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Research Article

Adult Children's Serious Health Conditions and the Flow of Support Between the Generations

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Abstract

Purpose: The life course perspective suggests that serious physical or mental health conditions that limit the daily activities of any one family member are likely to be consequential for other family members as well. In this article, we explored whether adult children's serious health conditions affected the flow of expressive and instrumental support between mothers and both the offspring with health conditions and other offspring in the family.

Design and Methods: We used data collected from 369 older mothers (M = 78 years) regarding 1,338 of their adult children (M = 49 years), as part of the Within-Family Differences Study-II.

Results: Adult children with serious health conditions were more likely than their siblings to be given support by their mothers. The presence of adult children with health issues did not reduce mothers' provision of expressive or instrumental support to their children without health conditions. However, in families in which a higher proportion of children had serious health conditions, mothers received expressive support from a greater proportion of their healthy adult children than in families with a smaller proportion of adult children with health conditions.

Implications: These findings contribute to a growing body of research demonstrating the ways in which conditions in adult children's lives affect their mothers.

Keywords: Intergenerational relationships, Caregiving—Informal, Family issues, Life course/Life span

The consequences of serious illness on individuals' social relationships have been a long-standing concern to social scientists and practitioners (Bury, 1982; Kahana, Kahana, Johnson, Hammond, & Kercher, 1994; Parsons, 1956). Studies have shown that adult children's serious health conditions have consequences for both parents' and siblings' physical and psychological well-being across the life course (Gallagher & Mechanic, 1996; Greenberg, 1995; Greenberg, Seltzer & Greenley, 1993; Greenberg, Kim, & Greenley, 1997; Pickett, Greenley & Greenberg, 1995). Little is known, however, about the ways in which the presence of adult children with such serious physical or psychological conditions affects the patterns of support exchange in later-life families.

Drawing from theories of the life course and contingent exchange (Davey & Norris, 1998; Elder, Johnson, & Crosnoe, 2003; Hagestad, 1986; Moen & Hernandez, 2009), in this article we explored the impact of adult children's serious health conditions on exchanges of expressive and instrumental support between the generations. First, we examined whether adult children with serious health conditions in midlife were more or less likely than their siblings to have exchanged support with their mothers during the previous year. Second, we examined whether mothers

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were more or less likely to exchange support with their healthy adult children depending upon the proportion of their offspring with serious health conditions.

To address these questions, we used data collected from 369 older mothers (M = 79 years) regarding 1,338 of their adult children (M = 49 years), as part of the Within-Family Differences Study (WFDS)-II. We have chosen data from the WFDS-II rather than the WFDS-I because almost all of the mothers at time 1 (T1) were relatively healthy and living independently. Further by time 2 (T2), more than half of the mothers had experienced a serious health event or chronic condition for which they needed care. Thus, by T2 the mothers had passed the threshold such that it would be expected that they receive more support from their adult children than they provide to them (Fingerman, Sechrist, & Birditt, 2013; Suitor, Sechrist, Gilligan, & Pillemer, 2011).

The WFDS data provide a unique opportunity to study these processes because detailed information was collected from mothers regarding their exchanges of support with each of their adult children. Thus, rather than making comparisons only between families in which there was or was not an adult child with a serious health condition, we also compared differences in support exchange between mother–adult child dyads within the same families.

Consequences of Adult Children's Health Conditions for Other Family Members

The life course perspective is applicable to studying the consequences of having a family member with a health condition. In particular, according to the life course concept of "linked lives," the experiences of individuals in interdependent dyadic relationships have marked effects on both role partners (Elder et al., 2003; Moen & Hernandez, 2009). Therefore, it is important to consider how serious health conditions affect not only the individual but also other immediate family members, including parents and siblings (Kahana et al., 1994).

Indeed, research on children's health concerns has shown that health conditions impact members of both generations. Research on younger families has demonstrated that children's health conditions affect both parents' and healthy siblings' physical and psychological well-being. (Bromley, Hare, Davison, & Emerson, 2004; Raina et al., 2005; Vermaes, van Susante, & van Bakel, 2011). Research on later-life families in which children have health concerns has shown similar patterns. In particular, parents with adult children with serious health conditions experience higher levels of psychological distress (Greenberg, 1995; Greenberg et al., 1997; Piazza, Floyd, Mailick, & Greenberg, 2014; Pickett et al., 1995; Pillemer & Suitor, 1991) and lower levels of physical, relational, and financial well-being (Gallagher & Mechanic, 1996; Greenberg et al., 1997; Rogers & Hogan, 2003). Adult children with siblings with serious health concerns have also been found to have lower psychological and relational well-being (Greenberg, Kim, & Greenley, 1997).

Studies of the consequences of the presence of adult children with serious health conditions suggest that the detrimental effects on mothers and siblings result at least in part from the disruption of normative patterns of intergenerational support. Such normative patterns include mothers' transitions from care provider to care recipient. Kahana et al. (1994) argue that the presence of an adult child with a serious health condition may reshape the intergenerational exchanges expected as parents enter their later years and children reach midlife. This article provides the first study of this question using both a between- and within-family approach.

Supportive exchanges between parents and adult children are a central topic in the study of later-life families. Exchange can take a number of forms between parents and adult offspring, including material support (such as money or housing); instrumental support (such as assistance with chores or running errands); and expressive support and advice (Seltzer & Bianchi, 2013). In this article, we focus on expressive and instrumental support between mothers and their adult children, because these dimensions of support have been found to be particularly consequential for the well-being of both generations (Suitor et al., 2011).

There are strong normative expectations that by the time parents reach late life, children will become important sources rather than recipients of support (Hagestad, 1986; Lin & Wu, 2014). The transition from mothers being primarily sources of support to adult children to being primarily recipients of support from children usually takes place by the time the mothers enter their 80s (Fingerman et al., 2013; Suitor et al., 2011). However, consistent with contingent exchange theory (Davey & Norris, 1998), children's needs are important predictors of patterns of intergenerational exchange. In fact, recent studies have shown that mothers provide instrumental and expressive support to offspring with greater needs regardless of the children's stage in the life course (Fingerman et al., 2009; Suitor, Sechrist, & Pillemer, 2007).

We therefore hypothesized that mothers were (a) more likely to provide expressive and instrumental support to children with serious health conditions than to their other offspring; and (b) less likely to receive expressive and instrumental support from their children with health conditions than from their other offspring. Thus, in this exploration we took a within-family approach to explore the ways in which mothers differentially provided support to and received support from children with serious health conditions, relative to their other offspring.

Adult Children's Health Conditions and Patterns of Support Between Other Family Members

The life course concept of "linked lives" suggests that adult children's health conditions will also affect the exchange of support between mothers and their other offspring. Specifically, because mothers are likely to provide additional support to their adult children with health concerns

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they may not be able to provide support to other offspring in the family. Further, adult children may need to provide additional support to their siblings with health conditions, making it more difficult for other offspring to provide their mothers with needed support when they require assistance. Indeed, studies have demonstrated that siblings serve as an important source of social support for individuals with disabilities in adulthood (Arnold, Heller & Kramer, 2012; Greenberg, Seltzer, Orsmond, & Krauss, 1999; Kramer, Hall, & Heller, 2013). However, we do not know whether sibling assistance impedes their ability to provide support to their mothers.

Therefore, we also examined the ways in which the presence of children with health conditions affected support between mothers and their other offspring without health conditions. Based on the argument above, we hypothesized that mothers with a higher proportion of children with serious health conditions would be less likely, relative to those with a smaller proportion: (a) to provide expressive and instrumental support to their other children without health conditions; and (b) to receive expressive and instrumental support from their other healthy children. Thus, in this exploration we took a between-family approach to explore whether the presence of adult children with serious health conditions predicted differences in the exchange of intergenerational support between these two groups of families.

Other Factors Affecting Support Exchange

We also took into consideration several mother and child characteristics that have been found to play important roles in support exchange between the generations. The mother-level characteristics we included were number of living offspring, marital status, age, race, educational attainment, recent serious health events, and depressive symptoms. Studies have shown that mothers are more likely to receive support, but are less likely to provide support, when they are unmarried (Suitor et al., 2014), older, less educated, or have experienced major physical or psychological health events (Suitor et al., 2011). Further, although mothers are more likely to receive support when they have a large number of offspring, the likelihood of providing support to each offspring declines as family size increases (Pillemer & Suitor, 2014). African-Americans report a greater sense of filial obligation than do their White counterparts (Suitor et al., 2011), which might be expected to translate into higher levels of intergenerational support. On contrary to these expectations, studies have found that such race differences in support exchange greatly disappear when controlling statistically for socioeconomic status (Sarkisian & Gerstel, 2004). Therefore, we took both race and educational attainment into consideration.

The child characteristics we included were geographic proximity to mothers, gender, marital status, parental status, birth order, educational attainment, employment, engagement in deviant behaviors (trouble with the law and/or substance abuse), and similarity of values between mothers and their children. Exchange of support between mothers and their adult children has been found to be greater when offspring were daughters, unemployed, unmarried, had completed more education, were last-born, lived closer, and shared the mothers' values (Suitor, Pillemer, & Sechrist, 2006; Suitor, Sechrist, & Pillemer, 2007). Support from mothers to children was greater when offspring had engaged in deviant behaviors, whereas support from children to mothers was lower under these circumstances (Suitor et al., 2006, 2007).

Methods

The data for this study were collected as part of the WFDS, which involved selecting a sample of mothers 65–75 years of age with at least two living adult children. (For a more detailed description of the WFDS design, see Gilligan, Suitor, Kim, & Pillemer, 2013, and Suitor et al., 2014, in which portions of this section have already been published.) The first wave of interviews in the WFDS took place with 566 women between 2001 and 2003; the original study was expanded to include a second wave of data collection from 2008 through 2011.

Massachusetts City and town lists were used as the source of the original WFDS sample, from which women aged 65–75 years were identified. With the assistance of the Center for Survey Research at the University of Massachusetts, Boston, the investigators drew a probability sample of women aged 65–75 years with two or more children from the greater Boston area. The Time 1 (T1) sample consisted of 566 mothers, which represented 61% of those who were eligible for participation, a rate comparable to that of similar surveys in the past decade (Wright & Marsden, 2010).

For the follow-up study, the survey team attempted to contact each mother who participated in the original study. At Time 2 (T2), 420 mothers were interviewed. Of the 146 mothers who participated at only T1, 78 had died between waves, 19 were too ill to be interviewed, 33 refused, and 16 could not be reached. Thus, the 420 represent 86% of mothers who were living at T2. Comparison of the T1 and T2 samples revealed that the respondents differed on subjective health, educational attainment, marital status, and race. Mothers who were not interviewed at T2 were less healthy, less educated, and less likely to have been married at T1; they were also more likely to be Black.

The 420 mothers interviewed at T2 had 1,577 adult children for whom they provided information. For these analyses, we omitted 25 mothers who had children die between T1 and T2, as well as 20 mothers who reported that all of their children had serious health problems. Listwise deletion was used to handle missing data on the independent variables because less than 2% of the cases were missing on any of the variables in the analysis (cf. Allison, 2010). The final analytic sample consisted of 1,338 adult children nested within 369 families. The analyses were conducted using SPSS version 22.

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Data for these analyses were collected at T2 with the exception of demographic characteristics that were collected at T1 that would not have changed between waves (e.g., gender, birth order, etc.). Mothers' and children's demographic characteristics are presented in Table 1.

Measures

Dependent Variables

Support Variables for Within-Family Analyses

Mothers were asked about the support they gave to each of their children as well as the support they received from each of their children. For each of their children, mothers were asked to report whether, within the previous year, they had given either (a) comfort during a personal crisis or (b) advice on a decision the child had to make. If mothers answered yes to either of these items, they were asked how often, in the past year: 1 = once or twice, 2 = 3–5 times, 3 = 6–10 times, 4 = 11–20 times, and 5 = more than 20 times. We then combined the two variables (comfort and advice) into a sum composite measure of expressive support provided to each of their children. The frequency at which mothers gave and received expressive support was skewed; therefore, we collapsed the measure into four categories: 0 = no support, 1 = 1–2 times, 2 = 3–5 times, and 3 = 6 or more times. We then used the same procedures to create the measure of expressive support mothers received from each of their adult children.

To measure instrumental support, mothers were asked whether they gave: (a) help during an illness; or (b) help with regular chores. As we did with expressive support, if mothers answered yes to either of these items, they were asked how often in the past year: 1 = once or twice, 2 = 3–5 times, 3 = 6–10 times, 4 = 11–20 times, and 5 = more than 20 times. We then combined the two variables (help with illness or regular chores) into a sum composite of instrumental support. Next, we collapsed the measure into four categories: 0 = no support, 1 = 1–2 times, 2 = 3–5 times, and 3 = 6 or more times. Last, we used the same procedures to create the measure of instrumental support mothers received from each of their adult children.

Support Variables for Between-Family Analyses

For the second set of analyses, in which we compared the exchange of support in families that did and did not have children with serious health conditions, we created variables that indicated the proportion of healthy offspring in the family to whom mothers provided support, and the proportion of healthy offspring who provided support to their mothers. To create these family-level measures of support exchange, we dichotomized and then aggregated the dyad-level measures described in the previous section. It is important to note that because we were interested in the effects of the presence of children with serious health conditions on support exchange between mothers and their other offspring, we used only reports from mothers regarding their other children when creating the aggregate measures of support exchange. Thus, the offspring with health conditions were not included in the analyses. Separate measures of the proportion of children in the family to whom mothers provided with support and the proportion of children who provided the mothers with support were created for expressive and instrumental exchanges (0–100%). On average, mothers gave expressive support to 63% of their adult children without health conditions and gave instrumental support to 25% of their adult children without health conditions. On average, mothers received expressive support from 75% of their adult children without health conditions and received instrumental support from 56% of their adult children without health conditions.

Independent Variables

Children's Serious Health Conditions

Each child was coded as having a serious health condition if, based on his or her mother's report, that child had a serious illness or injury within the past year and/or that the child had a serious psychological or emotional condition within the past year (0 = no serious health condition; 1 = serious health condition). Based on this classification, approximately 20% of the adult children were classified as having a serious health condition.

Families with Adult Children Who Had Serious Health Conditions

An aggregate variable was created to measure children's serious health conditions at the family level. Families were coded based on the proportion of adult children with serious health conditions. Approximately 49% of the families had at least one child with a serious health condition.

We included a proportional measure of adult children in the family with health conditions rather than the absolute number of children because the proportion better captures the effects of such conditions on the structure of the network of support within the family. For example, if one child in a family of five has a serious health condition there are more potential sources of informal support to both that child and to his or her mother than in a family of two children in which one has a serious health condition.

Control Variables

Child-Level and Dyad-Level Characteristics

Child's age was measured in years. Parental status was coded as 0 = no children and 1 = has children. Adult children's marital status was coded as 1 = married and 0 = not married. The child's gender was coded as 0 = son and 1 = daughter. Mothers were asked which educational categories were applicable to their adult children's educational

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Table 1. Demographics of Mothers and Adult Children

	Means, *SD*, % (*n* = 369)	Range
Mothers		
Age in years (*SD*)	77.8 (3.2)	73–85
Race (%)		
Black	23.8	
Not Black	76.2	
Marital status (%)		
Married	40.9	
Cohabiting	0.8	
Divorced/separated	13.5	
Widowed	44.2	
Never married	0.5	
Education (%)		
Less than high school	18.3	
High school graduate	45.5	
Some college	12.3	
College graduate	23.9	
Number of children (*SD*)	3.8 (1.7)	2–10
Needed assistance for serious health event in past 2 years	56.8	
Has at least one child with serious health condition	49	0–100
Proportion of children without health conditions to whom mothers gave expressive support	63 (3.6)	0–100
Proportion of children without health conditions to whom mothers gave instrumental support	25 (3.3)	0–100
Proportion of children without health conditions whom mother received expressive support	75 (3.4)	0–100
Proportion of children without health conditions whom received instrumental support	56 (3.9)	
Adult children		
Age in years (*SD*)	49.4 (5.8)	28–68
Daughters (%)	52	
Married (%)	67.8	
Parents (%)	69.8	
Education (%)		
Less than high school	5.5	
High school graduate	31.6	
Some college	12.8	
College graduate	50.2	
Has serious health condition	19.7	
Children received expressive support (%)		
Never in the past year	33.8	
1–2 times in the past year	22.3	
3–5 times in the past year	20.6	
6 or more times in the past year	23.3	
Children received instrumental support (%)		
Never in the past year	71.2	
1–2 times in the past year	9	
3–5 times in the past year	8.3	
Six or more times in the past year	11.4	
Children provided expressive support (%)		
Never in the past year	26.6	
1–2 times in the past year	24.7	
3–5 times in the past year	23.9	
Six or more times in the past year	24.9	
Children provided instrumental support (%)		
Never in the past year	57	
1–2 times in the past year	8.3	
3–5 times in the past year	11.6	
Six or more times in the past year	23.1	

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attainment: 1 = eighth grade or less, 2 = 1–3 years of high school, 3 = high school graduate, 4 = vocational or other non-college post-secondary, 5 = 1–3 years college, 6 = college graduate, and 7 = graduate work. *Proximity* was measured in distance the child lived from the mother in terms of travel time by ground transportation. Categories were: (a) 2 or more hours away, (b) more than an hour but less than 2 h away, (c) 30–60 min away, (d) 15–30 min away, (e) less than 15 min away, (f) same neighborhood, and (7) same house. *Birth order* was coded based on mothers' reports of the children's ages; only last-born was included in the analyses.

Perceived value similarity was measured by the following item: "Parents and children are sometimes similar to each other in their views and opinions and sometimes different from each other. Would you say that you and [child's name] share very similar views (4), similar views (3), different views (2), or very different views (1) in terms of general outlook on life?"

To measure *children's deviant behaviors*, mothers were asked whether each of their adult children had experienced any of a series of conditions. For these analyses, we used substance abuse or conditions with the law. At T1, the mothers were asked to specify whether the child had experienced these conditions at any point in adulthood; at T2, they were asked whether the child had experienced these conditions in the previous 5 years. Children were then assigned to one of the three following categories: (a) never engaged in deviant behaviors in adulthood; (b) engaged in deviant behaviors in adulthood prior to T1, but disengaged in those behaviors by T2; and (c) engaged in deviant behaviors at T1 and T2 or began engaging in these behaviors between T1 and T2.

We asked mothers about their *children's employment* at T1; *0 = no, 1 = yes*. We did not ask about children's current employment status at T2. Instead, we collected information on *children's recent unemployment*, rather than employment changes from T1 to T2. Mothers were asked whether each child had "not had a job when he/she wanted to work" in the previous year (0 = *no*, 1 = *yes*).

For the between-family analysis, all of the child-level variables included in the within-family analysis (with the exception of birth order) were aggregated for inclusion in the models. These aggregate variables reflected the proportion of children in the family with each characteristic. Specifically, the aggregate variables reflected the proportion who were daughters, who were married, who were parents, who completed college, who were employed at T1, who were looking for work at T2, who engaged in deviant behaviors at T1 only, who either engaged in deviant behaviors at T2 only or at both T1 and T2, and the proportion who had serious health conditions at T2. The aggregate dyad-level characteristics reflected the proportion of children who shared their mothers' values and who lived within a 2-h drive from their mothers.

Mother-Level Characteristics

Family size was measured using the number of living adult children in the family at T2. *Race* was measured by asking the mothers to select from a card listing several races and ethnicities (e.g., White, Black or African American, Hispanic or Latina, and Asian). They were instructed that they could choose more than one race or ethnicity. Based on the literature on later-life families, which has shown closer intergenerational ties in Black, Asian, and Hispanic than White families, we coded race as White (0) or non-White (1). *Marital status* was coded as 1 = married and 0 = not married. *Age* at T2 was the age mothers provided at T1 plus 7 (the number of years between interviews). *Mothers' educational attainment* was coded as 1 = eighth grade or less, 2 = 1–3 years of high school, 3 = high school graduate, 4 = vocational or other noncollege post-secondary, 5 = 1–3 years college, 6 = college graduate, and 7 = graduate work.

To measure *depressive symptoms*, we employed the seven-item version of the Center for Epidemiological Studies Depression (CES-D) scale (Ross & Mirowsky, 1988). The CES-D scale asks respondents how often in the past week they have felt a certain way. The items comprising the scale are: (a) Everything I did was an effort, (b) I had trouble getting to sleep or staying asleep, (c) I felt lonely, (d) I felt sad, (e) I could not get going, (f) I felt I could not shake off the blues, and (g) I had trouble keeping my mind on what I was doing. In this sample, the scale for mothers at T2 ranged from 7 to 28, with a mean of 10.96 (*SD* = 4.28) and an Alpha coefficient 0.82. Mothers were classified as having experienced a serious health condition if, at T2, (a) they reported a serious injury or illness for which they needed assistance at some point within the last 2 years or (b) if they experienced a new chronic condition for which they reported that they needed help within the same period. Fifty-seven percent of the mothers reported needing help in the last 2 years.

Analytic Plan

Separate analytical techniques were used to address our two research questions. To address our first research question, whether mothers were more or less likely to have exchanged support in the previous years with children with serious health conditions than with their siblings, we conducted multilevel ordinal logistic regression analyses. In these analyses, the 1,338 children who were the units of analyses were nested within the 369 families on whose reports these analyses were based; thus, the observations were not independent. Multilevel ordinal logistic regression accounts for this lack of independence. To address our second research question, whether mothers with a higher proportion of adult children with serious health conditions were more or less likely to exchange support with their healthy children than were mothers with a smaller proportion, we conducted between-family comparisons using ordinary least squares regression. To eliminate the effects of

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mothers' exchanges of support with children with serious health conditions, we excluded mothers' reports on these children from the analyses.

Results

Within-Family Analyses of Support Exchanges between Mother–Child Dyads

We began the analyses by examining the variance explained by the mother-level characteristics. We ran an intercept-only model, which provided the variance components to calculate the intraclass correlation coefficients (Heck, Thomas, & Tabata, 2013). The intraclass correlation coefficient ranged from 0.13 to 0.31, indicating that the mother-level factors accounted for 13–31% of the variance in intergenerational exchanges of support. We therefore conducted multilevel ordinal regression analyses which allowed us to take both mother-level and adult child-level characteristics into consideration in the same analyses.

Table 2 presents the results of the within-family analyses comparing support exchanges between dyads in which the children had serious health conditions and dyads in which the children did not have such health concerns. Column 1 presents the results comparing the expressive support mothers gave to children. Consistent with our first hypothesis, mothers were more likely to have provided expressive support to their adult children with health conditions than to their children without such health concerns, as can be seen in the bottom row of column 1. Similarly, as can be seen in column 2, mothers were also more likely to have provided adult children with health conditions with instrumental support. Adult children's health condition statuses did not predict whether mothers received expressive or instrumental support from their children.

Between-Family Analyses of Support Exchanges between Mothers and Children by the Presence of Offspring with Serious Health Concerns

Table 3 presents the results for the analyses examining whether the proportion of adult children with health conditions in the family predicted mothers' exchanges of support with her other children. Contrary to our expectations, the proportion of adult children with health conditions did not predict mothers' likelihood of giving either expressive or instrumental support to their adult children without health conditions, as shown in bottom row in columns 1 and 2. However, as can be seen in column 3, mothers with a higher proportion of children with health conditions were more likely to receive expressive support from children without health conditions. In contrast, as seen in column 4, the proportion of children with health conditions did not predict mothers' receipt of instrumental support.

Taken together, these findings indicate that mothers were more likely to provide expressive and instrumental support to adult children with health conditions than to other children in the family. With the exception of expressive support, however, the presence of adult children with health conditions did not differentiate the support exchange between families. In families in which a higher proportion of children had serious health conditions, mothers received expressive support from a greater proportion of their healthy adult children than in families with a smaller proportion of adult children with health conditions.

Discussion

Drawing from the life course concepts of "linked lives" and "off-time" transitions (Elder, Johnson, & Crosnoe, 2003; Hagestad, 1986; Moen & Hernandez, 2009), in this article, we explored the impact of the presence of adult children with serious health conditions on exchanges of support between the generations. In particular, we examined two research questions: (a) Were adult children with serious health conditions in midlife more or less likely than their siblings to exchange support with their mothers during the previous year; and (b) were mothers in families with a higher proportion of adult children with serious health conditions more or less likely to exchange support with their other adult children than were mothers in families with a smaller proportion of adult children with health conditions.

Consistent with the life-course concept of linked lives, we found that the serious health conditions of adult children affected patterns of intergenerational support between the generations. In support of our hypotheses, mothers were more likely to provide expressive and instrumental support to adult children with serious health conditions than they were to other children without such serious health concerns. Thus, although by the time they reach their 80s most mothers have made the transition from caregiver to care recipient (Fingerman et al., 2013; Suitor et al., 2011), our findings suggest that mothers of adult children with serious health conditions occupy the caregiver role well into the later stages of the life course.

The within-family analysis revealed that adult children's health conditions did not predict their likelihood of providing support to their mothers. This finding suggests that adult children with health conditions do not reciprocate the additional support they receive from their mothers. The literature on caregiving more generally indicates that this type of reciprocation often has positive benefits for both the caregiver and care recipient (Lowenstein, Katz, & Gur-Yaish, 2007; Raschick & Ingersoll-Dayton, 2004). As a result, both mothers and adult children with serious health conditions may suffer consequences from this lack of reciprocation.

However, the between-family analysis indicated that mothers with a higher proportion of adult children with serious health conditions were more likely to receive expressive support from their other children compared to mothers with a smaller proportion of children with health

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Table 2. Within-Family Ordinal Logistic Multilevel Regression Predicting Mother's Provision and Receipt of Support From Adult Children With Serious Health Problems in Past Year

	Mother gave support to child				Mother received support from child			
	Expressive support		Instrumental support		Expressive support		Instrumental support	
	B (*SE*)	OR	B (*SE*)	OR	B (*SE*)	OR	B (*SE*)	OR
Family-level characteristics								
Family size	−0.09** (0.03)	0.91	−0.14** (0.04)	0.87	−0.02 (0.03)	0.98	−0.01 (0.03)	0.99
Mother's age	−0.04* (0.02)	0.97	−0.03 (0.02)	0.97	0.00 (0.02)	1.00	0.05** (0.02)	1.05
Non-White	−0.09 (0.13)	0.91	0.16 (0.17)	1.18	−0.47** (0.13)	0.63	0.18 (0.15)	1.20
Mother married	−0.08 (0.12)	0.93	0.19 (0.14)	1.21	−0.23* (0.11)	0.79	−0.36** (0.13)	0.70
Mother's education	0.12** (0.03)	1.13	−0.02 (0.04)	0.98	0.00 (0.04)	1.00	0.10** (0.04)	1.10
Mother had serious health event within 2 years	−0.01 (0.11)	0.99	0.03 (0.14)	1.03	0.32** (0.11)	1.38	0.34** (0.13)	1.40
Mother's depressive symptoms	0.04** (0.01)	1.04	0.02 (0.02)	1.02	0.10** (0.02)	1.10	0.06** (0.02)	1.06
Parent–child dyad characteristics								
Value similarity	0.05 (0.07)	1.05	0.20* (0.09)	1.22	0.32** (0.07)	1.38	0.17* (0.08)	1.18
Distance lived from mother	−0.09** (0.03)	0.91	−0.32** (0.04)	0.73	−0.19** (0.03)	0.83	−0.53** (0.04)	0.59
Model statistics	−0.01 (0.12)	0.99	−0.37** (0.15)	0.70	−0.14 (0.12)	0.87	−0.21 (0.14)	0.81
Educational attainment	0.06 (0.04)	0.95	−0.05 (0.05)	0.95	0.12** (0.04)	1.13	0.00 (0.04)	0.99
Employment								
Employed at T1	0.00 (0.15)	1.00	−0.09 (0.19)	0.92	−0.27 (0.16)	0.77	0.19 (0.18)	1.21
Looking for work year before T2	0.46** (0.14)	1.59	0.37* (0.18)	1.45	0.27 (0.14)	1.31	0.26 (0.16)	1.30
Child engaged in deviant behaviors in adulthood[a]								
Reported T1 only	0.40 (0.22)	1.49	0.15 (0.25)	1.16	0.35 (.22)	1.42	−0.18 (0.24)	0.84
Reported T2 only or both T1 and T2	0.57* (0.27)	1.77	0.08 (0.31)	1.09	0.02 (0.28)	1.02	−0.28 (0.29)	0.75
Last born[b]	−0.01 (0.12)	0.99	−0.01 (0.15)	0.99	−0.08 (0.12)	0.93	0.09 (0.14)	1.09
Child had serious health condition in past year	1.21** (0.14)	3.35	0.87** (0.16)	2.39	0.27 (0.14)	1.31	−0.11 (0.16)	0.90
Log likelihood	−1,625.99		−1,059.949		−1,673.00		−1,254.04	
AIC	3,295.97		2,163.898		3,389.99		2,552.08	
BIC	3,409.47		2,277.402		3,503.46		2,665.50	
N of dyads	1,286		1,286		1,284		1,281	

Notes: AIC = Akaike's information criterion, BIC = Bayesian information criterion.
[a]Referent is child did not engage in deviant behaviors in adulthood.
[b]Referent is first born or middle children.
*$p \leq .05$. **$p \leq .01$.

conditions. This finding suggests that adult children without health conditions may serve as important sources of support to their mothers who are caring for their siblings. This finding is encouraging given the literature demonstrating the negative effects that adult children's health conditions have on a range of parental well-being outcomes (Gallagher & Mechanic, 1996; Greenberg, 1995; Greenberg et al., 1993, 1997; Pickett et al., 1995; Rogers & Hogan, 2003).

Although mothers provided additional instrumental support to adult children with serious health conditions, the mothers did not appear to receive compensation for this support from their other offspring. Adult children with health conditions were no more likely than their siblings to provide their mothers with instrumental support, and adult children in families with a higher proportion of adult children with serious health conditions were no more likely to provide their mothers with this type of support than their families with a smaller proportion of adult children with health conditions. Thus, it appears that older mothers with midlife adult children with serious health conditions may experience a substantial deficit in practical assistance when they face their own health events. Further, such an imbalanced flow of support may place these mothers at greater risk for such health events because of the high levels of expressive and instrumental support they continue to provide to their children with health conditions, and the absence of additional instrumental support to offset their heavier responsibilities.

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Table 3. Between-Family Ordinary Least Squares Regression Predicting Mother's Provision and Receipt From Adult Children Without Health Conditions

	Mother gave support to child				Mother received support from child			
	Expressive support		Instrumental support		Expressive support		Instrumental support	
Predictors	B (*SE*)	*β*	B (*SE*)	*β*	B (*SE*)	*β*	B (*SE*)	*β*
Family size	−0.02 (0.01)	−0.09	−0.03** (0.01)	−0.15	−0.01 (0.01)	−0.04	−0.02 (0.01)	−0.09
Mother's age	−0.01 (0.01)	−0.07	−0.01 (0.01)	−0.10	0.00 (0.01)	0.00	0.01* (0.01)	0.11
Non-White	0.06 (0.05)	0.08	0.05 (0.05)	0.07	−0.09 (0.05)	−0.11	0.06 (0.05)	0.07
Mother married	0.02 (0.04)	0.03	0.02 (0.04)	0.03	0.01 (0.04)	0.01	−0.10* (0.04)	−0.13
Mother's education	0.02 (0.01)	0.07	0.00 (0.01)	−0.02	0.00 (0.01)	0.02	0.00 (0.01)	0.00
Mother had serious health event within 2 years	0.02 (0.04)	0.03	−0.04 (0.04)	−0.06	0.04 (0.04)	0.05	0.15** (0.04)	0.20
Mother's depressive symptoms	0.00 (0.01)	0.03	0.00 (0.00)	0.05	0.01 (0.00)	0.10	0.01 (0.01)	0.06
Proportion daughters	0.24** (0.07)	0.18	0.09 (0.06)	0.08	−0.03 (0.07)	−0.02	−0.08 (0.07)	−0.06
Proportion share mothers' values	0.06 (0.07)	0.05	0.16** (0.07)	0.14	0.07 (0.07)	0.06	0.10 (0.07)	0.07
Proportion living within 2 h of mother	−0.15* (0.07)	−0.12	0.09 (0.06)	0.08	0.07 (0.07)	0.06	0.39** (0.07)	0.29
Proportion parent	−0.10 (0.07)	−0.08	−0.11 (0.06)	−0.10	−0.02 (0.07)	−0.02	−0.13 (0.07)	−0.10
Proportion educational attainment	−0.01 (0.06)	−0.01	−0.08 (0.06)	−0.10	0.12* (0.06)	.13	0.04 (0.06)	0.04
Employment								
Proportion employed at T1	0.01 (0.09)	0.01	−0.01 (0.08)	−0.01	−0.04 (0.08)	−0.03	−0.11 (0.09)	−0.06
Proportion looking for work year before T2	0.21* (0.09)	0.12	0.15 (0.08)	0.10	0.10 (0.09)	0.06	0.02 (0.09)	0.01
Child engaged in deviant behaviors in adulthood								
Proportion reported T1 only	−0.03 (0.12)	−0.01	0.14 (0.11)	0.07	0.21 (0.12)	0.10	−0.13 (0.12)	−0.05
Proportion reported T2 only or both T1 and T2	0.14 (0.15)	0.06	0.01 (0.14)	0.00	0.03 (0.14)	0.01	0.05 (0.15)	0.02
Proportion of children with serious health conditions in past year	0.15 (0.09)	0.10	−0.14 (0.08)	−0.10	0.22** (0.08)	0.15	0.01 (0.09)	0.01
R^2	0.11**		0.10**		0.10**		0.19**	
N of mothers	358		358		358		358	

*$p \leq .05$, **$p \leq .01$.

Limitations and Future Directions

Although this study has shed new light on the ways in which the presence of adult children with serious health conditions affects intergenerational support, there are several limitations that future research should take into consideration. In particular, we hope that future researchers will take social structural factors into account when studying how adult children's health conditions affect patterns of intergenerational exchange. One important factor to take into consideration is parent's gender. The findings we have presented focus on support exchanges with only mothers. Differences continue to be found between mothers' and fathers' relationships with their adult children (Gilligan et al., 2013; Pillemer, Munsch, Fuller-Rowell, Riffin, & Suitor, 2012; Suitor & Pillemer, 2013; Ward, Spitze, & Deane, 2009), and it is possible that these processes would not be replicated when considering father–child relationships. Given that mothers both expect and engage in higher levels of support exchanges with adult children than do fathers (Suitor et al., 2011), it is possible that adult children's health conditions may play a greater role in mothers' exchanges of support with adult children than fathers' exchanges. Further, because mothers place greater emphasis on expressive dimensions of their relationships with their adult children, whereas men place greater emphasis on instrumental dimensions (Pillemer et al., 2012; Suitor & Pillemer, 2013), it is possible that adult children's health conditions would play a differential role in fathers' than mothers' relationships with their adult children. Thus, we hope that future research will

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explore whether the exchanges of support differ by parents' gender.

A second social structural factor that is important to take into consideration is race and ethnicity. Research has shown that African-Americans report a greater sense of filial obligation than do their White counterparts (Suitor et al., 2011), which might be expected to translate into higher levels of intergenerational support. Contrary to these expectations, studies have found that such race differences in support exchange are greatly reduced when controlling statistically for socioeconomic status (Mouzon, 2013; Sarkisian & Gerstel, 2004). However, this line of research has not explored whether members of Black and White families respond differently when adult children experience major health events for which they need support. Given the greater closeness between generations in Black than White families (Aquilino, 1999; Sechrist, Suitor, Henderson, Cline, & and Steinhour, 2007; Silverstein & Bengtson, 1997), the emergence of a serious health condition may produce different patterns of exchange by race than would be found under less stressful conditions.

The particular characteristics of adult children's health conditions may also play a role in support exchanges between older parents and their midlife offspring. Among these characteristics are whether the child's condition is acute or chronic, the severity and prognosis of the illness or condition, and the extent to which the condition can be managed without support from family members. Given that the WFDS does not provide the level of detail required to categorize children's health problems by severity and duration, we could not take these factors into consideration. Thus, we hope that future research will address these questions.

Finally, we examined intergenerational exchanges of support from the perspective of older mothers rather than their children. It is possible that the patterns we observed here regarding exchanges of support between mothers and their adult children might differ if considered from the adult child's perspective. Previous research has shown discrepancies between parents and adult children's reports of intergenerational exchanges of support (Kim, Zarit, Eggebeen, Birditt, & Fingerman, 2011). Therefore, it is important to examine exchanges from both generations' perspectives in future studies of support when adult children experience serious health conditions.

Implications for Practice

Taken together, these findings have important practice implications in two domains. At the individual level, the results confirm that mothers disproportionately provide help to children with serious health conditions past the life stage in which it is normative for support to flow from parents to adult offspring. A large body of research indicates that such situations may cause significant distress for mothers, because of their emotional stake in the normative development of their offspring and their anxiety regarding the well-being of the child (Fingerman, Cheng, Cichy, Birditt, & Zarit, 2013). Because of the emphasis in both the scientific and popular literature on the stresses incurred by adult children caring for parents, this reverse pathway to parental distress may be ignored in practice settings. Clinicians who work with older adults should be aware of the possibility of ongoing dependency of adult offspring with serious health problems. The issue is also relevant for professionals who work with older individuals in financial planning and management, as substantial support to an ill or disabled adult child may compromise the parent's own economic future (Remle, 2011).

Second, it is clear from the findings that having an ill sibling is a "family affair," even in midlife. Both research and clinical evidence indicate that mental health and social service providers may overlook siblings' needs when a family confronts an adult child's illness (Greenberg et al., 1999). In addition, both parents and siblings of adult children with serious health conditions often express concerns regarding who will care for these children when parents become ill or disabled (Mengel, Marcus, & Dunkle, 1996; Smith, Greenberg, & Seltzer, 2007). The findings of this study suggest that in addition to assisting their brother or sister, siblings of the seriously ill adult child mobilize emotional support for their older mothers, which may in turn buffer the stress she experiences. Attention to the needs of siblings, as well as parents, can therefore create a more holistic approach to intervention in these families and enhance their ability to provide care. Resilience-oriented approaches are very useful in this context, which prioritize positive resources in the family network and how to maximize them. Such approaches are supported by the life course perspective and the findings reported in this article, suggesting that the focus on individual support to an ill adult child be broadened to the concept of family as a caregiving team (Walsh, 2012). Intervention research on this topic may provide benefits to older people and their offspring as they deal with health problems as a family unit.

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References

Allison, P. D. (2010). Missing data. In J. Wright & P. Marsden (Eds.), *Handbook of survey research* (pp. 631–658). Bingley, UK: Emerald Group Limited.

Aquilino, W. S. (1999). Two views of one relationship: comparing parents' and young adult children's reports of the quality of intergenerational relations. *Journal of Marriage and Family*, **61**, 858–870. doi: 10.2307/354008.

Arnold, C. K., Heller, T., & Kramer, J. (2012). Support needs of siblings of people with developmental disabilities. *Intellectual and Developmental Disabilities*, **50**, 373–382. doi:10.1352/1934-9556-50.5.373

Bromley, J., Hare, D. J., Davison, K., & Emerson, E. (2004). Mothers supporting children with autistic spectrum disorders: social support, mental health status and satisfaction with services. *Autism: the International Journal of Research and Practice*, **8**, 409–423. doi:10.1177/1362361304047224

Bury, M. (1982). Chronic illness as biographical disruption. *Sociology of Health & Illness*, **4**, 167–182. doi:10.1111/1467-9566.ep11339939

Davey, A., & Norris, J. E. (1998). Social networks and exchange norms across the adult life-span. *Canadian Journal on Aging*, **17**, 212–233. doi:10.1017/S0714980800009272

Elder, G. H., Johnson, M. K., & Crosnoe, R. (2003). The emergence and development of life course theory. In J. T. Mortimer, & M. J. Shanahan (Eds.), *Handbook of the Life Course* (pp. 3–19). New York: Kluwer Academic/Plenum.

Fingerman, K., Miller, L., Birditt, K., & Zarit, S. (2009). Giving to the good and the needy: parental support of grown children. *Journal of Marriage and Family*, 71, 1220-1233. doi:10.1111/j.1741-3737.2009.00665.x

Fingerman, K. L., Sechrist, J., & Birditt, K. (2013). Changing views on intergenerational ties. *Gerontology*, **59**, 64–70. doi:10.1159/000342211

Fingerman, K. L., Cheng, Y.-P., Cichy, K. E., Birditt, K. S., & Zarit, S. (2013). Help with "Strings Attached": offspring perceptions that middle-aged parents offer conflicted support. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 68, 902-911. doi:10.1093/geronb/gbt032

Gallagher, S. K., & Mechanic, D. (1996). Living with the mentally ill: effects on the health and functioning of other household members. *Social Science & Medicine*, **42**, 1691–1701. doi:10.1016/0277-9536(95)00296-0

Gilligan, M., Suitor, J. J., Kim, S., & Pillemer, K. (2013). Differential effects of perceptions of mothers' and fathers' favoritism on sibling tension in adulthood. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, **68**, 593–598. doi:10.1093/geronb/gbt039

Greenberg, J. S. (1995). The other side of caring: adult children with mental illness as supports to their mothers in later life. *Social Work*, **40**, 414–423.

Greenberg, J. S., Kim, H. W., & Greenley, J. R. (1997). Factors associated with subjective burden in siblings of adults with severe mental illness. *The American Journal of Orthopsychiatry*, **67**, 231–241. doi:10.1037/h0080226

Greenberg, J. S., Seltzer, M. M., & Greenley, J. R. (1993). Aging parents of adults with disabilities: the gratifications and frustrations of later-life caregiving. *The Gerontologist*, **33**, 542–550. doi:10.1093/geront/33.4.542

Greenberg, J. S, Seltzer, M. M., Krauss, M. W., & Kim, H.-W. (1997). The differential effects of social support on the psychological well-being of aging mothers of adults with mental illness or mental retardation. *Family Relations*, **46**, 383–394. doi:10.2307/585098

Greenberg, J. S., Seltzer, M. M., Orsmond, G. I., & Krauss, M. W. (1999). Siblings of adults with mental illness or mental retardation: current involvement and expectation of future caregiving. *Psychiatric Services*, **50**, 1214–1219. doi:10.1176/ps.50.9.1214

Hagestad, G. (1986). Dimensions of time and the family. *American Behavioral Scientist*, **29**, 679–694. doi:10.1177/000276486029006004

Heck, R. H., Thomas, S., & Tabata, L. (2013). *Multilevel modeling of categorical outcomes using IBM SPSS*. New York: Routledge Academic.

Kahana, E., Kahana, B., Johnson, J., Hammond, R., & Kercher, K. (1994). Developmental challenges and family caregiving: Bridging concepts and research. In E. Kahana, D. Biegel, & M. Wykle (Eds.), *Family caregiver applications series (vol. 4): family caregiving across the lifespan* (pp. 3–42). Thousand Oaks, CA: SAGE Publications, Inc.

Kim, K., Zarit, S. H., Eggebeen, D. J., Birditt, K. S., & Fingerman, K. L. (2011). Discrepancies in reports of support exchanges between aging parents and their middle-aged children. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, **66**, 527–537. doi:10.1093/geronb/gbr029

Kramer, J., Hall, A., & Heller, T. (2013). Reciprocity and social capital in sibling relationships of people with disabilities. *Intellectual and Developmental Disabilities*, **51**, 482–495. doi:10.1352/1934-9556-51.6.482

Lin, I.-F., & Wu, H.-S. (2014). Intergenerational exchange and expected support among the young-old. *Journal of Marriage and Family*, **76**, 261–271. doi:10.1111/jomf.12093

Lowenstin, A., Katz, R., & Gur-Yaish, N. (2007). Reciprocity in parent-child exchange and life satisfaction among the elderly: A cross-national perspective. *Journal of Social Issues*, **63**, 865–883. doi:10.1111/j.1540-4560.2007.00541.x

Mengel, M. H., Marcus, D. B., & Dunkle, R. E. (1996). "What will happen to my child when I'm gone?" A support and education group for aging parents as caregivers. *The Gerontologist*, **36**, 816–820. doi:10.1093/geront/36.6.816

Moen, P., & Hernandez. E. (2009). Social convoys: Studying linked lives in time, context, and motion. In G. Elder, Jr. and J. Giele (Eds.), *The Craft of Life Course Research* (pp. 258–279). New York: Guilford Press.

Mouzon, D. M. (2013). Can family relationships explain the race paradox in mental health? *Journal of Marriage and Family*, **75**, 470–485. doi:10.1111/jomf.12006

Parsons, T., & Bales, R. (1956). *Family: socialization and interaction process*. London: Routledge & Kegan Paul.

Piazza, V. E., Floyd, F. J., Mailick, M. R., & Greenberg, J. S. (2014). Coping and psychological health of aging parents of adult children with developmental disabilities. *American Journal on Intellectual and Developmental Disabilities*, **119**, 186–198. doi:10.1352/1944-7558-119.2.186

Pickett, S. A., Greenley, J. R., & Greenberg, J. S. (1995). Off-timedness as a contributor to subjective burden for parents of offspring with severe mental illness. *Family Relations*, **44**, 195–201. doi:10.2307/584809

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Pillemer, K., & Suitor, J. J. (1991). Will I Ever Escape My Child's Problems? Effects of Adult Children's Problems on Elderly Parents. *Journal of Marriage and Family*, 53, 585-594. doi:10.2307/352735

Pillemer, K., Munsch, C. L., Fuller-Rowell, T., Riffin, C., & Suitor, J. J. (2012). Ambivalence toward adult children: differences between mothers and fathers. *Journal of Marriage and the Family*, **74**, 1101–1113. doi:10.1111/j.1741-3737.2012.01004.x

Pillemer, K., & Suitor, J. J. (2014). Who provides care? A prospective study of caregiving among adult siblings. *The Gerontologist*, **54**, 589–598. doi: 10.1093/geront/gnt066.

Raina, P., O'Donnell, M., Rosenbaum, P., Brehaut, J., Walter, S. D., Russell, D.,…Wood, E. (2005). The health and well-being of caregivers of children with cerebral palsy. *Pediatrics*, **115**, e626–e636. doi:10.1542/peds.2004-1689

Raschick, M., & Ingersoll-Dayton, B. (2004). The costs and rewards of caregiving among aging spouses and adult children. *Family Relations*, **53**, 317–325. doi:10.1111/j.0022-2445.2004.0008.x

Remle, R. C. (2011). The midlife financial squeeze: Intergenerational transfers of financial resources within aging families. In *Handbook of Sociology of Aging* (pp. 179–192). New York: Springer.

Rogers, M. L., & Hogan, D. P. (2003). Family life with children with disabilities: The key role of rehabilitation. *Journal of Marriage and Family*, **65**, 818–833. doi:10.1111/j.1741-3737.2003.00818.x

Ross, C. E., & Mirowsky, J. (1988). Child care and emotional adjustment to wives' employment. *Journal of Health and Social Behavior*, **29**, 127–138. doi:10.2307/2137053

Rossi, A. S., & Rossi, P. H. (1990). *Of human bonding: parent-child relations across the life course*. Piscataway, NJ: Transaction Publishers.

Sarkisian, N., & Gerstel, N. (2004). Kin support among Blacks and Whites: Race and family organization. *American Sociological Review*, **69**, 812–837. doi:10.1177/000312240406900604

Sechrist, J., Suitor, J.J., Henderson, A., Cline, K., & Steinhour, M. (2007). Regional differences in parent-adult child relations. *Journal of Gerontology Series B Social Sciences*, **62B**, 388–391.

Seltzer, J. A., & Bianchi, S. M. (2013). Demographic change and parent-child relationships in adulthood. *Annual Review of Sociology*, **39**, 275–290. doi:10.1146/annurev-soc-071312-145602

Silverstein, M., & Bengtson, V. L. (1997). Intergenerational solidarity and the structure of adult child-parent relationships in American families. *American Journal of Sociology*, **103**, 429–60. doi:10.1086/231213

Smith, M. J., Greenberg, J. S., & Seltzer, M. (2007). Siblings of adults with schizophrenia: expectations about future caregiving roles. *The American Journal of Orthopsychiatry*, **77**, 29–37. doi:10.1037/0002-9432.77.1.29

Suitor, J. J., Gilligan, M., Johnson, K., & Pillemer, K. (2014). Caregiving, perceptions of maternal favoritism, and tension among siblings. *The Gerontologist*, **54**, 580–588. doi:10.1037/0002-9432.77.1.29

Suitor, J. J., & Pillemer, K. (2013). Differences in mothers' and fathers' parental favoritism in later-life: A within-family analysis. In M. Silverstein & R. Giarrusso (Eds.), *From generation to generation: continuity and discontinuity in aging families* (pp. 11–31). Balitmore, MD: Johns Hopkins University Press.

Suitor, J. J., Pillemer, K., & Sechrist, J. (2006). Within-family differences in mothers' support to adult children. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, **61**, S10–S17. doi:10.1093/geronb/61.1.S10

Suitor, J. J., Sechrist, J., & Pillemer, K. (2007). When mothers have favourites: conditions under which mothers differentiate among their adult children. *Canadian Journal on Aging*, **26**, 85–99. doi:10.3138/cja.26.2.085

Suitor, J. J., Sechrist, J., Gilligan, M., & Pillemer, K. (2011). Intergenerational relations in later-life families. In R. Settersten & J. Angel (Eds.), *Handbook of sociology of aging* (pp. 161–178). New York: Springer.

Vermaes, I. P., van Susante, A. M., & van Bakel, H. J. (2012). Psychological functioning of siblings in families of children with chronic health conditions: a meta-analysis. *Journal of Pediatric Psychology*, **37**, 166–184. doi:10.1093/jpepsy/jsr081

Walsh, F. (2012). Successful aging and family resilience. *Annual Review of Gerontology and Geriatrics*, **32**, 151–172. doi:10.1891/0198-8794.32.153

Ward, R., Spitze, G., & Deane, G. (2009). The more the merrier? Multiple parent-adult child relations. *Journal of Marriage and Family*, **54**, 209–221. doi:10.1111/j.1741-3737.2008.00587.x

Wright, J. D., & Marsden, P. V. (2010). Survey research and social science: History, current practice, and future prospects. In J. Wright & P. Marsden (Eds.), *Handbook of survey research* (pp. 3–26). Bingley, UK: Emerald Group.

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