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Revisiting Intergenerational Contact and Relationship Quality in Later Life: Parental Characteristics Matter

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Abstract

Contact and relationship quality between adult children and aging parents are two widely used indicators of intergenerational solidarity and are often assumed to be positively correlated. However, the association between the two may depend on characteristics of the parent involved. Using Family Exchanges Study Wave 1, this study assessed whether parental difficulties – measured as functional limitations and life problems - and gender moderated the associations between middle-aged adults' contact and relationship quality with their parents. We found that more frequent email or phone contact was associated with worse relationship quality for fathers who had functional limitations. For life problems, however, more contact was not related to relationship quality for fathers with life problems. The associations did not differ by mother's difficulties. These results suggest that frequent contact between middle-aged adult children and aging parents does not uniformly reflect better relationship quality, but rather depends on parents' characteristics.

Keywords

family; parent-adult child relations; intergenerational contact; relationship quality

Introduction

In studying parent-adult child relationships, the intergenerational solidarity model (Bengtson & Roberts, 1991) initially proposed affection and association as highly interrelated components of intergenerational ties (i.e. closeness between aging parents and their adult children). The model defined association as interaction or contact and defined affection as positive sentiment. Based on the solidarity model, frequency of contact and relationship quality were widely used as two classic indicators of family ties that assess the level of

cohesion among later life families and were often assumed to be positively correlated (Lawton, Silverstein, & Bengtson, 1994).

However, findings from empirical studies on diverse indicators of intergenerational solidarity suggest that contact and relationship quality might not be highly interrelated. For example, recent studies that examined different types of intergenerational relationships suggest that frequent contact between aging parents and adult children may not always reflect high affection or good relationship quality. Studies using latent class analyses of parent-adult child relationships consistently find that while there are parent-child ties that have frequent contact and are emotionally close, there are also many families that are either high in contact but low in closeness or low in contact but high in closeness (Guo, Chi, & Silverstein, 2012; Silverstein & Bengtson, 1997; van Gaalen, & Dykstra, 2006). Also, a study by van Gaalen and colleagues (2010) found considerable variation in parent-adult child relationship quality among high-contact ties, with about 10% of high-contact families reporting poor relationship quality.

Despite findings which show that some parent-child ties are more emotionally distant than others even with high contact, the reasons behind the lack of association between contact and relationship quality remain largely unexplored. It is important to examine the factors that may influence the degree of association between parent-adult child contact and relationship quality in order to make better sense of the complex dynamics between these core components of intergenerational ties.

According to the systems perspective on family relationships, family ties are shaped by the characteristics of the parties involved (Fingerman, Nussbaum & Birditt, 2004; Norris, Pratt, & Kuiack, 2003). Based on this approach, the association between contact and relationship quality could be dependent on parent's characteristics such as parental difficulties and gender. When a parent faces health issues or other problems, adult children become responsible for taking care of the parent. In this context, contact may become an obligation to adult children and not necessarily reflect good relationship quality. In addition, for contact with mother and fathers, studies suggest that while contact with mothers are based on an affectionate tie, contact with fathers are more obligatory (Lawton et al., 1994).

Also, many of the studies that focused on intergenerational contact and relationship quality date back to 80s and 90s when telecommunication technologies were less advanced (Lawton et al., 1994; Mancini & Blieszner, 1989). Opportunities for contact increased significantly since then with the advent of cell phones, email, and web cameras. Because geographical proximity has become less necessary for sustaining emotionally close relationships (Fingerman, Cheng, Tighe, Birditt, & Zarit, 2012), revisiting the topic of contact and relationship quality is needed to gain a more up-to-date understanding of the issue. Since face-to-face meetings are still more bound by propinquity, treating contact via phone or email and face-to-face meetings separately would be more informative in capturing the nuanced differences between the two modes of contact.

Expanding on previous studies, this study examined if parental difficulties, measured as parent's ADL limitations and life problems (e.g. economic problems, loss of significant

other), moderated the association of two types of contact between adult children and their parents, in-person and phone or email, with positive and negative relationship quality. Additionally, we tested whether the associations among contact, parent's difficulties, and relationship quality differed for mothers and fathers.

Literature Review

Contact and Parent's Difficulties

Aging parent's difficulties such as functional limitations, health problems, or experiences of negative events may influence the association between frequency of contact and relationship quality among adult children and their parents by shaping the quality of intergenerational interactions (Blieszner & Roberto, 2006). Interactions around life problems or ADL limitations may be positive, bringing a parent and child closer together. For example, Fingerman and colleagues (2007) found that when parents experienced health issues that come with aging, parents and adult children focused on the positive aspects of the relationship and perceived emotional qualities of the relationship as getting better. These findings suggest that when parents are experiencing difficulties, the positive association between intergenerational contact and relationship quality could be stronger.

However, the opposite is also possible. Prior studies on parent's difficulties and relationship quality show that parent's life problems, ADL limitations, and declining health are directly associated with lower levels of parent-adult child relationship quality (Fingerman, Chen, Hay, Cichy, & Lefkowitz, 2006; Kim, Bangerter, Liu, Polenick, Zarit, & Fingerman, 2016). Furthermore, health problems and functional limitations are associated with lower levels of psychological well-being among older adults (Smith, Borchelt, Maier, & Jopp, 2002), so parents with difficulties may also convey negative emotions to their children. These studies suggest that whereas contact between adult children and aging parents is often considered as an indicator of affection (Deane, Spitze, Ward, & Zhuo, 2016; Silverstein, & Bengtson, 1997), frequent contact may not be associated with better parent-child relationship quality when parents face problems and difficulties (Birditt, Rott, & Fingerman, 2009). There could be disagreements between adult children and their parents regarding how the parent's problems should be addressed or adult children's frustrations about their parents not following their advice or suggestions (Heid, Zarit, & Fingerman, 2016; Maisel & Gable, 2009). Therefore, interactions in the context of a parents' life problems or ADL limitations may provide a canvas on which disagreements and conflict play out, limit opportunities for engaging in more pleasant activities (Sillars, Canary, & Tafoya, 2004), and thereby weaken the association between contact and relationship quality.

Contact, Parent's Difficulties and Gender, and Relationship Quality

The specific ways that a parent's difficulties play out in parent-child relationships may differ between fathers and mothers, as parental gender is a significant factor that influences relationship quality (Russell & Saebel, 1997; Umberson, Pudrovska, & Reczek, 2010). Adult children have more frequent contact with mothers compared to fathers (Fingerman et al., 2012; Swartz, 2009), and have more affectionate and intimate relationships with mothers (Fingerman, 2001; Rossi & Rossi, 1990). Furthermore, mothers usually function as

“kinkeepers”, actively maintaining social relationships in the family and keeping family members stay in touch with each other (Eggebeen, 1992; Lye, 1996). Because the maintenance of contact among family members mainly takes place through mothers, adult children typically have closer ties with mothers compared to fathers (Suitor, Gilligan, & Pillemer, 2016). Even in the face of negative events such as parent’s divorce or health problems, adult children’s positive affection or intimacy with their mothers are less influenced by those events compared to the relationship with fathers (Aquilino, 1994; Riggio, 2004).

Regarding the association between contact and relationship quality, the above studies suggest that conflicts and irritations that may happen around mother’s life problems or health issues are less likely to take a toll on mother-adult child relationship quality. Although some studies show that adult children have more conflict with mothers (Birditt, Miller, Fingerman, & Lefkowitz, 2009), emotional closeness of the relationship allows mothers and adult children to manage the conflict in a way that strengthens or maintains the relationship (Fingerman, 1998; Lefkowitz & Fingerman, 2003). Therefore, it stands to reason that the degree to which a parent’s difficulties influence the association between contact and parent-adult child relationship quality could differ between fathers and mothers.

Based on these studies, we hypothesized that higher levels of contact would be associated with better relationship quality (i.e., higher positive relationship quality, lower negative relationship quality). We further hypothesized that when parents have life problems and functional limitations, the positive association between contact and better relationship quality would be weaker. Additionally, we hypothesized that the moderating effects of parent’s problems and functional limitations on relationship quality will vary between fathers and mothers. Specifically, we expected that the association between contact and relationship quality will be less dependent on mother’s difficulties compared to father’s, as ties with mothers are more enduring than relationships with fathers.

Methods

Sample

This paper used data from the Family Exchanges Study (FES) Wave 1 (Fingerman, Miller, Birditt, & Zarit, 2009). The original sample was collected in 2008 from the Philadelphia Primary Metropolitan Statistical Area including urban, rural, and suburban areas in New Jersey and Southeastern Pennsylvania. The participants were identified through phone lists from Genesys Corporation supplemented with random digit dialing in regional area codes. To be included in the study, eligible participants had to be aged 40 to 60 years old and have at least one living parent and at least one child aged 18 years or older. The total of 633 participants completed Computer Assisted Telephone Interviews (CATIs) for approximately one hour regarding their relationships with their adult children and living parents. Middle-aged adults who participated in the survey provided information about each of their living parent, so responses about parents were nested within respondents. FES originally had a sample of 633 respondents, but the current study included 601 respondents who provided full information regarding the study variables. Respondents who were dropped from the analysis due to missing data were not demographically different from those who were

included in the study in terms of age, level of education, gender, and marital status. In the resulting sample, 813 parents were nested within 601 middle-aged adult children. Table 1 presents detailed demographic characteristics of the middle-aged adult children and their parents as well as tests of differences between fathers and mothers. Specifically, 90 middle-aged children reported on fathers only, 299 reported about mothers only, and 212 reported on both parents. Mean age of the adult children was 50.71 years ($SD = 4.97$), and the majority of adult children reported as being married (70.72%). For parents' demographic characteristics, mean age of fathers was 77.84 years ($SD = 6.67$) and mothers' mean age was 76.72 ($SD = 6.76$). Significantly larger proportion of fathers were married compared to mothers (69.54% and 37.96% respectively; $X^2(1) = 75.68, p < .05$).

Measures

Relationship quality.—Previous work on intergenerational relationships suggest the importance of considering both positive and negative qualities (van Gaalen, & Dykstra, 2006), and participants in FES rated positive and negative relationship qualities with each parent (Birditt, Tighe, Fingerman, & Zarit, 2012). Positive relationship quality was assessed with two items that measured feelings of care and closeness with each parent. Participants rated (a) how much they felt loved and cared by their father/mother and (b) how much they felt understood by their father/mother. Negative relationship quality was assessed with two items indicating negative interactions with each parent. Participants rated (a) how much criticism they receive from their father/mother and (b) how much demands their father/mother makes on them. All four items were rated on a scale of 1 (*not at all*) to 5 (*a great deal*). Normality of the responses were within acceptable range, with skewness of -1.29 and 1.46 for positive and negative relationship quality with fathers and -1.19 and 0.84 for relationship with mothers. Spearman-Brown reliability coefficients for positive relationship quality were $\alpha = .80$ for relationship with fathers and $\alpha = .62$ for relationship with mothers. Reliability coefficients for negative relationship quality were $\alpha = .72$ for relationship with fathers and $\alpha = .63$ for relationship with mothers. Although the coefficient alphas were moderate, these values were similar to prior studies that used similar relationship quality scales (Fingerman, Pitzer, Lefkowitz, Birditt, & Mroczek, 2008; Umberson, 1992).

Contact with parents.—Contact with parents was measured using two modes of contact: (a) meeting in person and (b) contact via telephone or email. Specifically, the study asked how often the respondents have seen their father/mother in person in the past 12 months and how often the respondents had contact with their father/mother by telephone or email in the past 12 months. The responses for each item were rated as 1 (*less than once a year or never*), 2 (*once a year*), 3 (*a few times a year*), 4 (*monthly*), 5 (*a few times a month*), 6 (*weekly*), 7 (*a few times a week*), and 8 (*daily*). In this paper, we used these two modes of contact separately in the model because while meeting in person largely depends on the geographical closeness of the parent and adult child, email or telephone does not depend on propinquity.

Parents' limitations in activities of daily living (ADL).—Limitations in parents' everyday functioning was assessed using four items from the Community Disability Scale (Bassett & Folstein, 1991). Participants responded whether their parent(s) required help on a

regular basis to perform tasks of daily life. Specifically, the following tasks were assessed: grocery shopping, housework, use of transportation, managing money, and personal care such as bathing and dressing. The sum of ADL limitations had a non-normal distribution, as most respondents endorsed none or few items. For that reasons, we recoded the variable as 0 for “*no limitations*” and 1 for “*has limitation in at least one ADL*”.

Parents’ life problems.—To assess if parents have experienced any difficulties or significant life problems, the participants were asked if their father/mother experienced each of the following problems in the past two years: serious health problem or injury, serious emotional or psychological problem, drinking or drug problem, financial problem, the death of someone he/she felt close to, been the victim of crime, gotten a divorce or serious problems in relationships with other people, or any other major problem or difficult event (Birditt, Fingerman, & Zarit, 2010; Greenfield & Marks, 2006). The most common problems reported for parents were health problems (58.40%), death of someone close (56.24%), and emotional or psychological problems (18.97%). The sum of each parent’s problems was skewed towards none or few items ($M = 1.58$, $SD = 1.20$ for mothers; $M = 1.36$, $SD = 1.16$ for fathers), so the responses were recoded as 0 for “*no life problems*” and 1 for “*at least one life problem*”.

Covariates.—We controlled for basic demographic characteristics of the middle-aged offspring that might affect the amount of contact and relationship quality: age, gender (0 = *male*, 1 = *female*), level of education (0 = *less than high school* to 4 = *post graduate*), race (0 = *non-White*, 1 = *White*), and marital status (0 = *not married*, 1 = *married*). As for parental characteristics, parent’s marital status (0 = *not married*, 1 = *married*), gender (0 = *fathers*, 1 = *mothers*), age, education level (1 = *less than high school* to 5 = *post graduate*), and geographic distance from the respondent (for fathers, 0 = *within 15 miles*, 1 = *more than 15 miles away*; for mothers, 0 = *within 10 miles*, 1 = *more than 10 miles away*) were included as covariates. FES originally measured distance from parents in miles in the scale of 1 (0 miles) to 7 (1501 miles or more). Due to the non-normal distribution of the responses with skewness of 3.86 ($SE = 0.14$) for fathers and skewness of 4.82 ($SE = 0.11$) for mothers, we calculated the median of the responses for mothers and fathers and recoded distance as a dichotomous variable.

Giving support to parents and receiving support from parents have also been found to be significant correlates of parent-child relationship quality, so these variables were included as covariates in the analysis (Schwarz, Trommsdorff, Albert, & Mayer, 2005). Support was measured using the Intergenerational Support Scale (ISS, Fingerman et al., 2011). ISS assessed whether the participants exchanged six different types of support including emotional support, practical assistance, talking about daily events, socializing, advice, and financial assistance. The responses ranged from 1 (*less than once a year*) to 8 (*daily*). We calculated mean scores of the six items to measure overall levels of exchange of support with parents ($\alpha = .85$ for providing support to mother; $\alpha = .88$ for providing support to father; $\alpha = .80$ for receiving support from mother; $\alpha = .81$ for receiving support from father). Although exchanges of support may also take place during contact, the correlations between the two modes of contact and support given and received were moderate ($r = 0.47 \sim 0.71$).

Therefore, we treated exchanges of support as a covariate in our model, separate from measures of contact.

Analysis

This study used multilevel models (MLM) to address how each mode of contact with parents (in person or by email or phone) is associated with parent-child relationship quality and whether parental difficulties – measured as parent’s ADL problems and life problems – and parent’s gender moderated these associations. As information about 813 living parents was nested within 601 middle-aged adult children, the use of MLM is warranted in order to account for the shared variance of parents from the same respondent. The models were analyzed using SAS PROC MIXED.

MLM models were estimated using positive and negative relationship qualities as separate outcomes. In the baseline model (Model 1), we tested for the fixed main effects of independent variables, including the frequencies of in-person and phone or email contact with parents, parent’s limitations in ADL, and parent’s life problems while controlling for respondents’ and parents’ demographic characteristics and respondents’ report of their exchanges of support with parents. Next, in Model 2, we added four interaction terms between parental difficulties, as indicated by ADL problems and life problems, and the two measures of contact. This step examined whether the associations between meeting and contact with parent and relationship qualities were moderated by parent’s ADL limitations and life problems. Lastly, in Model 3, we included four three-way interaction terms comprised of contact with parents, parental difficulties, and parent’s gender. We also included eight constituent two-way interactions (four interaction terms between in-person and phone or email contact with parents and parent’s ADL limitations and life problems, two interaction terms between in-person and phone or email contact with parent and parent’s gender, and two interaction terms between parent’s difficulties and parent’s gender). This model examined whether the interaction between contact with parent and parental difficulties differed by parent’s gender. After running the full model with all twelve interaction terms (8 two-way and 4 three-way terms), we sequentially trimmed the model starting with the three-way interaction terms with the least significant p-value (Crawley, 2015) for model simplification. We reanalyzed the model to see if trimming changed the significance of the remaining three-way interaction terms. We repeated this step until all non-significant three-way interaction terms and their constituent two-way interactions were trimmed from Model 3. Model 3 in the Tables 3 and 4 present the results from the final model.

Where interactions were significant, we calculated point estimates of positive and negative relationship qualities based on the coefficients of the model to compare across different combinations of levels of contact, parent’s difficulties, and parent’s gender. Covariates were held constant at their mean for continuous variables. For binary covariates such as race and marital status, average of the coefficients of the two groups were used in the calculation of point estimates.

Results

Descriptive statistics from Table 2 show that respondents reported having more contact with mothers than with fathers, $t(811) = -4.72, p = .01$ for in-person contact; and $t(811) = -6.60, p = .01$ for email or phone contact. On average, they met fathers in person once a month, as indicated by a mean score of 4.78 ($SD = 2.04$), and met mothers a few times a month, as indicated by a mean score of 5.44 ($SD = 1.86$). Contact with fathers via email or phone averaged between few times a month and weekly, as indicated by a mean score of 5.51 ($SD = 2.00$). For mothers, the average was between weekly and few times a week, as indicated by a mean score of 6.38 ($SD = 1.67$). In terms of parents' difficulties, 74.17% of the respondents' fathers and 82.00% of the mothers were reported as having experienced at least one life problem in the last 2 years. As for ADL limitations, 22.85% of the fathers and 37.38% of the mothers had limitations with at least one ADL. Positive relationship quality was higher for relationship with mothers ($M = 4.11, SD = 0.75$) compared to relationship with fathers ($M = 3.86, SD = 0.96$). Negative relationship quality was lower for fathers ($M = 1.75, SD = 0.91$) than for mothers ($M = 2.12, SD = 0.93$).

Contact, Parental Difficulties, and Positive Relationship Quality

Models with positive relationship quality as an outcome are presented in Table 3. In Model 2 which included two-way interaction terms between contact and parental difficulties, we did not find any significant interaction effects.

In Model 3, we added three-way interaction terms among phone or email contact, parental difficulties, and parent's gender for their associations with positive relationship quality. There was a significant interaction effect for Parent's gender \times Contact via phone or email \times Parent's ADL limitations ($B = 0.16, p < .01$). This three-way interaction indicates that the role of parent's ADL limitations in the association between phone or email contact with parent and positive relationship quality differed for mothers and fathers. Figure 1 compares estimated levels of positive relationship quality by levels of contact, parent's ADL limitation status, and parent's gender. Here, high levels of contact refer to 1 SD higher than the sample mean for phone or email contact and low levels of contact indicate 1 SD lower than the sample mean. First, the graphs show that respondents in general reported higher levels of positive relationship quality with mothers compared to fathers regardless of levels of contact and ADL limitations. Second, for fathers with no ADL limitations, those having high levels of contact via phone or email showed significantly higher levels of positive relationship quality compared to those with low levels of contact. Such difference was not found for fathers with ADL limitations. Third, more frequent contact was associated with significantly higher positive relationship quality for mothers with ADL limitations. For mothers without ADL limitations, positive relationship quality did not differ by levels of contact.

Contact, Parental Difficulties, and Negative Relationship Quality

Results from models with negative relationship quality are presented in Table 4. In Model 2 with two-way interaction terms between contact and parental difficulties, none of the interaction terms were significant.

For Model 3 with three-way interaction terms, a significant interaction was found for Parent's gender \times Contact via phone or email \times Parent's ADL limitations ($B = -0.18, p < .05$), indicating that the influence of parent's ADL limitations on the association between contact with parent and negative relationship quality differed for fathers and mothers. Graphic representation of this interaction (Figure 2) showed that for relationship with fathers, those with more frequent contact via phone or email had higher levels of negative relationship quality compared to those with less frequent contact, particularly for fathers with ADL limitations. For relationship with mothers, negative relationship quality did not differ by levels of contact for both mothers with and without ADL limitations. A second significant three-way interaction term was found for Parent's gender \times Contact via phone or email \times Parent's life problem ($B = 0.26, p < .01$), indicating that the role of parent's life problem in the association between contact with parent and negative relationship quality varied for fathers and mothers. Graphing this interaction term (Figure 3) showed that among fathers, children's more frequent contact was associated with higher levels of negative relationship quality for fathers without a life problem. For fathers with life problems, levels of negative relationship quality did not significantly differ by frequency of contact. For relationship with mothers, there were no significant differences in negative relationship quality by levels of contact for both mothers with and without life problems.

Discussion

In order to further expand the understanding of the relation between contact and relationship quality proposed by the intergenerational solidarity model, this study examined whether parent's difficulties and gender moderated the associations between contact and parent-adult child relationship quality. Although previous research has explored the implications of parental difficulties and gender for contact and relationship quality, this study takes a more unique and nuanced approach by considering how the role of parental difficulties in the association between contact and relationship quality differ between mothers and fathers. Also, considering the recent advances in communication technology, this study separated two different modes of contact – face to face meetings and contact via phone or email.

Findings were consistent with the systems perspective which posits that family ties are influenced by the characteristics of the family member involved (Norris et al., 2003). The association between contact and relationship quality differed by parent's characteristics, namely parental difficulties and gender. Also, the results differed by the type of contact, with significant effects found for phone or email contact but not for in-person contact. It is possible that email or phone contact was associated with relationship quality because it is discretionary, and persons with better relationships initiate more interactions. Whereas distance is a barrier to frequent in-person visiting (Baym, Zhang, & Lin, 2004; Quan-Haase, Wellman, Witte, & Hampton, 2002), parents and children are now able to contact each other more freely via phone or email whenever desired or needed. Such voluntary contact may help maintain good relationships even without frequent visits. Living at a distance can indicate a desire of adult children to escape from the influence of parents, but may also be driven by economic needs of the parent or the adult child including job opportunities of the adult child or divorce, remarriage, and widowhood in either generation (Lawton et al, 1994;

Rogerson, Burr, & Lin, 1997). Additionally, when adult children live in closer proximity to parents, visiting may be more obligatory than enjoyable.

Tests of three-way interaction among contact, parental difficulties, and parent's gender showed that higher levels of phone or email contact were associated with better relationship quality (i.e. higher positive relationship quality) for fathers without ADL limitations while more contact was related to worse relationship quality (i.e. higher negative relationship quality) for fathers with ADL limitations. This finding suggests that the positive association between contact and affection among fathers and adult children proposed by the intergenerational solidarity model is dependent on fathers' characteristics. A father's ADL problems may pose challenges in intergenerational interactions (Cicirelli, 1993; Williams & Nussbaum, 2001) and harm relationship quality (Kim et al., 2016). Furthermore, when a father has ADL limitations, the focus of contact between adult children and the parent may be centered on the father's problems. Additional analysis in our study showed that adult children who had fathers with ADL limitations gave more frequent advice to their fathers compared to adult children whose fathers did not have any ADL limitations ($t(307) = -3.33$, $p < .05$). However, advice that adult children give to parents about management of daily life and health is often ignored or refused, as it upsets the implicit hierarchy in the family and threatens to take control away from parents (Heid et al., 2016). These situations can lead to tension and negative feelings between fathers and adult children. Previous studies that have reported positive associations between contact and relationship quality may have had samples with low levels of disabilities or did not take into account the functional status of the parent in the analysis (Lawton et al., 1994; van Gaalen et al., 2010).

For father's life problems, however, we found a different pattern. Unlike fathers with ADL limitations, levels of negative relationship quality did not differ by frequency of contact among fathers with life problems. This is a surprising outcome but may be due to the type of life problems that were experienced by fathers. The problems included death of significant others and economic difficulties, which could lead to sympathetic responses, and, unlike ADL limitations, do not require personal care. Further, fathers may be more receptive to support they receive for life problems than for ADL limitations that call into question their independence.

In contrast to the findings for fathers, the association between phone or email contact and relationship quality for mothers did not differ by mother's difficulties. These findings are consistent with previous literature on gender difference in parent-child relationship which posits that the relationship with mothers is influenced less by negative experiences compared to the relationship with fathers (Aquilino, 1994; Riggio, 2004). Even with challenges associated with ADL limitations, the intimacy of relationship between mothers and adult children may allow for relationship quality to endure. Further, the findings showed that more frequent phone or email contact between adult children and mothers with ADL limitations was associated with higher levels of positive relationship quality compared to those adult children with less frequent contact. It may be that helping mothers with ADL limitations is related to having a closer, more positive relationship, at least from the adult child's perspective.

This study has limitations that may affect the interpretation of the findings. First, due to the cross-sectional nature of the data, we cannot determine the directionality of the associations. Contact may contribute to relationship quality or relationship quality may affect the frequency of contact. Longitudinal studies that allow for temporal ordering of relationship quality and contact would be necessary to disentangle the direction of the relationship between the two variables. Also, this study only used the reports of middle-aged children to measure the frequency of contact with parents and parent-adult child relationship quality. Prior studies have found some discrepancies between adult children and their parents in terms of reported amount of support given and received (Kim, Zarit, Eggebeen, Birditt, & Fingerman, 2011), and middle-aged children's reports of contact and relationship quality might be similarly biased. Therefore, future studies should consider incorporating multiple sources of perspectives from both adult children and parents as well as more frequent assessments that are less prone to recall bias. Also, adult children's characteristics that may affect relationship quality such as membership in blended families and gender was not fully incorporated in the analysis. Only a small proportion of our sample reported having a stepparent (1.6%), and sensitivity analysis showed that including membership in blended families as a covariate did not change the results. A larger sample of blended families would be needed to test the differences in the association between contact and relationship quality by family type. Another limitation is that although this study controlled for children's gender, it did not test whether the associations among contact, parent's difficulties, and relationship quality differed for sons and daughters. Testing for differences by parent and children's gender would require a four-way interaction, which would be difficult to interpret. Also, our data suggested that relationship quality and frequency of contact differed between mothers and fathers more so than between sons and daughters. Nonetheless, to better understand how the dynamics of contact and parent-child relationship quality unfold by gender, comparison among different types of parent-child dyads (e.g. mother-son, mother-daughter, father-son, and father-daughter) would be needed. Lastly, the alpha coefficients for relationship quality with parents were moderate, ranging from $\alpha = .72$ to $\alpha = .80$. This may be due to the small number of items that were used to measure positive and negative relationship quality (Birditt et al., 2012).

Despite the limitations, this study adds to the prior research on intergenerational contact and relationship quality by showing that frequent parent-adult child contact does not always indicate better relationship quality and that the association depends on the characteristics of the parent involved and the type of contact. Particularly with fathers, more phone or email contact was associated with lower levels of relationship quality in the presence of ADL limitations. For life problems however, relationship quality did not differ by levels of contact. Building on the findings of the present study, a next possible step would be to consider how the characteristics of adult children might also influence the relation between contact and relationship quality. Also, while this study used a summative measure of life problems, certain life problems can promote more closeness between adult children and parent than others. Comparing across different types of life problems would make it possible to examine more nuanced role of life problems in parent-adult child ties.

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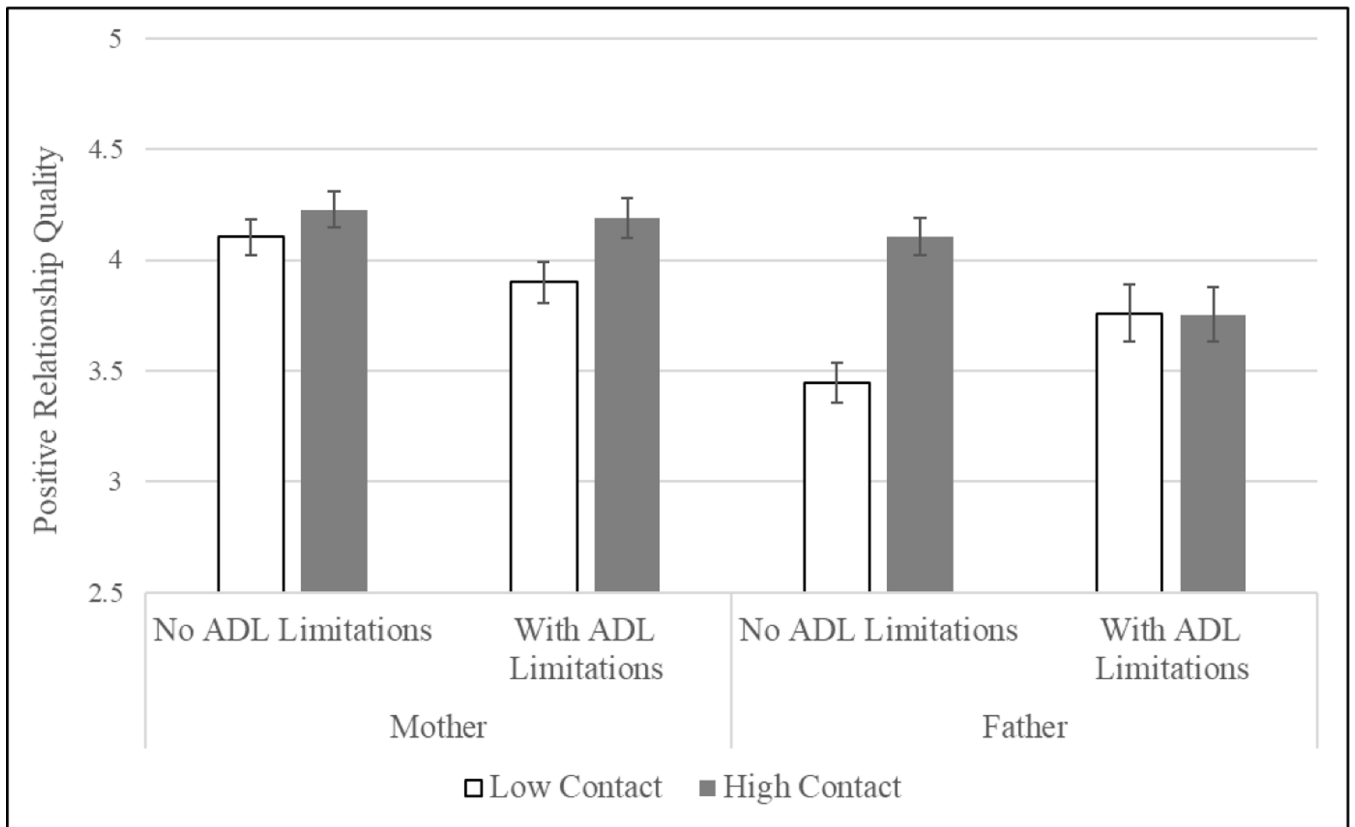


Figure 1. Positive Parent-Child Relationship Quality by Contact with Parents via Phone or Email, Parent's ADL Limitations, and Parent's Gender. White bars indicate low levels of contact and gray bars indicate high levels of contact. Error bars represent standard errors.

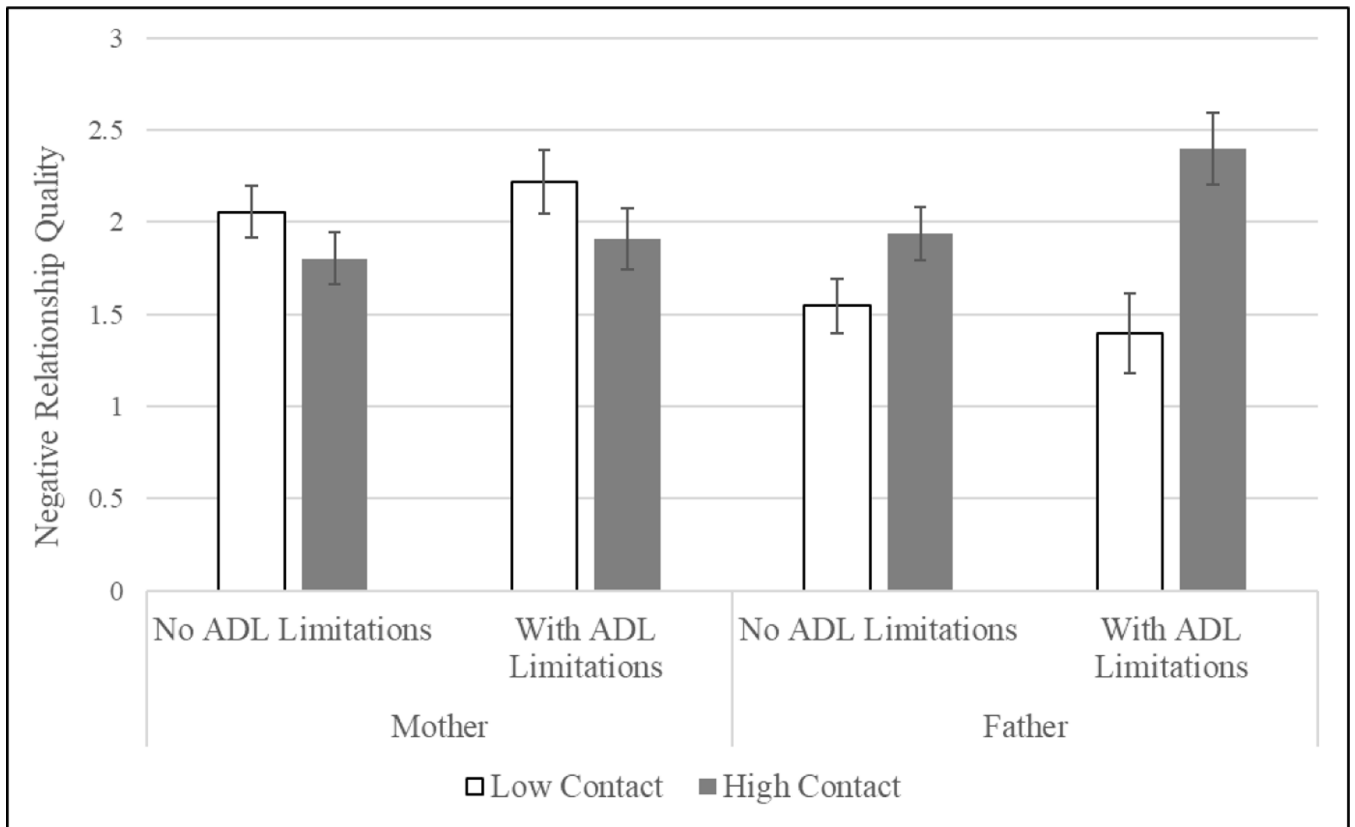


Figure 2. Negative Parent-Child Relationship Quality by Contact with Parents via Phone or Email, Parent's ADL Limitations, and Parent's Gender. White bars indicate low levels of contact and gray bars indicate high levels of contact. Error bars represent standard errors.

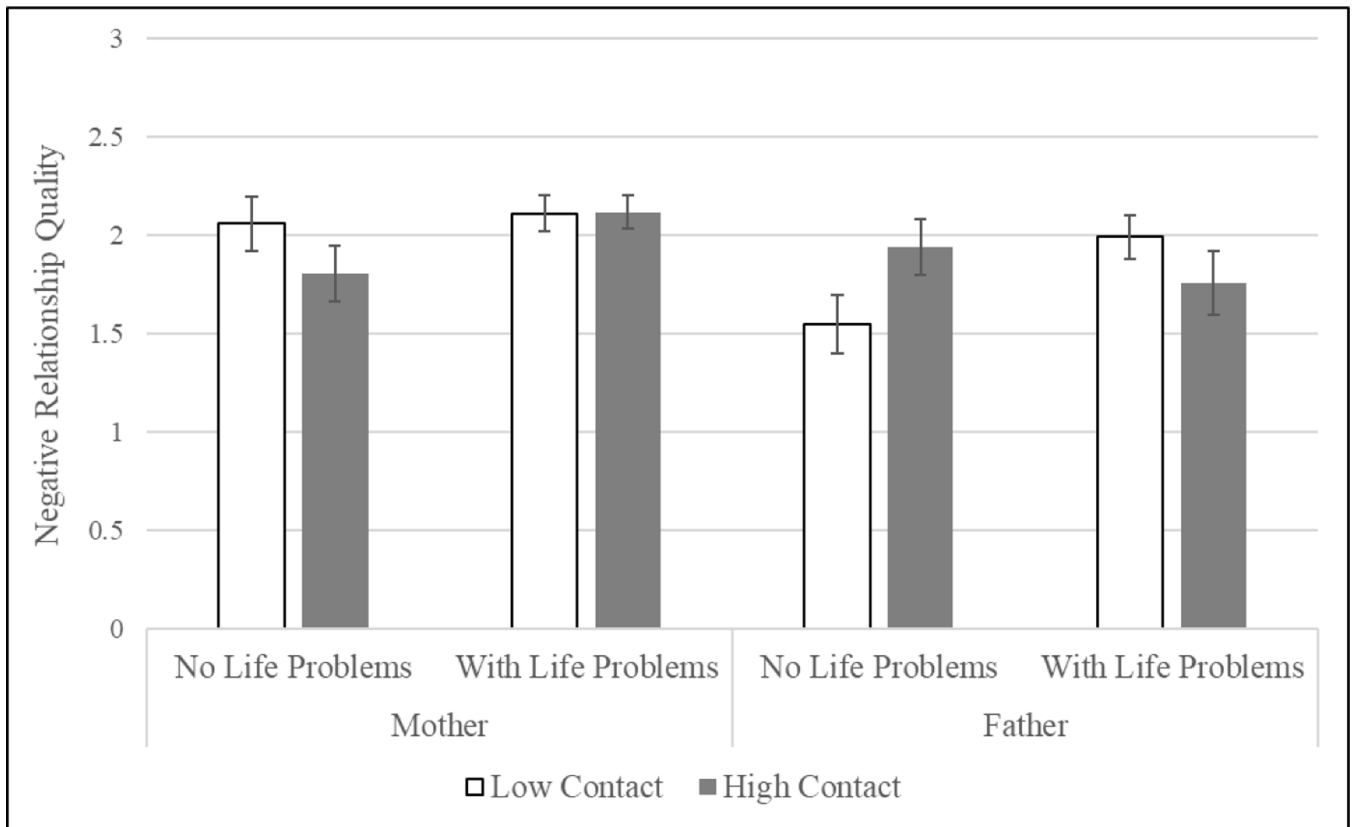


Figure 3. Negative Parent-Child Relationship Quality by Contact with Parents via Phone or Email, Parent's Life Problems, and Parent's Gender. White bars indicate low levels of contact and gray bars indicate high levels of contact. Error bars represent standard errors.

Table 1.

Demographic Characteristics of Adult Children and Parents, and Test of Differences between Fathers and Mothers

	Adult Children (<i>N</i> = 601)	Fathers (<i>n</i> = 302)	Mothers (<i>n</i> = 511)	Difference test
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>t</i> ^c
Age	50.71 (4.97)	77.84 (6.67)	76.73 (6.76)	2.28*
Education ^a	2.20 (1.12)	2.53 (1.18)	2.34 (0.93)	0.98
	Proportions	Proportions	Proportions	χ^d
Female	52.41%	-	-	-
White ^b	64.06%	-	-	-
Married	70.72%	69.54%	37.96%	75.68***

Notes. *M* = mean; *SD* = standard deviation.

^aEducation level for adult children, 0 = *less than high school* to 4 = *post graduate*; education level for parents, 1 = *less than high school* to 5 = *post graduate*.

^bAdult children were not asked to provide racial information of their parents.

^cIndependent sample t-test of difference.

^dChi-square test of difference.

* $p < .05$.

*** $p < .001$.

Table 2.

Adult Children's Reports of Parent's Problems, Frequency of Contact, and Relationship Quality with Parents, and Test of Differences between Fathers and Mothers

	Fathers (n=302)		Mothers (n =511)		<i>t</i> ^d
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
In-person contact ^a	4.78	2.04	5.44	1.86	-4.72***
Email or phone contact ^a	5.51	2.00	6.38	1.67	-6.60***
Support to parent ^b	3.61	1.52	4.62	1.44	-9.42***
Support from parent ^b	3.08	1.34	3.71	1.41	-6.26***
Positive relationship	3.86	0.96	4.11	0.75	-4.11***
Negative relationship	1.75	0.91	2.12	0.93	-5.54***

	Proportions	Proportions	χ^2 ^e
Any problems	74.17%	82.00%	7.03**
Any ADL limitations	22.85%	37.38%	18.42***
Living more than 10/15 miles away ^c	46.69%	44.42%	0.39

Notes. M = mean; SD = standard deviation; ADL = activities of daily living.

^aContact, 1 = *less than once a year or never* to 8 = *daily*.

^bSupport, 1 = *less than once a year* to 8 = *daily*.

^cLiving more than 10 miles away for mothers, living more than 15 miles away for fathers.

^dIndependent sample t-test of differences.

^eChi-square test of differences.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3.

Multilevel Models for the Associations between Contact and Positive Relationship Quality with Parental Difficulties and Gender as Moderators (N = 813)

	Model 1		Model 2		Model 3	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Fixed effects						
Intercept	3.63***	0.10	3.63***	0.10	3.61***	0.10
In-person contact	0.04	0.02	0.01	0.04	0.03	0.02
Phone or email contact	0.09***	0.02	0.09*	0.04	0.17***	0.03
Parent ADL limitation	-0.06	0.06	-0.06	0.06	0.09	0.10
Parent life problem	-0.02	0.06	-0.03	0.06	-0.02	0.06
Parent gender ^a	0.32***	0.05	0.32***	0.05	0.40***	0.06
Parent ADL × In-person	-	-	0.06	0.03	-	-
Parent ADL × Phone or email	-	-	-0.06	0.03	-0.11**	0.04
Parent ADL × Parent gender	-	-	-	-	-0.20	0.11
Parent problem × In-person	-	-	0.01	0.04	-	-
Parent problem × Phone or email	-	-	0.05	0.04	-	-
Parent gender × Phone or email	-	-	-	-	-0.13***	0.03
Parent gender × Phone or email × Parent ADL	-	-	-	-	0.16**	0.06
Controls						
Child: Gender ^b	-0.16**	0.05	-0.17**	0.05	-0.17**	0.05
Child: Age	0.003	0.01	0.002	0.01	0.002	0.01
Child: Education	0.04	0.03	0.04	0.03	0.04	0.03
Child: Race ^c	-0.12	0.06	-0.12	0.06	-0.13*	0.06
Child: Marital Status	0.23**	0.06	0.23**	0.06	0.22**	0.06
Parent: Distance	0.31***	0.07	0.31***	0.07	0.29***	0.07
Parent: Marital Status	0.11	0.06	0.11	0.06	0.11	0.06
Parent: Age	-0.01	0.01	-0.01	0.01	-0.01	0.01
Parent: Education	0.07*	0.03	0.07*	0.03	0.07**	0.03
Parent: Give support	0.05	0.03	0.04	0.03	0.05	0.03
Parent: Get support	0.17***	0.03	0.17***	0.03	0.17***	0.03
Random effects						
Intercept variance	0.13***	0.04	0.13***	0.04	0.14***	0.03
Residual variance	0.38***	0.04	0.37***	0.04	0.36***	0.03
-2 log-likelihood	1738.6		1731.8		1720.9	

Note. B = non-standardized coefficient; SE = standard error. All continuous covariates were centered.

^aParent gender, 0 = father, 1 = mother.

^bAdult child gender, 0 = male, 1 = female.

^cRace, 0 = *non-White*, 1 = *White*.

*
 $p < .05$;

**
 $p < .01$;

 $p < .001$.

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Table 4.

Multilevel Models for the Associations between Contact and Negative Relationship Quality with Parental Difficulties and Gender as Moderators (N = 813)

	Model 1		Model 2		Model 3	
	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>	<i>B</i>	<i>SE</i>
Fixed effects						
Intercept	2.10 ^{***}	0.12	2.08 ^{***}	0.12	2.13 ^{***}	0.13
In-person contact	-0.05 [*]	0.03	-0.08	0.05	-0.05	0.03
Phone or email contact	0.25e ⁻⁵	0.02	0.05	0.05	0.10	0.05
Parent ADL limitation	0.16 [*]	0.08	0.15	0.08	0.17	0.13
Parent life problem	0.13	0.08	0.14	0.08	0.08	0.11
Parent gender ^a	0.26 ^{***}	0.07	0.27 ^{***}	0.06	0.19	0.13
Parent ADL × In-person	-	-	-0.01	0.04	-	-
Parent ADL × Phone or email	-	-	0.06	0.04	0.16 ^{**}	0.06
Parent ADL × Gender	-	-	-	-	-0.04	0.14
Parent problem × In-person	-	-	0.05	0.05	-	-
Parent problem × Phone or email	-	-	-0.09	0.06	-0.18 ^{**}	0.06
Parent problem × Gender	-	-	-	-	0.10	0.15
Parent gender × Phone or email	-	-	-	-	-0.17 [*]	0.08
Parent gender × Phone or email × Parent ADL	-	-	-	-	-0.18 [*]	0.07
Parent gender × Phone or email × Parent problem	-	-	-	-	0.26 ^{**}	0.09
Controls						
Child: Gender ^b	-0.06	0.07	-0.05	0.07	-0.05	0.06
Child: Age	0.001	0.01	0.002	0.01	0.003	0.01
Child: Education	0.03	0.03	0.03	0.03	0.03	0.03
Child: Race ^c	0.13	0.08	0.13	0.08	0.13	0.08
Child: Marital Status	-0.35 ^{***}	0.08	-0.35 ^{***}	0.08	-0.33 ^{***}	0.08
Parent: Distance	-0.34 ^{***}	0.08	-0.33 ^{***}	0.08	-0.34 ^{***}	0.08
Parent: Marital Status	-0.17 [*]	0.07	-0.17 [*]	0.07	-0.18 [*]	0.07
Parent: Age	-0.01	0.01	-0.01	0.01	-0.01	0.01
Parent: Education	0.03	0.03	0.03	0.03	0.03	0.03
Parent: Give support	0.09 [*]	0.04	0.09 [*]	0.04	0.10 ^{**}	0.04
Parent: Get support	0.02	0.03	0.03	0.03	0.02	0.03
Random effects						
Intercept variance	0.12 [*]	0.06	0.13 [*]	0.06	0.13 [*]	0.06
Residual variance	0.64 ^{***}	0.06	0.62 ^{***}	0.06	0.62 ^{***}	0.06
-2 log-likelihood	2076.3		2072.4		2060.6	

Note. B = non-standardized coefficient; SE = standard error. All continuous covariates were centered.

^aParent gender, 0 = *father*, 1 = *mother*.

^bAdult child gender, 0 = *male*, 1 = *female*.

^cRace, 0 = *non-White*, 1 = *White*.

* $p < .05$;

** $p < .01$;

*** $p < .001$.

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