



# Aging Parents' and Middle-Aged Children's Evaluations of Parents' Disability and Life Problems

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## Abstract

This study examined discrepancies in aging parents' and middle-aged children's evaluations of aging parents' problems and how these discrepancies were associated with relationship characteristics. Using data from the *Family Exchanges Study* (dyad  $N=331$ ), discrepancies in the parents' disabilities and life problems reported by parents and their offspring were examined. Children reported a greater number of disabilities and life problems in their parents' lives than parents did. The discrepancy in the number of disabilities was associated with the frequency of phone contact, but not the frequency of in-person contact between generations. Findings confirm the gap in the evaluations of parents' problems between generations, indicating that children may overestimate their parents' problems, whereas parents may underreport their own problems. Frequent phone calls between aging parents and middle-aged children seem to play a positive role in conveying aging parents' problems. The gap in knowledge of parents' problems may lead to unmet needs and/or undesirable support exchanges between parents and offspring. Future research needs to consider both generations' reports and to develop reliable methods to assess parents' problems.

**Keywords** Disabilities · Life problems · Discrepancies · Parent–child dyads · Contact

## Introduction

Aging parents' health concerns and life problems are key predictors of their own well-being (Bangerter et al. 2016; Bengtson 2001). Studies have also shown that aging parents'

problems have implications for parent–child relationships (Fingerman et al. 2007; Wolf et al. 2015) and for their children's well-being (Bangerter et al. 2016). Research on these issues often relies on one party's report on the aging parents' health concerns and life problems, that is, either the aging parent's or adult child's assessment, but not both. This approach rests on the assumption that both parties' evaluations of the aging parent's problems correspond, which may not always be the case. For instance, an adult child may notice his or her aging parent's gradual functional decline as well as problematic and risky behaviors, yet the parent may perceive his or her current state more positively.

Adult offspring's knowledge of their aging parents' health concerns and life problems is critical, because they are often a primary resource for support when aging parents are in need (Silverstein et al. 2006). Moreover, when parents' health declines, adult offspring are likely to serve as a health care proxy (Cicirelli 2006; Heid et al. 2016). If there are discrepancies between parents and their offspring in evaluations of these problems, adult children may provide inadequate or unsolicited support to their parents, which can create relational tensions, distract from actual problems, or failure to address existing issues in a timely manner.

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The discrepancy in knowledge of the aging parent's problems between themselves and their offspring is inherent and frequently observed (Fingerman et al. 2007). One way to understand this discrepancy can be older adults' underestimation of their own problems. This was derived from, for instance, the concept of the self-enhancement bias (Kwan et al. 2004) and positivity bias (Jeste and Oswald 2014). Adult children's overestimation of their parent's problems may be another way to explain this gap to some extent, often having arisen from their worries or concerns about aging parents (Cicirelli 1988; Hay et al. 2008). Note that little research has been conducted on this topic, and there may be a great level of subjectivity inducing individuals' evaluations of problems. Yet, we may expect a similar pattern of the gap in evaluations of aging parent's problems between both generations, as previous studies demonstrate the discrepancy in perceptions of older adults' behaviors (e.g., behaving in a stubborn manner; Heid et al. 2016), and values and care preferences between older adults and their family members (Reamy et al. 2011).

Examining discrepancies in aging parents' and their middle-aged offspring's evaluations of parents' health concerns and life problems can help articulate differential views on aging persons' problems between generations, which have been suggested by research and theoretical perspectives on family and adult development. We also investigated whether discrepancies are associated with parent-child relationship characteristics (i.e., frequency of contact and relationship quality) known to impact the degree of self-disclosure and knowledge between parents and children (Aron 2003; Krause 2006). This may provide a basis for formulating support services, care planning, or family interventions that are acceptable to each party, and, ultimately, may help improve quality of life and well-being of both generations.

### Discrepancy in Evaluations of Parents' Problems Between Generations

Research has indicated that family members' accurate knowledge of one another's problems can be beneficial (Kerr et al. 2010). For instance, as parents age and grown children increase their support to parents, the offspring's knowledge of the parents' health concerns and life problems may help determine support arrangements between these two parties as well as care planning for aging parents (Bengtson 2001; Fingerman et al. 2007). However, there seems to be an inherent disagreement between adult children's evaluations of aging parents' problems and parents' own evaluations of their problems. This gap possibly relates to the aging parent who is likely less worried about their aging process or problems or the child who is excessively concerned about changes in the parent's conditions.

### Underestimation of Problems by Aging Parents

Given that people have a desire to be positively perceived by themselves (Kwan et al. 2004), older adults' underestimation of their conditions or problems can generate the disagreement. In this respect, older adults tend to perceive their own health and condition in a more positive way to preserve their independence. The tendency to underestimate their problems among older adults may also be related to "old age paradox" (Jeste and Oswald 2014). This posits, in general, older adults are happier, report a greater level of quality of life, tend to focus more on positive information, and better cope with negative feelings than younger counterparts (Blanchflower and Oswald 2008; Carstensen et al. 2000; Fung and Carstensen 2003; Jokung and Macé 2013). Thus, despite moderate-to-severe physical disabilities, older adults may report their health and quality of life as good (Bowling et al. 2007).

### Overestimation of Problems by Adult Children

The discrepancies in the evaluations of aging parents' problems also can be driven by adult children's overestimation of their parents' concerns and problems. This overestimation may be partially explained by the worries that adult children experience as their parents age. In particular, Cicirelli (1988) conceptualizes filial anxiety as children's worries or concerns about changes in their older parents' lives and potential caregiving responsibility for their aging parents with health declines or other problems. Interestingly, adult children's filial anxiety is often based on their own perception, rather than their actual status or need for caregiving (Cicirelli 1988). Filial anxiety is often observed in adult children who desire to maintain or protect their bond with aging parents (Bowlby 1980; Cicirelli 1988), and health declines of parents can be considered as a risk to their bond with parents (Karantzas et al. 2010). Previous research has found that adult children tend to report a greater level of parents' problems than their parents report (Fingerman et al. 2007; Hay et al. 2008). Given the literature reviewed above, we expected adult children to report a greater number of parents' health concerns and life problems than their parents do.

### Types of Parents' Problems

In examining discrepancies between aging parents' and adult children's evaluations, we considered two types of parents' problems: (a) disabilities (as health concerns) and (b) life problems. These two types of problems in late life can be distinctive in various ways, which may influence how the person and their family members perceive and assess them. Disability regarding performing daily activities (e.g., personal care, housework, transportation) is mainly driven by

aging-related health changes (Verbrugge and Jette 1994). In contrast, older parents' life problems, such as health problems or injuries, financial difficulties, and drinking problems, can be understood as hardships in general; this may be more likely to be persistent or recurring at any time over one's life course, and often related to individuals' lifestyle and behaviors (Moos et al. 2006; Pearlin et al. 2005). Therefore, disabilities may be more socially acceptable in old age and observable by others, whereas life problems may include persistent patterns of problematic or undesirable behaviors that a parent may be in denial—while the child may be exaggerating (Greenfield and Marks 2006). Yet, aging parents' life problems can also occur unexpectedly (e.g., sudden financial or health crisis), whereas their disabilities are more or less expected and manageable to some extent (e.g., after hospitalization or surgery). Thus, disabilities may be viewed as a disruption of aging parents' autonomy which could be more likely denied by themselves or unshared with adult children. However, life problems may be less likely to undermine long-term autonomy; therefore, a degree of disclosure between aging parent and adult children can be affected in a different way.

### Factors Associated with Evaluations on Parents' Problems

Another focus of this study is examining factors associated with discrepancies in reports on aging parents' problems by aging parents and their middle-aged offspring. We considered two parent–child relationship characteristics: (a) frequency of contact (i.e., in-person and phone) and (b) relationship quality with aging parents (i.e., positive and negative). These two relationship factors have been shown to both facilitate and impede self-disclosure by aging parents and adequate observations by adult children (Aron 2003; Krause 2006).

#### Frequency of Contact

Frequent contact between older parents and adult children may be a critical factor in determining adult children's knowledge of their parents' conditions or problems. Research shows that contact with young and adolescent children help parents know about their children's activities and conditions because it allows parents to observe, monitor, and supervise them (Kerr et al. 2010; Stattin and Kerr 2000). Contact also gives children a chance to disclose what and how they are doing (Kerr et al. 2010). This may occur in terms of adult children's knowledge of their aging parents' conditions or problems. For instance, through regular contact with aging parents, adult children may ensure their parents' current status and conditions and help them access to care services and arrange support when needed. Finger-

man et al. (2007) found that aging parents and their offspring are more likely to notice changes in parents' health when they contact each other more frequently. Yet, to our knowledge, there is no study that has examined whether the discrepancy in the evaluations of aging parents' problems is associated with frequency of contact between parents and children.

In this study, we considered two modes of contact between parent and child: (a) in-person and (b) phone contact. A growing body of scientific evidence indicates that different contact modes may have different implications for relationship quality and psychological well-being (Fingerman et al. 2016; Teo et al. 2015). For instance, frequent in-person contact is more likely associated with positive relationship quality, high levels of interpersonal interactions, and better psychological well-being (Fingerman et al. 2016; Teo et al. 2015). However, phone contact shows a weak or no association with psychological well-being, which may be because this mode of contact involves both positive and negative features such as sharing worries and concerns as well as pleasant experience and positive mood (Fingerman et al. 2016; Teo et al. 2015). Little is known about how each mode of contact contributes to the evaluations of parents' problems (e.g., whether accurate knowledge about parents' health requires frequent in-person contacts; whether phone conversations are enough to monitor parents' situations). Therefore, in this study, we explored the association between the different modes of parent–child contact and the discrepancy without specifying a hypothesis.

#### Relationship Quality

Better relationship quality can contribute to adult children's knowledge through greater self-disclosure by older parents, high sensitivity of problem detection by adult children, or effective communication between parents and children. Positive and supportive relationship quality with children is often defined based on to what extent an individual can open up to the person in question to talk about concerns and worries and how much an individual feels that the person in question understands him or her. Thus, positive relationship quality may facilitate parent–child conversations and attenuate both parties' levels of stress and anxiety through sharing concerns and worries and providing practical and emotional support (Cohen 2004; Uchino 2009).

Along the same line, negative and conflicted relationships can affect perceptions of parents' problems by lowering the frequency of contact between parents and children, which may result in unshared life experiences and information (Carstensen et al. 1999, 2000). However, it may also be possible that negative relationship quality reflects adult children's better knowledge of their parents' current situations; these children may know enough to criticize or demand improvements in their parents' risky behaviors or persistent

problems (Antonucci et al. 2014). Or, when adult children believe the parents have problems but the parents deny these, that may be a source of conflict and their relationship quality could be perceived as negative (Heid et al. 2016).

As such, we expected that middle-aged offspring who report higher levels of positive relationship quality with parents are more likely to have more corresponding knowledge of health concerns and life problems that face aging parents. We explored whether and how negative relationship quality is associated with adult children's knowledge on their parents' problems—not specifying the direction of association.

### Possible Covariates

This study also considered other characteristics (i.e., individual and dyadic) that may be associated with the evaluations of parents' problems. Daughters are more likely to step into help or interact with their parents than sons through frequent contact and closer relational ties (Fingerman et al. 2016; Suitor and Pillemer 2006); thus, daughters might provide more corresponding reports of aging parents' problems, compared to sons. Compared to non-Hispanic Whites, racial and ethnic minority groups often reported a stronger parent–child bond (Coleman et al. 2006), which may be associated with a smaller degree of the discrepancy in reports of parents' problems. We also accounted for adult children's age, education, marital status, number of children, and self-rated health that are associated with their relationship quality with aging parents (Birditt et al. 2010; Pillemer and Suitor 2006; Sarkisian and Gerstel 2008). With respect to aging parents' characteristics, mothers are more likely to engage in relationships with children, compared to fathers (Fingerman et al. 2009); so that mothers might show a more corresponding response regarding their ongoing problems with their adult children's. In addition, parents' age, education, marital status, and self-rated health are associated with their evaluations on health concerns and life problems (Demakakos et al. 2008; Kiecolt-Glaser and Newton 2001). Number of children and distance from offspring are associated with older adults' relationships with their children (Bengtson 2001; Hank 2007; Lawton et al. 1994).

### The Present Study

In sum, this study examined two research questions. First, we investigated whether there are discrepancies in aging parents' and their middle-aged offspring's evaluations of parents' disabilities and life problems. We expected that middle-aged offspring would report a greater number of parents' disabilities and life problems than their aging parent did. Second, we examined whether parent–child relationship factors (i.e., contact and relationship quality) are associated with the discrepancies in evaluations of parents' disabilities

and life problems when considering other individual characteristics. We hypothesized that more frequent contact and better relationship quality with aging parents are associated with attenuated discrepancies in evaluations on parents' health concerns and life problems.

## Methods

### Sample

We used data from the first wave of the *Family Exchanges Study* (FES; Fingerman et al. 2009), which collected information on support exchanges and family relationships. In 2008, FES recruited people who were aged 40 to 60 years, had at least one biological child aged 18 and older and one living parent, and lived in the Philadelphia Metropolitan Area. A total of 633 adults were interviewed in 2008 (response rate 75%). Among these 633 middle-aged adults, 280 respondents had one or both parents who completed interviews; 223 respondents had one parent who completed the interview, and 57 respondents had two parents who did the interview. We included both parent–child dyads from these 57 respondents because the middle-aged child separately provided information on his or her mother and father. After excluding six dyads with missing values in geographic distance variable, a total of 331 aging parent–adult child dyads were analyzed in this study.

### Measures

#### Parents' Problems

We measured two types of parents' problems: (a) disabilities and (b) life problems. Parents and offspring provided separate ratings on these problems. For disabilities, difficulties or limitations in performing the activities of daily living (ADL) were assessed with following questions (1 = yes, 0 = no): “Do you (or Does your father/mother) need help with a) personal care such as bathing and dressing, (b) daily care such as housework or shopping, (c) using transportation or driving, and (d) finances, managing money, or balancing a checkbook?” (Bassett and Folstein 1991). In addition to each of these four items (1 = yes, *having a disability*, 0 = *no disability*), we calculated a number of ADL limitations (ranged 0–4) that parents had. For life problems, three problems that aging parents had experienced in the past 2 years were assessed (Greenfield and Marks 2006). Aging parents and their adult children were asked (1 = yes, *having a problem*, 0 = *no problem*): “In the past 2 years, have you (or has your mother/father) had (a) a serious health problem or injury, (b) a drinking or drug problem, and (c) a serious financial problem?” In addition to each of three life problem items

(1 = *yes, having a problem*, 0 = *no problem*), a count of life problems was created across these items (ranged 0–3).

### Frequency of Contact

Frequency of contact was measured with two types of contact: (a) in-person and (b) by phone (Silverstein et al. 2006). Adult children were asked, in the past 12 months, how often they (a) have seen their parent in person and (b) have had contact with their parent by phone. Each item was rated from 1 (*less than once a year or never*) to 8 (*daily*). These two types of contact were positively correlated ( $r = .33, p < .001$ ).

### Relationship Quality

To assess relationship quality, adult children provided ratings on separate scales of positive and negative quality with their aging parents (Umberson 1992). Two items for positive relationship quality were: (a) how much your parent loves and cares for you and (b) how much your parent understands you. Two items for negative relationship quality were: (a) how much your parent criticizes you and (b) how much your parent makes demands on you. Each item was rated on a five-point scale (1 = *not at all* to 5 = *a great deal*). The average scores of two items for positive and negative relationship qualities were calculated, and the reliabilities of the two-item scales were acceptable ( $\rho = .58$  for positive relationship quality;  $\rho = .67$  for negative relationship quality; Eisinga et al. 2013). Positive and negative relationship qualities were negatively correlated ( $r = -.31, p < .001$ ).

### Covariates

We asked sociodemographic characteristics of parents and children, including age (in year), gender (1 = *male*, 0 = *female*), education (in year), marital status (1 = *married or remarried*, 0 = *not married*), minority status (1 = *minority*, 0 = *non-Hispanic White*), number of children, and self-rated health (1 = *poor* to 5 = *excellent*). Coresidence status (1 = *coresiding*, 0 = *not coresiding*) and geographic distance (logged miles) between parent and offspring were also considered. Given a high correlation of child age with parent age ( $r = .94, p < .001$ ), we only included parent age in the models. In addition, we dropped minority status and adult offspring's self-rated health that did not show significant associations with outcomes from the final models in order to provide more parsimonious models.

### Analytic Strategy

First, we examined differences in older parent's disabilities and life problems evaluated by older parent and their middle-aged offspring. We conducted McNemar tests for each of

problems (i.e., whether parents have each problem; yes/no) and having any problems (yes/no) as well as paired *t*-tests for total numbers of problems for detailed comparisons on parents' problems reported by parents and adult children.

Next, we estimated multilevel models (SAS PROC MIXED; Littell et al. 2006) to examine factors associated with discrepancies in evaluations of parents' disabilities and life problems between older parents and adult offspring. At Level 1 (*individual level*), individual dyad members' scores were summarized by two parameters—an intercept and a slope of a parent–child identifier (generation; coded  $-0.5 = \textit{parent}$ ,  $0.5 = \textit{child}$ ). The intercept denotes the mean number of parents' problems across dyad members. The slope represents the degree of discrepancy in the number of parents' problems reported by parent and child in the same dyad; a positive coefficient for discrepancy refers to that children reported a greater number of parents' problems than parents, and a negative coefficient indicates that parents reported a greater number of their own problems than children. The equation below shows the individual score ( $Y_{ij}$ ) for *i*th member in the *j*th dyad with a function of an intercept ( $B_{0j}$ ) and a slope ( $B_{1j}$ ):

$$Y_{ij} = B_{0j} + B_{1j}(\text{Generation}_{ij})$$

At Level 2 (*dyad level*), we included our main parent–child relationship factors (i.e., contact and relationship quality) and covariates (predictors;  $W_{qj}$ ) to account for the variation of the dyadic mean levels (intercept;  $B_{0j}$ ) and discrepancies (slope;  $B_{1j}$ ) across dyads.  $\delta_{p1}$  is the corresponding coefficient that represents the direction and strength of association between predictors  $W_{qj}$  and  $B_{pj}$ .

$$\text{Dyadic mean} : B_{0j} = \delta_{00} + \delta_{01}W_{qj} + U_{0j}$$

$$\text{Discrepancy} : B_{1j} = \delta_{10} + \delta_{11}W_{qj} + U_{1j}$$

Note that we initially considered an additional level (Level 3) to deal with the nested structure of parent–child dyads in the same family unit (i.e., adult children who had both parents interviewed). However, we decided not to include 3-level models due to a small proportion of families that had two dyads ( $n = 57$ ), nonsignificant differences in the model fits between 2-level and 3-level, and very similar results found.

## Results

Table 1 shows descriptive statistics of the study sample. The mean age of parents was 76 years old ( $SD = 6.31$ ), 31% of them were men, and 47% were married. The average years of education in this sample was 12.7 ( $SD = 2.48$ ). On average, they have four children. While 12% of these parents lived with their child(ren), the mean geographic distance

**Table 1** Individual and dyadic sample characteristics

	<i>M</i>	<i>SD</i>	Range
Parent characteristics			
Age	76.05	6.31	59–96
Male, %	31		
Years of education	12.68	2.48	0–17
Re/married, %	47		
Number of children	3.94	2.01	1–12
Self-rated health <sup>a</sup>	3.07	1.12	1–5
Coresiding, %	12		
Geographic distance (mile)	248.01	641.51	0–4000
Child characteristics			
Age	49.80	4.81	40–60
Male, %	43		
Years of education	14.11	2.03	9–17
Re/married, %	73		
Number of children	2.85	1.62	1–11
Self-rated health <sup>a</sup>	3.50	1.04	1–5
Minority, %	36		
Relationship characteristics			
In-person contact <sup>b</sup>	5.32	1.82	1–8
Phone contact <sup>b</sup>	6.44	1.44	1–8
Positive relationship quality <sup>c</sup>	4.19	0.68	1.5–5
Negative relationship quality <sup>c</sup>	2.03	0.91	1–5

Dyad  $N = 331$  (Parent  $N = 331$ ; Child  $N = 275$ )

<sup>a</sup>Rated from 1 (*poor*) to 5 (*excellent*)

<sup>b</sup>Rated from 1 (*less than once a year or never*) to 8 (*daily*)

<sup>c</sup>Mean of two items rated from 1 (*not at all*) to 5 (*a great deal*)

between these parents and their children was 248 miles. In addition, 11% of aging parents were employed. The mean age of adult children was 50 years ( $SD = 4.81$ ), 43% of these children were men, and 73% were married. Adult children had three children on average. More than one-third of the sample identified themselves as minority. The average years of education for those adult children was 14.1 ( $SD = 2.03$ ). In terms of parent–child relationship characteristics, adult offspring reported more frequent phone contacts ( $M = 6.44$ ,  $SD = 1.44$ ) than in-person contacts ( $M = 5.32$ ,  $SD = 1.82$ ). On average, adult offspring scored high in positive relationship quality ( $M = 4.19$ ,  $SD = 0.68$ ) and low in negative relationship quality ( $M = 2.03$ ,  $SD = 0.91$ ).

### Evaluations of Parents' Problems Reported by Older Parent and Their Offspring

We compared older parents' reports on their own problems with their middle-aged children's reports on their parents' problems (Table 2). Overall, adult children were more likely than their older parents to report disabilities and life problems of their parents. Specifically, for disabilities, 25% of adult children reported that their older parents had at least one ADL limitation, whereas 19% of older parents reported that they did; McNemar  $\chi^2(1) = 8.32$ ,  $p < .01$ . In the total numbers of ADL limitations, adult children reported more ADL limitations ( $M = 0.56$ ,  $SD = 1.11$ ) than older parents reported ( $M = 0.34$ ,  $SD = 0.84$ );  $t = 5.10$ ,  $p < .001$ . Each ADL item also showed significant differences.

With respect to parents' life problems (Table 2), adult children were more likely to report that their older parents had at least one life problem than their parents (61% for adult children vs. 50% for parents); McNemar  $\chi^2(1) = 11.17$ ,

**Table 2** Parents' and children's evaluations of parents' disabilities and life problems

	Parent's (own) evaluation	Child's evaluation	McNemar's $\chi^2$ or Paired $t$
Disabilities			
a. Personal care, %	3	5	4.45*
b. Housework and shopping, %	14	20	9.76**
c. Transportation and driving, %	13	20	17.86***
d. Finances/managing money, %	4	11	16.00***
Having any limitations, %	19	25	8.32**
Total number, $M$ ( $SD$ )	0.34 (0.84)	0.56 (1.11)	5.10***
Life problems			
a. Health problem/injury, %	47	57	9.64**
b. Drinking or drug problem, %	1	6	17.00***
c. Financial problem, %	10	11	0.18
Having any problems, %	50	61	11.17***
Total number, $M$ ( $SD$ )	0.58 (0.63)	0.74 (0.69)	3.63***

Dyad  $N = 331$

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

$p < .001$ . Adult children reported more life problems ( $M = 0.74$ ,  $SD = 0.69$ ) than older parents reported ( $M = 0.58$ ,  $SD = 0.63$ ;  $t = 3.63$ ,  $p < .001$ ). For each type of problems, adult children were more likely than older parents to report that their parents had health and drinking or drug problems. However, no significant difference was found in reports on financial problems.

Discrepancies in dyadic evaluations of older parents' disabilities and life problems were also confirmed in the baseline multilevel models, which have only generation (i.e., parent vs. child) as a predictor (see Supplementary Table 1). The coefficient of generation was significant both for disabilities and life problems, indicating that adult children

reported higher numbers of parents' problems than older parents did for their own disabilities ( $B = 0.23$ ,  $p < .001$ ) and life problems ( $B = 0.16$ ,  $p < .001$ ).

### Factors Associated with Discrepancy in Evaluations of Parents' Problems

To explore factors associated with the dyadic discrepancies in the evaluations of parents' disabilities and life problems, we examined two sets of relationship characteristics, contact (i.e., in-person and phone) and relationship quality (i.e., positive and negative), controlling for individual and dyadic characteristics of the sample (Table 3). Although

**Table 3** Multilevel models for dyadic evaluations of parents' disabilities and life problems

	Disabilities				Life problems			
	Mean <sup>a</sup>		Discrepancy <sup>b</sup>		Mean <sup>a</sup>		Discrepancy <sup>b</sup>	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Fixed effect								
Intercept	-1.11	0.75	-0.45	0.81	1.17*	0.49	0.80	0.81
Contact <sup>c</sup>								
In-person	0.01	0.04	0.08	0.04	0.02	0.03	-0.04	0.04
Phone	-0.04	0.03	-0.10**	0.03	-0.04	0.02	-0.03	0.03
Relationship quality <sup>d</sup>								
Positive	0.00	0.07	0.06	0.07	0.01	0.04	0.01	0.07
Negative	0.12*	0.05	0.07	0.05	0.03	0.03	-0.01	0.05
Child characteristics								
Male	-0.14	0.08	-0.01	0.09	0.00	0.05	0.05	0.09
Years of education	-0.04	0.02	-0.03	0.03	0.01	0.02	0.02	0.03
Re/married	-0.02	0.10	-0.01	0.10	-0.06	0.06	0.23*	0.10
Number of children	-0.04	0.03	-0.04	0.03	-0.01	0.02	0.01	0.03
Parent characteristics								
Age	0.04***	0.01	0.02*	0.01	0.00	0.00	-0.01	0.01
Male	-0.25**	0.09	-0.09	0.10	0.02	0.06	0.03	0.10
Years of education	-0.01	0.02	0.01	0.02	0.00	0.01	0.03	0.02
Re/married	-0.16	0.09	0.01	0.10	0.07	0.06	-0.03	0.10
Number of children	0.03	0.02	0.01	0.02	0.02	0.01	-0.05*	0.02
Self-rated health <sup>e</sup>	-0.30***	0.04	-0.09*	0.04	-0.21***	0.03	0.07	0.04
Distance from child <sup>f</sup>	-0.04	0.03	-0.01	0.03	0.00	0.02	-0.04	0.03
Random effect								
Level 2 variance	0.38***	0.04	0.31***	0.02	0.07***	0.02	0.31***	0.02
Pseudo $R^2$		.40		.05		.39		.04
-2 log likelihood				1635.8				1356.7

Dyad  $N = 331$

<sup>a</sup>Intercept (dyadic mean of parents' problems across dyad members)

<sup>b</sup>Slope of generation (coded  $-0.5 = parent$  and  $0.5 = child$ ); positive (discrepancy) coefficients indicate that children reported higher numbers of disabilities/life problems than parents; negative (discrepancy) coefficients indicate that parents reported higher numbers of disabilities/life problems than children

<sup>c</sup>Rated from 1 (*less than once a year or never*) to 8 (*daily*)

<sup>d</sup>Mean of two items rated from 1 (*not at all*) to 5 (*a great deal*)

<sup>e</sup>Rated from 1 (*poor*) to 5 (*excellent*). <sup>f</sup>Miles (log-transformed)

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

the multilevel models provided results both for the mean levels and discrepancies between dyadic members, here we focused on the discrepancy as an outcome (see the columns for discrepancy in Table 3). The frequency of phone contact between older parent and adult child was negatively associated with the generational discrepancy in the evaluations of parents' disabilities ( $B = -0.10, p < .01$ ). Thus, when adult children more frequently spoke on the phone with parents, the gaps in the number of disabilities reported by dyadic members were smaller. However, in-person contact and positive and negative relationship quality were not significantly associated with discrepancy in the evaluations of parents' disabilities. No parent–child relationship factors were significantly associated with discrepancy in the evaluations of parents' life problems. Similar results were found when using binary outcomes (i.e., having disabilities, having life problems; not shown).

Parents' age ( $B = 0.02, p < .05$ ) was positively associated with a greater level of discrepancy in the evaluations of parents' disabilities, whereas parents' better self-rated health was associated with a decrease in the gaps in the number of disabilities reported by dyadic members ( $B = -0.09, p < .05$ ). Also, offspring's marital status ( $B = 0.23, p < .05$ ) and parents' number of children ( $B = -0.05, p < .05$ ) were associated with the discrepancy in parents' life problems.

## Discussion

Middle-aged children's reports of their aging parents' health concerns and life problems may not accurately reflect how these parents evaluate their own conditions and problems. The present study examined the discrepancy in aging parents' and middle-aged children's evaluations of the parent's disabilities and life problems. We found that middle-aged children tend to report a greater number of their aging parents' disabilities and life problems than aging parents did for their own problems. Frequent phone contact between generations helped reduce the magnitude of the discrepancy in reports on parents' disability, but no significant association with in-person contact and relationship quality was found.

### Discrepancy in the Evaluations of Parents' Problems Between Generations

Previous studies on aging parents' problems have often relied on either middle-aged children's or aging parents' report, assuming agreement between these two parties on aging parents' problems. However, this assumption on agreement between generations should be reconsidered since members in the parent–child dyad may have different ideas on aging parent's current conditions and problems. The results offer support for our hypothesis, that adult children

are more likely to report that their aging parents have a greater number of disabilities and life problems, compared to aging parents. This finding is in line with the self-enhancement perspective that explains a protective function of positive self-image or mindsets (Wills 1981), in particular, when older parents experience functional declines or face challenging situations in late life (Cheng et al. 2007). Another possibility is that negative stereotypes or images of aging may influence adult children's assessments of their parents' conditions, assuming that their aging parents are more likely to be sick, frail or dependent (Levy and Macdonald 2016).

We observed a significant and consistent difference in proportions of reporting parents' disabilities (e.g., difficulties in basic daily activity) between parents and children. In terms of parents' life problems (e.g., health problem or injury, drinking or drug problem, and financial problem), discrepancies in health problem or injury and drinking or drug problems were found between aging parents and their children; however, both parties seem to agree on aging parents' current financial status. Such differences in evaluations between parent and child may indicate that types of parents' problems matter. For instance, adult children seem to acknowledge their aging parents' financial problems as much as aging parents do; this type of problems may be more objective, or easier to notice by adult children. On the contrary, drinking or drug problem can be unrecognized, denied, or underreported by aging parents themselves, whereas adult children are more aware of such concerning behaviors. This may be linked to the literature explaining social desirability bias (for underreporting problematic behaviors or conditions by older parents) and parent–child disagreement for child's conditions (Crutzen and Göritz 2010; Upton et al. 2008).

Acknowledging such discrepancies between aging parents and middle-aged offspring is important because this may influence parent–child relationships in multiple ways, given that both parties often react to each other's conditions and attempt to solve issues by making certain arrangements within family (e.g., accompanying his or her parent to medical appointments, caregiving) (Bengtson 2001). There is evidence that parents' knowledge of their young children is more accurate when children are chronically sick, compared to the case of healthy children, which may be associated with a greater level of parents' sensitivity, worries and concerns (Eiser and Morse 2001). This may be true for middle-aged offspring who monitor aging parents with a greater possibility of facing late-life challenges, in particular, when critical decision-making is needed more frequently. However, unlike the relationships with young children, monitoring parents might require further caution. Along with the person-centered perspective (Kogan et al. 2016), older parent knows oneself better than any other people, is capable to assess his or her own needs and conditions, and is able to make changes to fulfil these needs. In that sense, aging parents

likely want to maintain their independence, and still see themselves as parents who care for their offspring despite their own difficulties or problems. Adult children's monitoring and extensive attention may be perceived as unwanted or invasive (Matire et al. 2002). Moreover, a gradual or abrupt loss of autonomy or inability to reciprocate their offspring's support may undermine aging parents' independence and well-being as well as increase tensions and negative perceptions of parents' characteristics such as stubbornness (Cahill et al. 2009; Heid et al. 2016). Related to that, children over-reporting on problems of their parents could lead to these parents receiving unwanted services and support. For instance, an adult child could hire a home health aide for the parent if he or she thinks that the parent needs an additional help. However, this could be a waste of resources if that was not what the parent needed. Often, adult children request services and advocate for the parents. Therefore, it is critical for these children to be aware of actual needs of the parents.

### Factors Associated with Discrepancy in the Evaluations of Parents' Problems

Frequency of contact between aging parent and middle-aged offspring was associated with the discrepancy in the evaluations of parents' disabilities between these two generations. However, the discrepancy was only associated with phone contact between aging parents and adult children, not with in-person contact; when adult children spoke on the phone with their parents more often, a greater level of correspondence of their report on parents' disabilities was observed.

The difference in findings for phone and in-person contact may demonstrate distinct usage patterns and meaning of each mode of contact between aging parents and adult children. Although little is known about how modes of contact work differently in terms of the correspondence of knowledge on each party's conditions and problems, prior research shows that phone and in-person contact have distinctive features in several ways. For example, phone contact is a common way of connecting with social network members but has inconsistent effects on relationship quality and psychological distress (Fingerman et al. 2016; Stein et al. 2016; Teo et al. 2015). In contrast, frequent in-person contact was consistently associated with lower risk of psychological distress only if this mode of contact involves more positive interactions (Teo et al. 2015).

A prior study that found the difference between phone and in-person contact may help us interpret nonsignificant findings in in-person contact regarding the discrepancy in the reports by aging parent and adult child (Fingerman et al. 2016). They argued that phone contact was more likely to be associated with both positive and negative relationship quality as well as real-time pleasant and stressful thoughts,

whereas in-person contact was more likely to link to positive relationship quality and positive daily experience sharing that may mitigate worries and negative relationship quality (Fingerman et al. 2016). The degree of sharing worries and concerns between generations may influence adult children's ability to obtain accurate information on aging parents' lives; therefore, future research needs to further examine how modes of contact are associated with parent-child knowledge on each other's conditions considering what and how much information they share through phone and in-person contact. E-communication (e.g., use of emails, online social networking sites) with their family and friends may be worth exploring further, as a growing number of older adults, especially Baby Boomers, are more likely to engage in this type of communication (Zickuhr and Madden 2012).

Relationship quality between aging parents and middle-aged offspring appeared to have no significant association with the correspondence of middle-aged offspring's knowledge on their aging parents' problems. This may be driven by the mixed nature of our relationship quality (Birditt et al. 2014; Fukukawa et al. 2004); a high level of positive relationship quality may be achieved by not discussing negative aspects of lives, rather, by sharing good news or positive sides of lives. On the other hands, a higher negative relationship quality may be a reflection of encouraging healthy behaviors and better life style by criticizing and demanding each other, which is not necessarily harmful or detrimental to the level of one's knowledge on aging parents' problems or current status. This could be important for proxy reports, as a natural inclination of proxy reporting is to obtain information from the family members who are the closest to the older person. However, it seems that the child who has a good relationship quality with the parent may not necessarily have a corresponding knowledge of the parent's problems.

### Limitations and Directions for Future Research

The present study has several limitations. First, we did not know whether aging parents' evaluations on their own problems were more accurate or reliable than that of their middle-aged offspring. As noted earlier, it is possible that aging parents underestimate their own problems (Hay et al. 2008), while adult children overestimate them. Therefore, it might be worth considering objective measurements of aging parents' problems, assessed by health practitioners or other professionals to find out whose report is more accurate and reliable. It is worth noting that we have no information on cognitive status of aging parents, which may influence their accuracy of reporting their problems, as well as their ability to detect and disclose their own problems. Previous research found discrepancies in reports on daily functions of older adults with cognitive impairment (e.g., dementia) between themselves and their caregivers (Farias et al. 2005).

Therefore, the accuracy of knowledge on problems can be even more perplexing in such cases. Also, both parties' reports on parents' problems can be a product of one's subjectivity into these problems as well as a subject to change over time. This was beyond the scope of our study; however, it is worth noting and exploring further in future studies. In addition, a more comprehensive set of life problems (e.g., neighborhood, living environment) would be interesting to explore in future research. Second, regarding our main predictors (i.e., frequency of contact and relationship quality), we used adult children's reports because some of these variables were not available from parents. Given possible discrepant perceptions on relationships, it could be informative to examine parents' reports on these variables as predictors, as well. Third, although this study included a substantial proportion of African American respondents (36% of the study sample) and considered in-depth information on the parent-child dyads, the results should be interpreted with caution, given the relatively small sample size and information collected in a certain area. Nonsignificant findings in the associations between main variables and covariates and key outcomes may also be relevant to this issue. Future research can extend this approach to other populations by employing nationally representative samples with diverse socioeconomic and health status and racial/ethnic groups. Finally, this study did not include other relationship types such as spouse, siblings, relatives, and friends who may have better knowledge on an individual's status, condition, or preference (Lemay et al. 2006). Previous research using the nationally representative sample of older Americans shows that older parents contact with other family members and friends more frequently than they do with their own children (Teo et al. 2015), which may help understand nonsignificant findings associated with in-person contact and relationship quality.

## Conclusion

This research leverages dyadic data to broaden our understanding of the dynamics between aging parents and their middle-aged offspring by considering shared/unshared or disclosed/undisclosed disabilities and life concerns and needs of aging parents. Dyadic data analysis allows us to examine both generations' reports of disabilities and life problems of aging parents and confirms the gap in the evaluations between generations. This gap in the evaluations of parents' problems between parents and offspring may be driven by either parents' optimistic view on their own conditions or their children's sensitivity and misunderstanding. Although it is not clear whose report is more accurate or reflective to aging parents' conditions, we believe that this approach extends understanding of parent-child relationships in late life, a time when middle-aged offspring are

more likely to be involved in support and care for aging parents. For instance, middle-aged offspring who frequently speak with parents on the phone seem to have more corresponding knowledge on parents' current concerns and problems, whereas in-person contact does not appear to work in a same way. Findings of this study may help us consider developing programs to facilitate effective family conversations and to promote healthy relationships in order to reduce the gaps in knowledge on each other between generations. The discrepancies in evaluations of aging parents' problems between parents and their offspring found in this study may also provide insight on determining health care proxy for older adults with severe health conditions or regarding end-of-life care decisions. For instance, based on the person-centered perspective (Kogan et al. 2016; Rogers 1979), aging parents' own evaluations of their problems need to be respected and valued regardless of the accuracy, along with the support from their family members including adult offspring. The gaps in the evaluations between generations may exist as shown in this study, however, acknowledging the possibility of having these gaps would help aging parents and their adult children to better understand the problems and to arrange optimal care and services when necessary.

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## Compliance with Ethical Standards

**Conflict of interest** The authors declare that they have no conflicts of interest.

## References

- Antonucci, T. C., Ajrouch, K. J., & Birditt, K. S. (2014). The convoy model: Explaining social relations from a multidisciplinary perspective. *The Gerontologist*, *54*, 82–92. <https://doi.org/10.1093/geront/gnt118>.
- Aron, A. (2003). Self and close relationships. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 442–461). New York: Guilford.
- Bangerter, L. R., Zarit, S. H., & Fingerman, K. L. (2016). Moderators of mother's problems on middle-aged offspring depressive symptoms. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, *71*, 41–48. <https://doi.org/10.1093/geronb/gbu081>.
- Bassett, S. S., & Folstein, M. F. (1991). Cognitive impairment and functional disability in the absence of psychiatric diagnosis.

- Psychological Medicine*, 21, 77–84. <https://doi.org/10.1017/S0033291700014677>.
- Bengtson, V. L. (2001). Beyond the nuclear family: The increasing importance of multigenerational bonds. *Journal of Marriage and Family*, 63, 1–16. <https://doi.org/10.1111/j.1741-3737.2001.00001.x>.
- Birditt, K. S., Fingerman, K. L., & Zarit, S. H. (2010). Adult children's problems and successes: Implications for intergenerational ambivalence. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 65, 145–153. <https://doi.org/10.1093/geronb/gbp125>.
- Birditt, K. S., Newton, N., & Hope, S. (2014). Implications of marital/partner relationship quality and perceived stress for blood pressure among older adults. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 69, 188–198. <https://doi.org/10.1093/geronb/gbs123>.
- Blanchflower, D. G., & Oswald, A. J. (2008). Is well-being u-shaped over the life cycle? *Social Science and Medicine*, 66, 1733–1749. <https://doi.org/10.1016/j.socscimed.2008.01.030>.
- Bowlby, J. (1980). *Attachment and loss* (Vol. 3). New York: Basic Books.
- Bowling, A., Seetah, S., Morris, R., & Ebrahim, S. (2007). Quality of life among older people with poor functioning. The influence of perceived control over life. *Age and Ageing*, 36, 310–315. <https://doi.org/10.1093/ageing/afm023>.
- Cahill, E., Lewis, L. M., Barg, F. K., & Bogner, H. R. (2009). “You don't want to burden them”: Older adults' views on family involvement in care. *Journal of Family Nursing*, 15, 295–317. <https://doi.org/10.1177/1074840709337247>.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54, 165–181. <https://doi.org/10.1037/0003-066X.54.3.165>.
- Carstensen, L. L., Pasupathi, M., Mayr, U., & Nesselrode, J. R. (2000). Emotional experience in everyday life across the adult life span. *Journal of Personality and Social Psychology*, 79, 644–655. <https://doi.org/10.1037/0022-3514.79.4.644>.
- Cheng, S.-T., Fung, H., & Chan, A. (2007). Maintaining self-rated health through social comparison in old age. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 62, P277–P285. <https://doi.org/10.1093/geronb/62.5.P277>.
- Cicirelli, V. G. (1988). A measure of filial anxiety regarding anticipated care of elderly parents. *The Gerontologist*, 28, 478–482. <https://doi.org/10.1093/geront/28.4.478>.
- Cicirelli, V. G. (2006). Caregiving decision making by older mothers and adult children: Process and expected outcome. *Psychology and Aging*, 21, 209–221. <https://doi.org/10.1037/0882-7974.21.2.209>.
- Cohen, S. (2004). Social relationships and health. *American Psychologist*, 59, 676–684. <https://doi.org/10.1037/0003-066X.59.8.676>.
- Coleman, M., Ganong, L. H., & Rothrauff, T. C. (2006). Racial and ethnic similarities and differences in beliefs about intergenerational assistance to older adults after divorce and remarriage. *Family Relations*, 55, 576–587. <https://doi.org/10.1111/j.1741-3729.2006.00427.x>.
- Crutzen, R., & Göritz, A. S. (2010). Social desirability and self-reported health risk behaviors in web-based research: Three longitudinal studies. *BMC Public Health*, 10, 720. <https://doi.org/10.1186/1471-2458-10-720>.
- Demakakos, P., Nazroo, J., Breeze, E., & Marmot, M. (2008). Socioeconomic status and health: The role of subjective social status. *Social Science and Medicine*, 67, 330–340. <https://doi.org/10.1016/j.socscimed.2008.03.038>.
- Eiser, C., & Morse, R. (2001). Can parents rate their child's health-related quality of life? Results of a systematic review. *Quality of Life Research*, 10, 347–357. <https://doi.org/10.1023/a:1012253723272>.
- Eisinga, R., Grotenhuis, M., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, cronbach, or spearman-brown? *International Journal of Public Health*, 58, 637–642. <https://doi.org/10.1007/s00038-012-0416-3>.
- Farias, S. T., Mungas, D., & Jagust, W. (2005). Degree of discrepancy between self and other-reported everyday functioning by cognitive status: Dementia, mild cognitive impairment, and healthy elders. *International Journal of Geriatric Psychiatry*, 20, 827–834. <https://doi.org/10.1002/gps.1367>.
- Fingerman, K. L., Hay, E. L., Kamp Dush, C. M., Cichy, K. E., & Hosterman, S. J. (2007). Parents' and offspring's perceptions of change and continuity when parents experience the transition to old age. *Advances in Life Course Research*, 12, 275–306. [https://doi.org/10.1016/S1040-2608\(07\)12010-4](https://doi.org/10.1016/S1040-2608(07)12010-4).
- Fingerman, K. L., Kim, K., Birditt, K. S., & Zarit, S. H. (2016). The ties that bind: Midlife parents' daily experiences with grown children. *Journal of Marriage and Family*, 78, 431–450. <https://doi.org/10.1111/jomf.12273>.
- Fingerman, K. L., Miller, L., Birditt, K. S., & Zarit, S. H. (2009). Giving to the good and the needy: Parental support of grown children. *Journal of Marriage and Family*, 71, 1220–1233. <https://doi.org/10.1111/j.1741-3737.2009.00665.x>.
- Fukukawa, Y., Nakashima, C., Tsuboi, S., Niino, N., Ando, F., Kosugi, S., et al. (2004). The impact of health problems on depression and activities in middle-aged and older adults: Age and social interactions as moderators. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 59, P19–P26. <https://doi.org/10.1093/geronb/59.1.P19>.
- Fung, H., & Carstensen, L. L. (2003). Sending memorable messages to the old: Age differences in preferences and memory for advertisements. *Journal of Personality and Social Psychology*, 85, 163–178. <https://doi.org/10.1037/0022-3514.85.1.163>.
- Greenfield, E. A., & Marks, N. F. (2006). Linked lives: Adult children's problems and their parents' psychological and relational well-being. *Journal of Marriage and Family*, 68, 442–454. <https://doi.org/10.1111/j.1741-3737.2006.00263.x>.
- Hank, K. (2007). Proximity and contacts between older parents and their children: A European comparison. *Journal of Marriage and Family*, 69, 157–173. <https://doi.org/10.1111/j.1741-3737.2006.00351.x>.
- Hay, E. L., Fingerman, K. L., & Lefkowitz, E. S. (2008). The worries adult children and their parents experience for one another. *The International Journal of Aging and Human Development*, 67, 101–127. <https://doi.org/10.2190/AG.67.2.a>.
- Heid, A. R., Zarit, S. H., & Fingerman, K. L. (2016a). “My parent is so stubborn!”—Perceptions of aging parents' persistence, insistence, and resistance. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 71, 602–612. <https://doi.org/10.1093/geronb/gbu177>.
- Heid, A. R., Zarit, S. H., & Van Haitsma, K. (2016b). Older adults' influence in family care: How do daughters and aging parents navigate differences in care goals? *Aging and Mental Health*, 20, 46–55. <https://doi.org/10.1080/13607863.2015.1049117>.
- Jeste, D. V., & Oswald, A. J. (2014). Individual and societal wisdom: Explaining the paradox of human aging and high well-being. *Psychiatry*, 77, 317–330. <https://doi.org/10.1521/psyc.2014.77.4.317>.
- Jokung, O., & Macé, S. (2013). Long-term health investment when people underestimate their adaptation to old age-related health problems. *The European Journal of Health Economics*, 14, 1003–1013. <https://doi.org/10.1007/s10198-012-0449-9>.
- Karantzas, G., Evans, L., & Foddy, M. (2010). The role of attachment in current and future parent caregiving. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 65, P573–P580. <https://doi.org/10.1093/geronb/gbq047>.
- Kerr, M., Stattin, H., & Burk, W. J. (2010). A reinterpretation of parental monitoring in longitudinal perspective. *Journal of*

- Research on Adolescence*, 20, 39–64. <https://doi.org/10.1111/1/j.1532-7795.2009.00623.x>.
- Kiecolt-Glaser, J. K., & Newton, T. L. (2001). Marriage and health: His and hers. *Psychological Bulletin*, 127, 472–503. <https://doi.org/10.1037/0033-2909.127.4.472>.
- Kogan, A. C., Wilber, K., & Mosqueda, L. (2016). Person-centered care for older adults with chronic conditions and functional impairment: A systematic literature review. *Journal of the American Geriatrics Society*, 64, e1–e7.
- Krause, N. (2006). Social relationships in late life. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences* (6th ed., pp. 181–200). New York: Academic Press.
- Kwan, V. S., John, O., Kenny, D., Bond, M., & Robins, R. (2004). Reconceptualizing individual differences in self-enhancement bias: An interpersonal approach. *Psychological Review*, 111, 94. <https://doi.org/10.1037/0033-295X.111.1.94>.
- Lawton, L., Silverstein, M., & Bengtson, V. (1994). Affection, social contact, and geographic distance between adult children and their parents. *Journal of Marriage and Family*, 56, 57–68. <https://doi.org/10.2307/352701>.
- Lemay, E. P., Pruchno, R. A., & Feild, L. (2006). Accuracy and bias in perceptions of spouses' life-sustaining medical treatment preferences. *Journal of Applied Social Psychology*, 36, 2337–2361.
- Levy, S. R., & Macdonald, J. L. (2016). Progress on understanding ageism. *Journal of Social Issues*, 72, 5–25. <https://doi.org/10.1111/josi.12153>.
- Littell, R. C., Milliken, G. A., Stroup, W. W., Wolfinger, R. D., & Schabenberger, O. (2006). SAS for mixed models, Second Edition. Cary, NC: SAS Institute Inc.
- Matire, L. M., Stephens, M. A. P., Druley, J. A., & Wojno, W. C. (2002). Negative reactions to received spousal care: Predictors and consequences of miscarried support. *Health Psychology*, 21, 167–176. <https://doi.org/10.1037/0278-6133.21.2.167>.
- Moos, R. H., Brennan, P., Schutte, K., & Moos, B. (2006). Older adults' coping with negative life events: Common processes of managing health, interpersonal, and financial/work stressors. *The International Journal of Aging and Human Development*, 62, 39–59. <https://doi.org/10.2190/ENLH-WAA2-AX8J-WRT1>.
- Pearlin, L. I., Schieman, S., Fazio, E. M., & Meersman, S. C. (2005). Stress, health, and the life course: Some conceptual perspectives. *Journal of Health and Social Behavior*, 46, 205–219. <https://doi.org/10.1177/002214650504600206>.
- Pillemer, K., & Suitor, J. J. (2006). Making choices: A within-family study of caregiver selection. *The Gerontologist*, 46, 439–448. <https://doi.org/10.1093/geront/46.4.439>.
- Reamy, A. M., Kim, K., Zarit, S. H., & Whitlatch, C. J. (2011). Understanding discrepancy in perceptions of values: Individuals with mild to moderate dementia and their family caregivers. *The Gerontologist*, 51(4), 473–483. <https://doi.org/10.1093/geront/gnr010>.
- Rogers, C. R. (1979). The foundations of the person-centered approach. *Education*, 100, 98–108.
- Sarkisian, N., & Gerstel, N. (2008). Till marriage do us part: Adult children's relationships with their parents. *Journal of Marriage and Family*, 70, 360–376. <https://doi.org/10.1111/j.1741-3737.2008.00487.x>.
- Silverstein, M., Gans, D., & Yang, F. M. (2006). Intergenerational support to aging parents: The role of norms and needs. *Journal of Family Issues*, 27, 1068–1084. <https://doi.org/10.1177/0192513x06288120>.
- Stattin, H., & Kerr, M. (2000). Parental monitoring: A reinterpretation. *Child Development*, 71, 1072–1085. <https://doi.org/10.1111/j.1532-7795.2009.00623.x>.
- Stein, C. H., Osborn, L. A., & Greenberg, S. C. (2016). Understanding young adults' reports of contact with their parents in a digital world: Psychological and familial relationship factors. *Journal of Child and Family Studies*, 25, 1802–1814. <https://doi.org/10.1007/s10826-016-0366-0>.
- Suitor, J. J., & Pillemer, K. (2006). Choosing daughters: Exploring why mothers favor adult daughters over sons. *Sociological Perspectives*, 49, 139–161. <https://doi.org/10.1525/sop.2006.49.2.139>.
- Teo, A. R., Choi, H., Andrea, S. B., Valenstein, M., Newsom, J. T., Dobscha, S. K., et al. (2015). Does mode of contact with different types of social relationships predict depression in older adults? Evidence from a nationally representative survey. *Journal of the American Geriatrics Society*, 63, 2014–2022. <https://doi.org/10.1111/jgs.13667>.
- Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, 4, 236–255. <https://doi.org/10.1111/j.1745-6924.2009.01122.x>.
- Umberson, D. (1992). Relationships between adult children and their parents: Psychological consequences for both generations. *Journal of Marriage and Family*, 54, 664–674. <https://doi.org/10.2307/353252>.
- Upton, P., Lawford, J., & Eiser, C. (2008). Parent–child agreement across child health-related quality of life instruments: A review of the literature. *Quality of Life Research*, 17, 895–913. <https://doi.org/10.1007/s11136-008-9350-5>.
- Verbrugge, L. M., & Jette, A. M. (1994). The disablement process. *Social Science and Medicine*, 38, 1–14. [https://doi.org/10.1016/0277-9536\(94\)90294-1](https://doi.org/10.1016/0277-9536(94)90294-1).
- Wills, T. A. (1981). Downward comparison principles in social psychology. *Psychological Bulletin*, 90, 245–271. <https://doi.org/10.1037/0033-2909.90.2.245>.
- Wolf, D. A., Raissian, K. M., & Grundy, E. (2015). Parental disability, parent care, and offspring mental health outcomes. *European Journal of Ageing*, 12, 175–185. <https://doi.org/10.1007/s10433-015-0339-y>.
- Zickuhr, K., & Madden, M. (2012). *Older adults and internet use: For the first time, half of adults ages 65 and older are online* (pp. 1–23). Washington DC: Pew Research Center's Internet & American Life Project. Pew Research Center.

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