive symptoms included education (more educated daughters had higher levels of self-esteem and more depressive symptoms) and the marital status of the parents (the daughters of widowed parents were less depressed). (Note that in Figure 2, we did not portray the paths from any of the exogenous variables, except wave 1 relationship quality, to the endogenous variables.)

In addition, the analysis indicated that prior relationship quality levels with aging parents were associated with daughters' subsequent depressive symptom levels, and self-esteem was a mechanism that maintained their linkage over time. Table 2 shows that the total effects of wave 1 relationship quality on wave 2 depressive symptoms were statistically significant; this association, however, was mainly via two indirect paths, both of which involved self-esteem. One was from wave 1 relationship quality  $\rightarrow$  wave 1 self-esteem  $\rightarrow$  wave 1 depressive symptoms  $\rightarrow$  wave 2 depressive symptoms. This path was

TABLE 2  
Decomposition of the Effects of Wave 1 Relationship Quality  
on Wave 1 and Wave 2 Depressive Symptoms

	Wave 1 Depressive Symptoms		Wave 2 Depressive Symptoms	
	$\beta^a$	% of Total Effects	$\beta^a$	% of Total Effects
Wave 1 relationship quality				
Direct effects	-.05 ( <i>ns</i> )	19.2	-.04 ( <i>ns</i> )	15.3
Indirect effects via wave 1 self-esteem	-.21***	80.8	—	—
Indirect effects via wave 1 self-esteem				
→ wave 1 depressive symptoms				
→ wave 2 depressive symptoms <sup>b</sup>	—	—	-.09**	35
Indirect effects via wave 1 self-esteem				
→ wave 2 self-esteem				
→ wave 2 depressive symptoms <sup>b</sup>	—	—	-.09**	35
Total effects	-.26**	NA	-.26**	NA

NOTE: NA = not applicable.

a. Standardized effects are presented. Results adjusted for parents' type of impairment, education, age, marital status, parental status and employment status of the daughter, and gender and marital status of the parent.

b. Only the statistically significant indirect paths are presented.

\*\* $p < .01$ . \*\*\* $p < .001$ .

statistically significant and contributed to 35% of the total effects. Another was from wave 1 relationship quality → wave 1 self-esteem → wave 2 self-esteem → wave 2 depressive symptoms, which also accounted for 35% of the total effects. These results support our hypothesis that self-esteem is a mechanism that links the prior levels of relationship quality with parents to subsequent levels of depressive symptoms of daughters.

The direct effects of wave 1 relationship quality on wave 2 self-esteem and wave 2 depressive symptoms were not statistically significant, after controlling for their prior levels. However, marital and employment status of the daughter were associated with wave 2 depressive symptoms in the model—married and employed daughters decreased in depressive symptoms over time. The two groups of daughter caregivers, nevertheless, did not differ from the comparison group in self-esteem or depressive symptoms at either wave 1 or wave 2.

### *Discussion*

Our analysis shows that daughters caring for parents with both physical and cognitive impairments have poorer and deteriorating relationships with their parents, compared to daughter noncaregivers. However, daughters caring for parents with physical impairments only do not differ in the quality of the relationships with their parents from those whose parents do not need care. We conclude that the effects of parent care on the quality of the daughter-parent relationship depend on whether the parent who needs care has cognitive impairments.

One explanation for the negative interpersonal effect of parents' cognitive impairments is related to the diminished ability of parents with cognitive impairments to be sources of emotional comfort and security for their adult daughters. When a daughter's emotional needs are not satisfied, attachment is likely to wane. Another possible explanation for the differential interpersonal effects of caring for parents with cognitive impairments compared to without cognitive impairments is related to differences in these two caregiving contexts. Additional analyses with the daughter caregiver samples, however, suggest that caregiving context variables, such as amount of care and caregiving support, are not associated with the quality of the daughter-parent relationship. Therefore, the deterioration of relationship quality with a cognitively impaired parent is more likely due to the lowered quality of interaction in that situation rather than the caregiving context.

Our study also shows that the quality of relationships with aging parents is associated with depressive symptoms in the daughters, regardless of whether they are providing care to their parents. This finding adds to the broader literature about attachment and emotional well-being of children and lends support for this association across the life course (Cicirelli 1998). Furthermore, our analysis suggests that the association of daughter-parent relationship quality and depressive symptoms in daughters is mediated by daughters' self-esteem; that is, a close relationship with her aging parent bolsters a daughter's self-esteem, which in turn leads to lower depressive symptom levels. These findings are consistent with symbolic interactionism, which suggests that our self-concept is influenced by interactions with our parents—the significant others who hold important and relevant information

about our selves and who are among the people we trust most. Adult daughters' self-concepts benefit from close relationships with their aging parents. A positive self-concept contributes to a woman's psychological resources, which can have both short- and long-term consequences for her mental health. Our cross-sectional analysis indicates that the short-term consequence for daughters who have higher self-esteem is a lower risk for depression. The long-term consequence is that self-esteem has a considerable degree of stability—those who have high self-esteem are likely to maintain high self-esteem over time, which then leads to lower levels of depressive symptoms over time.

We did not find that relationship quality with their parents had an effect on changes in daughters' self-esteem over the 18-month study period. One possible explanation for these null findings is that because self-esteem is a relatively stable construct, 18 months may not be long enough to detect the effect of relationship quality on changes in self-esteem.

This study has several methodological strengths worth mentioning. First, the use of daughter noncaregivers as a comparison group and a longitudinal design allowed us to contrast daughter-parent dyads in a caregiving context with those in a noncaregiving situation over time, which provides a stronger test of the effect of parent care on intergenerational relationship quality. In particular, to determine whether intergenerational relationship quality is associated with caregiving or not, using noncaregivers as controls is critical. Second, our sample was obtained through a probability sampling procedure, which reduced the problem of a biased sample of caregivers (Dura and Kiecolt-Glaser 1990)—a problem that has plagued many caregiving studies. It also advances previous studies that used a selected group of women, such as the educated and the employed (e.g., Barnett et al. 1991; Welsh and Stewart 1995), to study the association of intergenerational relationship quality and mental health of daughters. Third, the use of SEM made it possible to control for correlated measurement errors over time.

The findings of this study, nevertheless, should be interpreted cautiously. First, the measure of the quality of the daughter-parent relationship in this study was based entirely on the daughters' reports, which may differ from the parents' perspectives (Aquilino 1999; Rossi and Rossi 1990). Relatedly, the possibility of common method

variance should be noted, because the measures of relationship quality, self-esteem, and depressive symptoms were all based on self-reports of daughters. In addition, our measure of relationship quality focused on positive sentiments only. We recognize that the aging parent–adult child relationship often has negative sentiments as well (e.g., conflict, anger, and guilt) that warrant future research.

Second, as mentioned before, when investigating the association between daughter–parent relationship quality and depressive symptoms of daughters, we conceptualized self-esteem as a mediator. Admittedly, there are alternatives to the conceptual model we proposed. In particular, the casual direction of the latent variables may be questioned. For instance, one can posit that a daughter’s high self-esteem allows her to have a good relationship with her parent. One also could query whether self-esteem should be conceptualized as an outcome rather than a mediating variable. Although it is reasonable to view self-esteem as another dimension of mental health, parallel to depressive symptoms in this study, prior research has conceptualized self-esteem as a personal resource and as an intervening variable between stressors and well-being outcomes (Turner and Roszell 1994). Even so, other alternative models should be explored in future research. We note further that it is difficult to study mediating processes with two waves of data. Had our sample been larger, we could have improved the design by including multiple waves of data (60 daughters had lost their parents by wave 3 of our longitudinal study). The relatively small sample size in the present analysis may be a weakness; nevertheless, in spite of the limited statistical power, we did find meaningful and statistically significant relationships among the variables of interest. Last, the generalizability of the findings may be limited. Over 90% of the daughters in our sample were White. Although this sample reflects the ethnic composition of Wisconsin’s older population, the findings cannot be generalized to non-White populations, and it is strongly recommended to replicate the study with other racial or ethnic groups. Moreover, most of the parents in our study were mothers. To what extent the findings can be generalized to fathers is questionable.

In conclusion, our study suggests that the quality of the daughter–parent relationship suffers when a daughter provides care to a parent with a cognitive impairment, but not when care is provided to a parent without a cognitive impairment. Regardless of caregiving status, the

quality of the relationships with their parents is associated with self-esteem and depressive symptom of the daughters. Our findings suggest the dynamic properties of the quality of the intergenerational relationship and affirm its importance to the self-esteem and mental health of adult daughters.

#### NOTE

1. All parents of daughter caregivers were assessed of their cognitive limitations using the Cognitive Status Scale (Pearlin et al. 1990), which is scored from 0 to 32, with higher scores representing more cognitive limitations. The mean scale score for those with Alzheimer's disease was 10.47, with a standard deviation of 8.05. Therefore, one half standard deviation below the mean was 6.45.

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