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Roles of egos' and siblings' perceptions of maternal favoritism in adult children's depressive symptoms: A within-family network approach

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Abstract

It is well documented that intergenerational ties play important roles in adults' well-being. However, most studies focus on the impact of individuals' own perceptions of their ties without considering whether family members' assessments of these ties affect well-being. We address this question using data from 296 adult children nested within 95 later-life families in which all offspring were interviewed. Applying a mixed-method within-family approach, we explored whether the effect of perceived maternal favoritism on depressive symptoms was increased when siblings shared ego's perceptions. Multilevel regression analyses revealed that ego's own perceptions predicted depressive symptoms, but only among daughters. Siblings' perceptions that egos were most close to mothers did not affect the well-being of daughters or sons. Qualitative analyses suggested that differential effects of perceived favoritism by gender reflected differences in the meaning sons and daughters associated with being favored children. Favored daughters were more likely than favored sons to report that they were emotional caregivers to their mothers; this pattern was especially strong when siblings reinforced egos' perceptions of being "best suited" for this role. These findings emphasize the salience of egos' own perceptions, relative to those of family network members, in shaping role embracement and psychological well-being, especially among women.

Keywords: family networks; social influence and well-being; family relations and well-being; adult siblings; parental favoritism; parental differential treatment; intergenerational relations; within-family differences; mixed methods

The study of egocentric networks has documented the highly salient role that interpersonal ties, both within and outside of the family, play in individuals' well-being (cf. Antonucci et al., 2010; Carr & Springer, 2010; Heaney & Israel, 2008; Thomas et al., 2017; Umberson & Karas Montez, 2010). Within the study of family networks, the tie that has received the most attention has been that between mothers and their children, both in childhood and in adulthood (Suitor et al., 2015). Although classic theories of social interaction in both psychology (Heider, 1958) and sociology (Simmel, 1964) propose that understanding the relationship between any two individuals is dependent on their relationships with other members of their networks, rarely is this perspective brought into the study of the parent–child relationship, particularly in adulthood. However, across the past decade there has been increasing attention to the role of within-family differences in mother–child relationship quality and its effects on adult children's psychological well-being (Davey et al., 2009; Jensen et al., 2013; Suitor et al., 2017a,b, 2018b). This line of research has shown that adult children who perceive that they are either favored or disfavored by their mothers, relative to their siblings, report lower psychological well-being (Davey et al., 2009; Jensen et al., 2013; Peng et al., 2018; Suitor et al., 2017a,b, 2018b). Further, comparisons

have shown that individuals' assessments of their relationships with their mothers, relative to their mothers' relationships with their siblings, have a stronger impact on depressive symptoms than do assessments of mother–child relationships in which individuals do not make such within-family comparisons (Suitor et al., 2017b).

Thus far, research on the impact of perceptions of maternal differential treatment (MDT) on well-being has focused exclusively on the perceptions held by individual offspring, as opposed to the perceptions held by their siblings. However, theories of social comparison, social influence, and social control (cf. Festinger, 1954; Friedkin & Johnsen, 2003; Gerber et al., 2018; Thoits, 2011) suggest that siblings' perceptions of their mothers' patterns of favoritism may also play a role in individuals' well-being. Thus, our first aim in this article is to explore the role of siblings' perceptions of maternal favoritism in the impact of egos' perceptions of favoritism by their mothers on depressive symptoms.

Our second aim is to assess whether the impact of siblings' perceptions of MDT on ego's well-being varies by gender. Thus far, studies of MDT have found no consistent differences by children's gender (Pillemer et al., 2010; Suitor et al., 2017a). However, theoretical and empirical literature on both gender role socialization and social influence (cf. Chodorow, 1978; Carli & Bukatko, 2000; Eagly, 1983; Gilligan, 1982; Kawachi & Berkman, 2001; Williams, 1993) suggests that the impact of siblings' perceptions of maternal favoritism on ego's psychological well-being may be greater in the case of daughters than sons. Thus, we will explore gender differences in the impact of siblings' perceptions of ego's favored status on his or her depressive symptoms.

To address these questions, we use a combination of quantitative and qualitative data collected from 296 adult children nested within 95 families in which all living siblings participated, as part of the Within-Family Differences Study (WFDS). By taking a mixed-methods approach, we enhance our ability to explain the role of siblings' perceptions regarding maternal favoritism in egos' psychological well-being, as well as to interpret any gender differences in the role of egos' and their siblings' perceptions that may be revealed by the multilevel quantitative analysis.

1. Background

1.1 Shared perceptions and well-being

A vast literature has developed in recent decades on the ways in which the structure and function of ego-centric networks shape well-being, emphasizing the role of interactions and exchanges of expressive and instrumental support in these processes. In a highly influential article, Thoits (2011) highlighted several mechanisms by which social relationships among network members affect well-being, two of which we propose are especially relevant to understanding the role of shared perceptions of maternal favoritism among siblings on adult children's psychological well-being: social comparison and social control.

Theories of social comparison have become the primary perspectives guiding studies of maternal differential treatment and well-being in adulthood. In particular, these theories have been used to explain the finding that perceptions of mothers' differentiation among her offspring in adulthood are associated with lower psychological well-being (Jensen et al., 2013; Peng et al., 2018; Suitor et al., 2017a). Classic social comparison theories (Festinger, 1954; Suls & Wheeler, 2000) posit that individuals engage in comparisons with others as a way of gathering information about and evaluating their social position. Further, these theories suggest that perceptions of one's position, relative to others, result in divergent feelings about the differentiation, depending on whether the individual believes that he or she has greater or fewer resources than those to whom he or she compares himself or herself (Salovey, 1991). Specifically, when individuals consider themselves underbenefited, they are likely to experience feelings of hostility or unhappiness (Salovey, 1991). Thus, principles of social comparison could be used to predict that perceiving oneself as not favored by one's mother, relative to one's siblings, would translate into higher depressive symptoms.

However, empirical research has shown the opposite pattern. In fact, perceiving oneself as being the child who is most emotionally close to the mother appears to come with the "cost" of higher, not lower, depressive symptoms (Peng et al., 2018; Suitor et al., 2017a,b, 2018b). This might suggest that social comparison processes cannot explain the impact of perceptions of MDT on adult children's well-being. We suggest, however, that social comparisons are at play, albeit in a different form. Specifically, we suggest that individuals' perceptions of MDT may well be shared by other siblings in the family, setting into motion two processes that would impact well-being.

First, consistent with theories of social comparison, we propose that when ego and his or her siblings perceive that ego is the child to whom their mother is most emotionally close, siblings will feel underbenefited, and are likely to be resentful toward ego, leading to sibling conflict, which is a source of psychological distress (Gilligan et al., 2017; Lincoln, 2008; Umberson, 1992). Support for this proposal can be found in studies showing that adult children who perceive themselves as most emotionally close to their mothers experience greater tension and less closeness with their siblings (Boll et al., 2003; Suitor et al., 2009, 2014).

Second, we propose that social control and social influence, salient functions of social networks in which individuals' responses are changed by the attitudes or actions of those around them (cf. Friedkin, 2001; Friedkin & Johnsen, 2003; Marsden & Friedkin, 1993; Thoits, 2011), will play a role in the effect of siblings' shared perceptions of maternal favoritism on ego's psychological well-being. Unlike social comparison, theories of social control and social influence have not heretofore been used to explain the higher depressive symptoms found among adult children who perceive that they are favored by their mothers. Rather than considering the role of network processes, family scholars have focused on individual processes. Specifically, they have argued that one "cost" of favoritism may be favored children's greater feelings of responsibility, either for the "emotional care" or the actual future instrumental care of their mothers, possibly leading to lower psychological well-being (Suitor et al., 2017a, 2018b). These costs would be most likely when mothers are older and are at greater risk of facing health declines and the loss of highly salient network members, such as spouses, siblings, and friends.

We agree that offspring who perceive themselves as most emotionally close to their mothers may experience a heightened sense of filial responsibility and empathy; however, we question whether this emanates entirely from the individual. Drawing from the theoretical literature on social control and social influence within networks (Friedkin, 2001; Friedkin & Johnsen, 2003; Marsden & Friedkin, 1993; Thoits, 2011), we suggest that social influence and social control within the family network may also play a role. Specifically, we suggest that siblings who share ego's perceptions of his or her status as most close to their mother may attempt to reinforce ego's sense of heightened responsibility for their mother, thus exacerbating the effects of ego's perceptions on his or her well-being.

Because existing studies of MDT have only taken into consideration the impact of ego's own perceptions, they could not assess the role of the perceptions held by ego's siblings. However, by using data collected directly from ego and from all of his or her siblings regarding perceptions of MDT, we are able to test the hypotheses that: (a) siblings' perceptions of ego's favored status in the family play an independent role in ego's well-being; and (b) siblings' perceptions of ego's favored status in the family exacerbate the impact of ego's own perceptions on his or her psychological well-being.

1.2 Gender, shared perceptions of maternal favoritism, and psychological well-being

Up to this point, we have discussed siblings' shared perceptions of maternal favoritism and psychological well-being without taking into consideration whether this association might be moderated by ego's gender. The literature on both gender role socialization and social influence provides a basis for proposing that siblings' shared perceptions of maternal favoritism will have a greater impact on the psychological well-being of sisters than brothers. Classic theories of gender

role development (Chodorow, 1978; Gilligan, 1982; Williams, 1993) have argued that women are socialized beginning in childhood to be especially sensitive to others' emotions. The continuity of these patterns is evident in studies of women's relationships in adulthood, both inside and outside of the context of the family, in which women, relative to men, are both more involved in their social relations and affected more intensely by those relationships (Antonucci, 2001; Birditt et al., 2009; Kawachi & Berkman, 2001; Lively et al., 2010; Polenick et al., 2016; Walen & Lachman, 2000). Further, studies of social influence have found women are more easily influenced by those with whom they engage, in both experimental and natural settings (Eagly, 1983; Carli & Bukatko, 2000).

We suggest that the gendered context in which we are studying the impact of network members' perceptions on psychological well-being makes it especially likely that sisters would be affected more by shared perceptions than would brothers. As noted earlier, we argue that one of the reasons that being perceived as the child to whom the mother is most emotionally close is detrimental to a child's psychological well-being is that this increases the sense of responsibility for one's mother's emotional care, and that such a sense of responsibility is likely to be encouraged by siblings who share this perception of favoritism patterns. Because daughters, relative to sons, are overwhelmingly both expected to be mothers' caregivers and confidants (Lawrence et al., 2002; Leopold et al., 2014; Suitor & Pillemer, 2006; Suitor et al., 2013, 2015), and in fact are substantially more likely than their brothers to engage in these roles (Leopold et al., 2014; Pillemer & Suitor, 2006, 2014; Suitor et al., 2015), they are likely to be more responsive to increasing social influence from siblings to further embrace these roles.

Taken together, we propose that ego's gender will moderate the association between siblings' shared perceptions of maternal favoritism and ego's psychological well-being. Specifically, we hypothesize that depressive symptoms will be higher among daughters than sons when ego and his or her siblings perceive that ego is the child to whom the mother is most emotionally close.

2. Methods

2.1 Procedures

The data used in the present analyses were collected as part of the second wave of the WFDS. The design of the study involved selecting a sample of mothers 65–75 years of age with at least two living adult children and collecting data from mothers regarding each of their children.

Massachusetts city and town lists were used as the source of the original study sample. With the assistance of the Center for Survey Research (CSR) at the University of Massachusetts, Boston, the researchers drew a probability sample of women ages 65—75 with two or more children from the greater Boston area. The Time 1 sample consisted of 566 mothers, which represented 61% of those who were eligible for participation, a rate comparable to that of similar surveys in the 2000s (Wright & Marsden, 2010). (Further details of the design can be found at web.ics.purdue.edu/~jsuitor/within-family-differences-study/.)

For the second wave of the study, the survey team attempted to contact each mother who participated in the original study to schedule a 60–90 min in-person interview. At T2, 420 mothers were interviewed. Of the 146 mothers who participated at only T1, 78 had died between waves, 19 were too ill to be interviewed, 33 refused, and 16 could not be reached. Thus, the 420 represent 86% of mothers who were living at T2. Comparisons between the mothers alive at T2 who did and did not participate revealed that they differed on only education and subjective health; those who participated were better educated and in better health. Comparison of the T1 and T2 samples revealed that mothers who were not interviewed at T2 were less healthy, less educated, and less likely to have been married at T1; they were also more likely to be Black.

Following the interview, mothers were asked for contact information for their adult children; at T2, 81% of the mothers provided contact information—a rate higher than that typically found in studies of multiple generations (Kalmijn & Liefbroer, 2011). Seventy-five percent of

Table 1. Demographic information on mothers and adult children (*N* = 296 in 95 families)

Mothers	*N* = 95
Number of children alive (mean, s.d.)	3.7 (1.7)
Percentage of daughters (mean, s.d.)	0.5 (0.3)
Black (%)	4.7
Adult children	*N* = 296
Age (mean, s.d.)	49.2 (5.4)
Sex (female) (%)	52.7
Education (%)	
Less than high school	4.1
High school graduate	10.8
At least some college	16.2
College graduate and higher	68.9
Married (%)	77.4
Employed (%)	85.8
Subjective health (mean, s.d.)	3.9 (1.0)

the adult children for whom contact information was available agreed to participate, resulting in a final sample of 826 children nested within 360 families. Semi-structured interviews with the adult children were conducted on the telephone and lasted approximately 45–60 min. Analyses comparing mothers with and without participating children revealed no differences between these two groups in terms of race, marital status, education, age, or number of children; daughters, marrieds, and those with higher education were slightly more likely to participate, consistent with other studies with multiple generations (Kalmijn & Liefbroer, 2011).

The analytic sample for this article includes the 296 adult children nested within 95 families in which: (a) there were at least two living adult siblings, (b) the mother was alive at the time of the interview of the adult children, and (c) all adult children in the family completed a T2 interview. Table 1 presents the demographic characteristics of the adult children that comprise the analytic sample for this article and their mothers.

2.2 Measures

2.2.1 Depressive symptoms
To measure depressive symptoms, we employed the 7-item version of the Center for Epidemiological Studies Depression (CES-D) Scale (Ross & Mirowsky, 1984). The CES-D asks respondents how often in the past week they have felt a certain way. The items composing the scale are: (a) Everything I did was an effort; (b) I had trouble getting to sleep or staying asleep; (c) I felt lonely; (d) I felt sad; (e) I could not get going; (f) I felt I could not shake off the blues; and (g) I had trouble keeping my mind on what I was doing. In this sample, the scale ranged from 7 to 27, with a mean of 10.97 (SD = 4.1) and an Alpha coefficient of 0.81.

2.2.2 Independent variables
Perceptions of maternal differential treatment regarding emotional closeness were measured at T2. Each respondent was asked: "To which child in your family is your mother the most emotionally close?" Initially, each child's response was coded: 0 = child does not perceive mother

as most close to any child in the family; 1 = child perceives that mother is most close to himself or herself; or 2 = child perceives that mother is most close to another specific child in the family. If the child perceived that their mother was most emotionally close to a sibling, they were asked to indicate which sibling. This information was first used to create a variable that took into consideration each child's own report of whether he or she was most emotionally close to the mother (1 = ego named self as most emotionally close to mother; 0 = ego named another sibling or said that no child was most close). One hundred and eight (36.5%) of the adult children reported that they were the most emotionally close to their mothers. Next, we used the reports from all of the other children in the family to determine whether any siblings named ego as most emotionally close to their mother. One hundred and five (35.5%) of the egos were named as most emotionally close to their mothers by at least one of their siblings. Thus, we created two dummy variables—one that measured whether ego named himself or herself as most close to the mother, and one that measured whether at least one sibling named ego as most emotionally close to the mother. Ideally, we would have taken into consideration the number or proportion of siblings who named ego, but given the need to use only families in which all siblings participated, the size of the analytic sample would not permit doing this.

To test the hypothesis that the effects of ego's self-perceptions of MDT on depressive symptoms are exacerbated by the presence of siblings' perceptions that ego is the child most emotionally close to the mother, we created an interaction term (ego's perceptions [0,1] × siblings(s) perceptions [0,1]).

2.2.3 Control variables

2.2.3.1 Adult child characteristics. Age at T2 was age at T1 plus 7 (the number of years between interviews). Gender was coded 0 = son; 1 = daughter. Respondents' educational attainment was reported by their mothers at T1; categories were 1 = eighth grade or less; 2 = 1–3 years of high school; 3 = high school graduate; 4 = vocational/non-college, post high school; 5 = 1–3 years of college; 6 = college graduate; and 7 = graduate work. Marital status was coded as not married = 0; married = 1. Employment was measured by asking each respondent whether he or she was currently working for a job with pay (0 = no; 1 = yes).

Subjective health was measured by asking respondents whether their physical health was excellent (5), very good (4), good (3), fair (2), or poor (1).

Previous research has shown that perceptions of favoritism predict both sibling conflict (e.g., Boll et al., 2003; Suitor et al., 2009) and CES-D scores (Peng et al., 2018; Suitor et al., 2009, 2014); thus, we included sibling tension as a control. We also conducted ad hoc analyses to determine whether sibling tension mediated the relationship between MDT and depressive symptoms. To create the measure of sibling tension we combined three items: (1) How often do your siblings create tensions/arguments with you? (2) How often do your siblings make too many demands on you? and (3) How often do your siblings criticize you? The response categories for the three variables were: very often (5), fairly often (4), sometimes (3), rarely (2), and never (1). The range of the sibling tension scale was 3–15 (M = 5.87; SD = 2.13); Cronbach's Alpha = 0.73.[1]

2.2.3.2 Family-level characteristics. *Race* was measured by asking the mothers to select from a card listing several races and ethnicities (e.g., White, Black or African-American, Hispanic or Latina, Native American, Asian). They were instructed that they could choose more than one race or ethnicity. All families who met the criteria for inclusion in the subsample identified as Black or White. We coded race as White = 0 and Black = 1. *Family size* was measured by the number of living adult children in the family at T2. Gender composition of the sibship was measured by calculating the proportion of daughters in the family.

2.3 Plan of analysis

Because the 296 adult children were nested within 95 families, we used multilevel modeling, which accounts for nonindependence and allows for correlated error structure. The MIXED procedure in SPSS 24 provides a mixed-effect model that can include both fixed effects for predictors at the ego level (e.g., egos' perceptions of favoritism) and random effects at the family level (e.g., race and gender composition of the sibship) (Allison, 2009; Heck et al., 2012). Such an approach has been used in similar studies of within-family differences in parent–adult child relations (Suitor et al., 2017b). For the analysis to explore the mediation effect of sibling tension between MDT and depressive symptoms, we conducted multilevel mediation analysis in R. No data were missing on any of the variables included in the analysis.

2.4 Using qualitative data to explain the role of perceptions of MDT on egos' depressive symptoms

Semi-structured interviews with the respondents were conducted by telephone and, in almost all cases, were fully audio-taped. The interviews were transcribed by research assistants working on the project shortly after the data were collected. Six graduate research assistants coded all the open-ended items. Throughout this process, a consensus approach based on the group interactive analysis component of Borkan's "immersion/crystallization" method was used for coding and analyzing qualitative data (Borkan, 1999). The basic premise of this method is that rather than having coders work independently and then calculate the consistency of their coding, coding is conducted as an interactive process in which each coder's initial determinations are shared with all others in the group. When there is agreement, the initial code stands; however, when there is disagreement, coders discuss the respondent's statement under consideration until all members are in agreement about what code should be assigned. More than 95% of the coders' decisions were in agreement with those of the PI and other group members. Coding that was not in agreement with the PI's and other group members' assessments were discussed until consensus could be reached.

For the present article, the material used in the qualitative analyses was produced by respondents' answers to questions regarding within-family differences in adult children's emotional closeness to their mothers. As already noted, respondents were asked: "To which child in your family is your mother the most emotionally close?" Eighty-five percent of the respondents named a specific child to whom they perceived their mother was most emotionally close. These respondents were then asked, "Why did you choose [yourself/sibling's name]?"

All four authors analyzed the transcripts of adult children who reported that either they or their siblings were most emotionally close to their mothers, to explore whether there were systematic differences in the ways in which daughters and sons explained their perceptions of favoritism regarding emotional closeness. As was the case in the initial round of coding by graduate students at the time of data collection, all coding decisions were shared with the group and were discussed until consensus was reached.

3. Results

3.1 Predictors of egos' depressive symptoms

3.1.1 Agreement between egos' and siblings' perceptions of MDT

As noted in the description of the measures, 36.5% of the adult children named themselves as most emotionally close to their mothers, and 35.5% of the adult children were named by at least one of their siblings as being most emotionally close to their mothers. These findings might suggest that adult children and their siblings were greatly in agreement about whether ego was named as most emotionally close to the mother. However, this was not the case. In fact, in only slightly more than half of cases in which ego named himself or herself as most emotionally close was

Table 2. Mixed model predicting egos' depressive symptoms ($N = 296$ in 95 families)

Predictors	Depressive symptoms	
	Estimate	SE
Family-level characteristics		
Number of children alive	−0.18	0.15
Percentage of daughters	−0.20	0.95
Race (Black = 1)	−1.84	1.13
Child-level characteristics		
Age	−0.04	0.04
Daughter	−0.86	0.55
Education	−0.01	0.17
Married	−1.37*	0.53
Employed	−1.55*	0.63
Subjective health	−1.19**	0.22
Sibling tension scale	0.25*	0.11
Perceived that ego most emotionally close to mother		
Ego perceived self (MDT = 1)	1.51**	0.49
Sibling(s) perceived ego (MDT = 1)	−0.17	0.48
Model statistics		
Chi-Square	1597.76	

*$p < 0.05$; **$p < 0.01$

that child also named as most emotionally close by at least one sibling (53.7%). This high level of incongruence between members of the same family regarding MDT is consistent with studies exploring congruence between perceptions of adult children and parents' own stated favoritism for some offspring over others, which have shown that only about half of offspring accurately report their mothers' preferences (Suitor et al., 2006, 2018a).

3.1.2 Roles of egos' and siblings' perceptions of MDT
We began by using the full sample of 296 egos to conduct an MLM mixed effects analysis to explore the effects of egos' and siblings' perceptions that ego was the child to whom their mother was most emotionally close on egos' depressive symptoms. As shown in Table 2, this analysis revealed that depressive symptoms were higher when ego perceived he or she was the most close ($b = 1.51$; $p < 0.01$) but were not affected by whether at least one sibling perceived that ego was most emotionally close to the mother ($b = −0.17$; $p =$ n.s.).

We then conducted an analysis including the interaction term of ego named self X sibling(s) named ego as most emotionally close; the coefficient for the interaction term was very small and statistically insignificant ($b = 0.06$; $p =$ n.s.; table not shown). Thus, the findings do not support our hypothesis that ego's perception that he or she was most close to the mother is a stronger predictor of depressive symptoms when his or her sibling(s) shared that perception.

3.1.3 Gender differences in the roles of egos' and siblings' perceptions of MDT
We then tested our hypothesis that the effect of egos' self-perceptions and siblings' perceptions of mothers' favoritism on depressive symptoms would be stronger for daughters than sons. Table 3

Table 3. Mixed model results predicting egos' depressive symptoms by gender of ego ($N = 296$ in 95 families)

Predictors	Depressive symptoms			
	Model 1		Model 2	
	Sons		Daughters	
	Estimate	SE	Estimate	SE
Family-level characteristics				
Number of children alive	−0.42	0.28	0.05	0.14
Percentage of daughters	−1.49	1.72	0.95	1.15
Race (Black = 1)	−4.14*	1.75	1.69	1.65
Child-level characteristics				
Age	−0.04	0.07	−0.04	0.05
Education	−0.03	0.29	−0.12	0.20
Married	−1.22	0.84	−0.99	0.70
Employed	−2.03	1.14	−1.22	0.72
Subjective health	−1.27**	0.36	−1.08**	0.27
Sibling tension scale	0.17	0.19	0.26	0.12
Perceived that ego most emotionally close to mother				
Ego perceived self (MDT = 1)	0.50[a]	0.79	2.19**	0.61
Sibling(s) perceived ego (MDT = 1)	0.25	0.83	−0.12	0.55
Model statistics				
Chi-Square	767.85		798.34	

*$p < 0.05$; **$p < 0.01$
[a] $p < 0.05$ for the difference between coefficients across models

presents the findings for the effects of egos' and siblings' perceptions of maternal favoritism regarding emotional closeness by ego's gender. As shown in Model 1, neither sons' own perceptions of being most emotionally close to their mothers nor those of their siblings predicted depressive symptoms ($b = 0.50$, n.s. for ego's own perceptions; $b = 0.25$, n.s. for siblings' perceptions). In contrast, as shown in Model 2, daughters' own perceptions of being the children to whom the mothers were most close were strong predictors of depressive symptoms ($b = 2.19$, $p < 0.001$). As with sons, siblings' perceptions did not predict daughters' depressive symptoms ($b = -0.12$, n.s.)

Next, we tested for the significance of the difference between the coefficients for daughters' and sons' perceptions of being most emotionally close to their mothers. The t-value for the difference between the coefficients for sons and daughters was 1.81 ($p < 0.05$). Thus, our hypothesis that the effect of perceptions of favoritism would be stronger for daughters than sons was strongly supported, but only in the case of self-perceptions.

We then conducted the same set of analyses including the interaction term for ego's self-perceptions X siblings' perceptions of mothers' favoring ego in each model. The coefficients for the interaction term were small and statistically insignificant for both sons and daughters. Thus, there was no support for our hypothesis that the effect of ego and siblings sharing the perceptions on depressive symptoms would be greater for daughters than sons (tables not shown).

Finally, as noted in the methods, previous research has shown that perceptions of favoritism predict both sibling conflict (e.g., Boll et al., 2003; Suitor et al., 2009) and CES-D scores (Peng et al., 2018; Suitor et al., 2009, 2014); thus, we questioned whether sibling conflict might serve as a mediator. However, we tested the mediation effect of sibling tension between egos' perceptions

of MDT and depressive symptoms using multilevel mediation analysis in R. The mediation effect was close to 0 and statistically insignificant for the full sample, as well as for the subsamples of sons and daughters (tables not shown).

3.2 Qualitative analysis of the role of egos' and siblings' perceptions of MDT in egos' depressive symptoms

The findings of the quantitative analyses suggested that perceptions of MDT were associated with higher depressive symptoms for daughters, but not sons, and that egos' perceptions, but not those of her siblings, predicted daughters' psychological well-being. However, these analyses shed limited light on the processes underlying these patterns.

We originally proposed that two processes might lead to high depressive symptoms when ego or ego and his or her siblings perceived that ego was the adult child to whom their mother was most emotionally close. First, we argued that these processes might be explained by social comparison—specifically, that siblings who perceived that ego was the child favored by their mother would feel underbenefited, relative to ego, and might therefore express negative feelings or behaviors toward ego. However, because there were no direct effects of siblings' perceptions of egos' favoritism on egos' depressive symptoms, nor any indirect effects of egos' self-perceptions through sibling conflict, we focused our attention on whether siblings who shared egos' self-perceptions of favoritism might encourage or pressure ego to feel greater responsibility for the emotional care of their mother at a point in the mother's life when she is likely to face interpersonal losses and health crises.

We suggest that the explanation for these patterns can be found in egos' accounts for why they perceived that they were the children to whom their mothers were most emotionally close. Further although siblings' perceptions that egos were favored did not directly affect egos' depressive symptoms, it is still possible that siblings' perceptions might shape the "meaning" that egos assigned to their self-perceptions of being favored. Thus, we explore both egos' and siblings' statements about why they perceived egos were favored by their mothers, with particular attention to whether siblings' behaviors toward or expectations of ego could help explain the impact of egos' self-perceptions of MDT on depressive symptoms, or why that impact varied by egos' gender.

In 108 cases, egos reported that they were the children to whom their mothers were most emotionally close, and in 105 cases, at least one sibling in the family named ego as most emotionally close. We began by classifying the explanations that egos and siblings gave for perceiving that ego was the child to whom their mother was most close. Based on a combination of our research question and the content of the adult children's statements, we created three classifications of explanations: (a) the role that ego played as an emotional caregiver to his or her mother, (b) factors unrelated to emotional caregiving to mothers (e.g., birth order and children's need for maternal support), and (c) respondent did not provide an explanation for why their mothers were most emotionally close to ego (e.g., said they didn't know or simply reiterated that ego was the favored child).

We then turned to the question of why the effects of perceptions of MDT on depressive symptoms occurred only in the case of ego daughters. The dearth of effects of perceptions of MDT among sons cannot be explained by an absence of "exposure" to this potential stressor. Although sons were less likely than daughters to perceive themselves as being the children to whom their mothers were most emotionally close (29.7% sons vs. 42.6% daughters), and also less likely to be perceived as most close by their siblings (26.2% sons vs. 43.2% daughters), they nevertheless constituted a sizeable minority of egos who perceive themselves or are perceived as most emotionally close to their mothers. Furthermore, the qualitative analyses revealed that siblings expected their brothers, as well as their sisters, who were most emotionally close to their mothers to serve in the role of mothers' emotional caregiver. So how can we explain why brothers appear to be immune to the negative consequences of these perceptions and expectations?

The explanations that egos gave for their perceptions that their mothers were most emotionally close to them revealed clear differences in the "meaning" that sons and daughters assigned to this position in the family. Daughters were substantially more likely than sons to report that their mothers were closer to them than to their siblings because they served as emotional caregivers (76.9% daughters vs. 48.8% sons). These daughters' explanations emphasized both the mutual exchange of emotional support and unidirectional emotional care provided to their mothers, often making direct comparisons with other siblings whom they felt would serve this role less well.

> I think she would be more comfortable talking to me about her emotions as opposed to anyone else, because I would understand her better.

> Would say me because …when I don't agree with something that my mom says, I tend to tease her about it. "Mama, that's an old-fashioned feeling." My two sisters will scream and yell at her, saying "You're not allowed to feel that way! That's not politically correct!" that sort of thing …I think that she and I—we have a softer relationship and a gentle relationship. That allows her to be emotionally freer …

> I guess that's the role I've played in—maybe even more so since she's aged. I am the emotional support. [My brother] is more involved in things in his own life and has had some crises in himself. And so, [my other brother] tends to be the one who manages the finances, and manages her will …My role has always been much more emotional support for her.

As already noted, there was a substantial difference in the proportion of sons and daughters who explained their mothers' preference on the basis of having served as a source of emotional care to their mothers. However, even among those sons who did so, they less often made direct comparisons to their siblings on their greater "suitability" to fill this role than did daughters; in some cases, sons also seemed a little less certain than daughters that providing emotional care to their mothers was related to the fact that they were their mothers' favorite children.

> We talk every day and, you know, we are pretty close to each other. I don't know.

> That's difficult to say …Um well we've had a um (pause) a um, more deep dialogue lately. That's all I can come up with right now.

Further highlighting the distinction between sons and daughters was the difference in their likelihood of having no explanation for their favored status. In fact, nearly a quarter of sons who reported that they were the children to whom their mothers were most emotionally close had no explanation for this phenomenon, compared to only 8% of daughters. These statements by sons were typical of those in this category.

> I don't know …I don't know, just …I don't know.

> I am not sure about this one but I can feel—I am not sure why it is …

Taken together, these findings suggest that daughters were substantially more likely to attribute their greater closeness as emanating from their active engagement in the role of emotional caregivers to their mothers—a pattern that we suggest accounts for the higher depressive symptoms found among daughters than sons who perceived they were the children to whom their mothers were most emotionally close.

The explanations of siblings who perceived that egos were most emotionally close to their mothers reflected egos' own explanations. In 57% of the cases, siblings suggested that they perceived that in some way, ego was "better equipped" for being the child toward whom the mother

Table 4. Distribution of egos' explanations for perceptions for being favored by mothers (in %)

	Perception of favoritism held by ego only		Perception of favoritism held by ego and sibling(s)	
	Sons (n = 22)	Daughters (n = 28)	Sons (n = 19)	Daughters (n = 38)
Role as mothers' emotional supporter/caregiver	54.5	67.8	31.6	86.8
Other (birth order, proximity, child has greater needs)	13.6	21.4	47.4	5.0
Don't know why ego is favored	31.8	10.7	21.1	7.9

would feel the greatest emotional closeness, particularly when they perceived a sister as being the child most emotionally close to their mother.

Siblings were typically direct about the benefits they felt their mothers derived from being most close to ego:

> [I] think she's the most comfortable with Linda. Linda's the baby of the family, the woman and uh, I—I think she would feel the closest to Linda and would be more apt to share emotions with her.

> [My mother and sister] are very close, and they speak continuously . . .

> Because they are so similar. They talk three-four, four times a day. I just think . . . my mother is more comfortable with my sister.

In some cases, siblings made direct comparisons between their own suitability and that of the favored child:

> . . . my sister is much more emotionally open with our mom, than I am . . . I'm more self-protective.

> [My sister is closest to our mother because] she initiates a lot of the conversations about the emotional issues . . . while the rest of us don't.

Taken together, these siblings' responses imply that they perceive not only that their mothers are most emotionally close to the egos, but that these egos play a particular role as mothers' emotional caregivers and that egos, as opposed to themselves or other offspring in the family, are best suited to play this role. Thus, their statements suggest to us that, in the majority of cases, siblings' perceptions of egos' greater closeness to their mothers were associated with costs to ego in the form of expectations that ego embraces the role of emotional caregiver. In turn, such a heightened sense of responsibility for the emotional care of mothers who are in their 70s and 80s and are at substantial risk of facing losses of other salient network members and declines in their own health would be likely to affect the well-being of favored egos.

However, further analysis revealed an even more striking pattern of gender differences in attributions for favored status when taking into consideration whether ego alone perceived such favoritism or whether ego and his or her siblings shared this perception. As shown in Table 4, both "ego only" and "ego+siblings" daughters were more likely than sons to perceive that they were the most close to their mothers as a result of engagement in the role of emotional caregiver. However, the gender difference is much smaller for "ego only" offspring (54.5% sons; 67.8% daughters), than for "ego+siblings" offspring (31.6% sons; 86.8% daughters). These findings suggest that daughters were substantially more likely than sons to embrace the role of emotional caregiver when their siblings shared this perception than when they were the only offspring to hold this perception.

4. Discussion and conclusions

The central aim of this article was to expand the study of within-family differences in parent–child relationships by considering the role of siblings' perceptions of maternal favoritism on adult children's psychological well-being. Several studies across the past decade have established that individuals' perceptions that they are favored or disfavored by their parents in adulthood affect psychological well-being (Davey et al., 2009; Jensen et al., 2013; Peng et al., 2018; Suitor et al., 2018b, 2017a,b). However, this line of research has focused on the impact of individuals' own perceptions, without taking into consideration whether the perceptions held by other adult children within the family network play a role in these processes.

Drawing from theories of social comparison, social influence, and social control (cf. Festinger, 1954; Friedkin & Johnsen, 2003; Gerber et al., 2018), we proposed that ego's depressive symptoms would be higher when both egos and egos' sibling(s) shared the perception that ego was the child to whom their mother was most emotionally close than when only ego held this perception. We argued that siblings' perceptions of MDT favoring ego would affect ego's psychological well-being for two reasons. First, we suggested that siblings would harbor resentment toward the favored child, resulting in greater conflict with ego and, in turn, increasing depressive symptoms. Second, we proposed that siblings' perceptions that their mothers were most emotionally close to ego would lead siblings to influence ego to take primary responsibility for their mothers' emotional care, which would also take a toll on ego's psychological well-being.

To address these questions, we used a combination of quantitative and qualitative data collected from 296 adult children nested within 95 families in which all of the offspring had participated in the study. We conducted multilevel regression analyses to compare the effects of egos' perceptions of being the children to whom their mothers were most emotionally close versus their siblings' perceptions that ego was most emotionally close, and to assess whether the effects of egos' perceptions of favoritism on depressive symptoms were greater when their perceptions were shared by at least one of their siblings. These analyses revealed that egos' self-perceptions strongly predicted egos' depressive symptoms; however, perceptions held by their siblings did not independently predict egos' depressive symptoms. Further, contrary to our expectations, egos' self-perceptions of being favored were not exacerbated when shared by their siblings.

Our second aim was to assess whether the impact of siblings' perceptions of MDT on ego's psychological well-being differed by ego's gender. Based on theories of gender role development (Chodorow, 1978; Gilligan, 1982; Williams, 1993), gender differences in the salience of interpersonal relations (Antonucci, 2001; Kawachi & Berkman, 2001; Lively et al., 2010; Suitor et al., 2015; Walen & Lachman, 2000) and social influence (Eagly, 1983; Carli & Bukatko, 2000), we hypothesized that siblings' perceptions would play a greater role in the effect of MDT on depressive symptoms for daughters than sons.

The findings did not support this hypothesis. In fact, multivariate analysis showed that, counter to our expectations, the interaction of ego daughters' own perceptions of favoritism and those of their siblings showed that daughters whose siblings shared their perception of MDT did not report higher depressive symptoms than daughters whose siblings did not share these perceptions. The absence of effects was also found for sons. However, the multivariate analysis revealed a strong gender difference that we did not hypothesize. Specifically, egos' perceptions of being the children to whom mothers were most emotionally close were a strong predictor of depressive symptoms for daughters; in contrast, sons' perceptions that they were favored had essentially no effect on their depressive symptoms.

Using the qualitative data collected from each adult child in the family, we explored the mechanisms by which ego daughters' perceptions of being most emotionally close to their mothers led to higher depressive symptoms. In the background, we argued that perceptions of being favored could lead to higher depressive symptoms (a) through negative interactions with siblings or (b) through embracing the role of emotional caregivers to their mothers. The mediation analyses we conducted showed that sibling tension did not mediate the association between perceptions of

favoritism and CES-D scores. Further, the qualitative analysis revealed only a single case in which either egos or siblings noted any resentment toward egos regarding their favored status. These findings suggest that negative interactions with siblings are not the mechanisms underlying the association between MDT and depressive symptoms.

In contrast, the qualitative data yielded strong support for the argument that both egos and siblings considered egos' favored status to be a reflection of egos' role as a source of emotional care to their mothers. In fact, almost 60% of siblings explained their mothers' greater closeness to egos on the basis of egos enacting the role of emotional caregiver to their mothers. In many of these cases, siblings not only described ego's provision of emotional care but also emphasized why ego was especially "well suited" for this role, often making direct comparisons between ego's and their own ability to serve well in this role.

The analyses of the qualitative data revealed that this pattern was especially pronounced when the adult children perceived as most close to their mothers were daughters. For example, when we compared ego daughters' and sons' explanations for why they perceived that they were the children to whom their mothers were most emotionally close, we found that daughters were more likely than sons to report that their mothers were most emotionally close to them as a result of their active engagement as sources of emotional care. When we separated the egos by whether they alone or they and their siblings perceived that they were favored, the differences by gender became much more pronounced, with nearly 90% of ego daughters whose siblings shared their perceptions emphasizing emotional caregiving in their explanations for why they were favored, compared to less than one-third of ego sons whose siblings shared their perceptions. In contrast, daughters who alone perceived they were favored were only slightly more likely than sons who alone perceived they were favored to attribute their favored status on the basis of their emotional caregiving. Thus, as we anticipated based on theory and empirical research regarding gender and the salience of social relationships (Antonucci, 2001; Carli & Bukatko, 2000; Chodorow, 1978; Eagly, 1983; Gilligan, 1982; Kawachi & Berkman, 2001; Lively et al., 2010; Suitor et al., 2015; Walen & Lachman, 2000), siblings' perceptions of egos' favored status played a more important part in daughters than sons embracing the role of emotional caregiver.

It is important to emphasize that the qualitative data confirmed that it is the perception of being the child who will "be there emotionally" for their mothers when facing difficulties, not actual caregiving or perceptions of caregiving expectations, that are the source of heightened depressive symptoms among adult daughters who are most emotionally close to their mothers. In fact, previous research has found that perceptions of being mothers' preferred or expected source of care in the face of chronic physical conditions or acute health crises do not predict adult children's depressive symptoms (Suitor et al., 2018b). Thus, we consider being the child to whom the mother is most close to be a "role" (i.e., a position with associated behavioral and attitudinal expectations); it is the role of emotional caregiver, in the face of mothers aging and experiencing a variety of losses (death of friends, spouses, as well as health changes), that affects close daughters' psychological well-being.

This set of findings has important implications for theorizing and studying social relations and well-being, particularly in the context of ego-centric networks. There has been a debate in the literature regarding the accuracy and consequences of ego self-reports (Ayalon & Levkovich, 2018; Marsden, 2002; Schafer, 2011). On one hand, scholars have argued that egos are in the best position to report on themselves (Lucas & Baird, 2006; Paulhus & Vazire, 2007; Vazire, 2006); however, on the other hand, some scholars have proposed that ego self-reports are sufficiently unreliable that reports should be solicited from others in addition to ego, even regarding behaviors and relationship quality (Ayalon & Levkovich, 2018; Butcher, 2003; Carter & Feld, 2004; Koehly et al., 2015; Robins & John, 1997). The findings we have presented using the qualitative data suggest that network members' perceptions can, to some extent, shape egos' perceptions and behaviors, particularly when alters' perceptions are consistent with those held by the egos themselves. However, both the quantitative and qualitative data provide strong evidence that egos' *own* perceptions, as

reported by ego, are much more consequential than those of salient members of their networks in predicting egos' psychological well-being. Thus, we argue that the findings contribute to the argument that egos' self-reports are critical in understanding well-being and the way in which well-being is shaped by social relations.

It is important to note that these analyses also highlight the prominent role of gender in the consequences of both egos' own perceptions and those of their network members on well-being. First, egos' own perceptions of their role as their mothers' preferred emotional caregivers have consequences for the psychological well-being of daughters, but not sons. Further, when women and their siblings hold the same perceptions regarding egos' favored position, the influence on egos' likelihood of being more engaging in intergenerational emotional caregiving is greater than when ego alone perceives she is favored. Also, there were no indications of such family network influences for sons, even in cases in which sons and their sibling(s) perceived that they were the children to whom their mothers were the most emotionally close. Taken together, the findings we have presented suggest strong and consistent evidence that both egos' own perceptions and those of their network members play a much larger role in the well-being of women than men.

Although the focus of this article is on family network processes, some of the findings will be of substantial interest to scholars studying the consequences of within-family differences on well-being. Prior research on MDT and depressive symptoms in adulthood has not found a consistent pattern of gender differences. This has led scholars to the conclusion that the impact of MDT is similar for sons and daughters. We suggest that the absence of gender differences often present in other studies may be due to including multiple dimensions of MDT in the same analysis. The findings we have presented in this article considering only MDT regarding emotional closeness are similar to those found in recent research considering multiplexity of MDT and psychological well-being (Suitor et al., 2018b), in which researchers reported higher depressive symptoms for daughters, but not sons, who perceived that they were favored regarding emotional closeness and confiding. The findings we have presented here provide further evidence that MDT may affect daughters more than sons, especially in contexts that are more gendered, such as emotional closeness. Further, the present findings suggest that the effects of MDT regarding emotional closeness on depressive symptoms may well emanate from the greater sense of responsibility for mothers' emotional care.

Given gender differences regarding expectations of serving as sources of both care and comfort to parents (Lawrence et al., 2002; Leopold et al., 2014; Suitor & Pillemer, 2006; Suitor et al., 2013, 2015), it is not surprising that the impact of perceptions of mothers' emotional favoritism would be stronger for daughters than sons. However, it is surprising that perceptions of mothers' favoritism had essentially no effect on sons' psychological well-being, especially given that sons are generally found to be closer to mothers than to fathers (cf. Rossi & Rossi, 1990; Suitor et al., 2015)—a pattern also found in the analytic sample used in the present article. Recent research on adult children's relationships with fathers has shown that the quality of these ties impacts adult sons' depressive symptoms (Polenick et al., 2016); this finding, combined with those presented in the present study, may suggest that sons' well-being is affected more strongly by the quality of their relationships with their fathers than their mothers. We hope that this question will be addressed in future research on parent–adult child relations that can take into consideration perceptions of parental favoritism and disfavoritism as well as other dimensions of relationship quality.

It is worth noting that identifying such patterns would not have been possible using traditional single-respondent methodological approaches; only using an ego-centric within-family approach in which data were collected from all adult children in the family provided the opportunity to explore the relative effects of egos' versus siblings' perceptions of MDT on depressive symptoms. Further, understanding gender differences in the patterns of the effect of perceptions of egos' and alters' perceptions on ego sons' and daughters' depressive symptoms, and the processes underlying these patterns, would not have been possible using single-method quantitative or qualitative approaches. Quantitative data were necessary to systematically document the patterns of

gender differences in effects, whereas qualitative data were essential to identify differences in the "meaning" of perceptions of maternal favoritism for sons and daughters. Thus, the present article contributes to a growing literature demonstrating the importance of employing within-family and mixed-methods designs to study the role of family relations in well-being. Despite recent calls for more emphasis on both of these approaches, particularly to study the complex ways in which family relations affect well-being (Creswell et al., 2011; Peterson et al., 2013; Pillemer & Gilligan, 2018, Suitor & Gilligan, In press, Suitor et al., 2017b), such designs are still rare, due to the substantial investment of financial and human resources they require. We hope that despite these obstacles, such design features become more common in the research on interpersonal relations and well-being.

One important limitation introduced by the data is the inability to compare these processes of MDT, sibling influence, and well-being in Black and White families. Although the full WFDS dataset is composed of approximately 25% Black families, the analytic sample for this article included only 5% Black respondents. This is because it was necessary to restrict the analytic sample to those families in which all adult children were interviewed. Because Black families in the WFDS are larger than White families, there were fewer full families in this subgroup. Given the greater cohesion in Black than White families found by most studies (cf. Kaufman & Uhlenberg, 1998; Silverstein & Bengtson, 1997; Suitor et al., 2015), and the stronger norms for filial responsibility found in Black than White families (Dilworth-Anderson et al., 2004, 2005; Pinquart & Sörensen, 2005; Taylor et al., 1993), we propose that the processes of sibling influence found in the present study would have been much stronger in Black than White families. We hope that future studies of sibling network influences on role engagement and well-being will be able to compare these processes in Black and White families.

In summary, the innovation of within-family designs has been to extend the study of families and well-being beyond designs focused on a single parent or child or even a single parent–child dyad. The present article has further extended the scope of such designs by applying an ego-centered network approach in which the perspective of all members of the network—in this case the sibling network—is taken into consideration. In doing so, we have been able to demonstrate the salient role that siblings play in one another's role engagement and well-being. The sibling tie is the most understudied of all immediate family ties (Fingerman & Hay, 2002). We hope that our findings will lead other scholars of families and social networks to place greater emphasis on this relationship, particularly in the study of interpersonal relations and well-being.

References

Allison, P. D. (2009). *Fixed effects regression models* (Vol. 160). Thousand Oaks, CA: Sage Publications.

Antonucci, T. C. (2001). Social relations: An examination of social networks, social support. In J. E. Birren, & K. W. Schaie (Eds.), *Handbook of the psychology of aging*, (pp. 427–453). San Diego, CA: Academic Press.

Antonucci, T. C., Birditt, K. S., & Webster, N. J. (2010). Social relations and mortality: A more nuanced approach. *Journal of Health Psychology*, *15*(5), 649–659. doi:10.1177/1359105310368189

Ayalon, L., & Levkovich, I. (2018). A systematic review of research on social networks of older adults. *Gerontologist*, Advance Online Access. doi:10.1093/geront/gnx218

Birditt, K. S., Miller, L. M., Fingerman, K. L., & Lefkowitz, E. S. (2009). Tensions in the parent and adult child relationship: Links to solidarity and ambivalence. *Psychology and Aging*, 24(2), 287–295. doi:10.1037/a0015196

Boll, T., Ferring, D., & Filipp, S. H. (2003). Perceived parental differential treatment in middle adulthood: Curvilinear relations with individuals' experienced relationship quality to sibling and parents. *Journal of Family Psychology*, 17(4), 472–487. doi:10.1037/0893-3200.17.4.472

Borkan, J. (1999). Immersion/crystallization. In B. Crabtree, & W. Miller (Eds.), *Doing qualitative research* (Vol. 2, pp. 179–194). Thousand Oaks, CA: Sage Publications.

Butcher, J. N. (2003). Computerized psychological assessment. In J. R. Graham, & J. A. Naglieri (Eds.), *Handbook of psychology: Assessment psychology* (Vol. 10, pp. 141–163). Hoboken, NJ: Wiley.

Carli, L. L., & Bukatko, D. (2000). Gender, communication, and social influence: A developmental perspective. In T. Eckes, & H. M. Trautner (Eds.), *The developmental social psychology of gender* (pp. 295–331). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.

Carr, D., & Springer, K. W. (2010). Advances in families and health research in the 21st century. *Journal of Marriage and Family*, 72(3), 743–761. doi:10.1111/j.1741-3737.2010.00728.x

Carter, W. C., & Feld, S. L. (2004). Principles relating social regard to size and density of personal networks, with applications to stigma. *Social Networks*, 26(4), 323–329. doi:10.1016/j.socnet.2004.08.004

Chodorow, N. (1978). *The reproduction of motherhood: Psychoanalysis and the sociology of gender.* Berkeley: University of California Press.

Creswell, J. W., Klassen, A. C., Plano Clark, V. L., & Smith, K. C. (2011). *Best practices for mixed methods research in the health sciences.* Bethesda: National Institutes of Health. Retrieved from www2.jabsom.hawaii.edu/native/docs/tsudocs/Best_Practices_for_Mixed_Methods_Research_Aug2011.pdf

Davey, A., Tucker, C. J., Fingerman, K., & Savla, J. (2009). Within-family variability in representations of past relationships with parents. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, 64(1), 125–136. doi:10.1093/geronb/gbn001

Dilworth-Anderson, P., Brummett, B. H., Goodwin, P., Williams, S. W., Williams, R. B., & Siegler, I. C. (2005). Effect of race on cultural justifications for caregiving. *The Journals of Gerontology: Social Sciences*, 60, S257–S262. doi:10.1093/geronb/60.5.S257

Dilworth-Anderson, P., Goodwin, P. Y., & Williams, S. W. (2004). Can culture help explain the physical health effects of caregiving over time among African American caregivers? *The Journals of Gerontology: Social Sciences*, 59, S138–S145. doi:10.1093/geronb/59.3.S138

Eagly, A. H. (1983). Gender and social influence: A social psychological analysis. *American Psychologist*, 38(9), 971. doi:10.1037/0003-066X.38.9.971

Festinger, L. (1954). A theory of social comparison processes. *Human Relations*, 7(2), 117–140.

Fingerman, K. L., & Hay, E. L. (2002). Searching under the streetlight: Age biases in the personal and family relationships literature. *Personal Relationships*, 9(4), 415–433. doi:10.1111/1475-6811.09404

Friedkin, N. E. (2001). Norm formation in social influence networks. *Social Networks*, 23(3), 167–189. doi:10.1016/S0378-8733(01)00036-3

Friedkin, N. E., & Johnsen, E. C. (2003). Attitude change, affect control, and expectation states in the formation of influence networks. In S. R. Thye & J. Skvoretz (Eds.), *Power and status* (pp. 1–29). Bingley, UK: Emerald Group Publishing Limited.

Gerber, J. P., Wheeler, L., & Suls, J. (2018). A social comparison theory meta-analysis 60+years on. *Psychological Bulletin*, 144(2), 177–197. doi:10.1037/bul0000127

Gilligan, C. (1982). *In a different voice: Psychological theory and women's development.* Cambridge, MA: Harvard University Press.

Gilligan, M., Suitor, J. J., Nam, S., Routh, B., Rurka, M., & Con, G. (2017). Family networks and psychological well-being in midlife. *Social Sciences*, 6(3), 94. doi:10.3390/socsci6030094

Heaney, C. A., & Israel, B. A. (2008). Social networks and social support. In K. Glanze, B. K. Rimer, & K. Viswanath (Eds.), *Health behavior and health education: Theory, research, and practice* (4th ed., pp. 189–210). San Francisco, CA: Jossey-Bass Inc.

Heck, R. H., Thomas, S. L., & Tabata, L. N. (2012). *Multilevel modeling of categorical outcomes using IBM SPSS.* New York: Routledge.

Heider, F. (1958). *The psychology of interpersonal relations.* New York: Wiley.

Jensen, A. C., Whiteman, S. D., Fingerman, K. L., & Birditt, K. S. (2013). "Life still isn't fair": Parental differential treatment of young adult siblings. *Journal of Marriage and Family*, 75(2), 438–452. doi:10.1111/jomf.12002

Kalmijn, M., & Liefbroer, A. C. (2011). Nonresponse of secondary respondents in multi-actor surveys: Determinants, consequences, and possible remedies. *Journal of Family Issues*, 32(6), 735–766. doi:10.1177/0192513X10390184

Kawachi, I., & Berkman, L. F. (2001). Social ties and mental health. *Journal of Urban Health*, 78(3), 458–467. doi:10.1093/jurban/78.3.458

Kaufman, G., & Uhlenberg, P. (1998). Effects of life course transitions on the quality of relationships between adult children and their parents. *Journal of Marriage and the Family,* 924–938. doi:10.2307/353635

Koehly, L. M., Ashida, S., Schafer, E. J., & Ludden, A. (2015). Caregiving networks—Using a network approach to identify missed opportunities. *Journals of Gerontology, Series B, 70*(1), 143–154. doi:10.1093/geronb/gbu111

Lawrence, J. A., Goodnow, J. J., Woods, K., & Karantzas, G. (2002). Distributions of caregiving tasks among family members: The place of gender and availability. *Journal of Family Psychology, 16*(4), 493. doi:10.1037/0893-3200.16.4.493

Leopold, T., Raab, M., & Engelhardt, H. (2014). The transition to parent care: Costs, commitments, and caregiver selection among children. *Journal of Marriage and Family, 76*(2), 300–318. doi:10.1111/jomf.12099

Lincoln, K. D. (2008). Personality, negative interactions, and mental health. *Social Service Review, 82*(2), 223–252. doi:10.1086/589462

Lively, K. J., Steelman, L. C., & Powell, B. (2010). Equity, emotion, and household division of labor response. *Social Psychology Quarterly, 73*(4), 358–379. doi:10.1177/0190272510389012

Lucas, R. E., & Baird, B. M. (2006). Global self-assessment. In M. Eid, & E. Diener (Eds.), *Handbook of multimethod measurement in psychology* (pp. 29–42). Washington, DC: American Psychological Association.

Marsden, P. V. (2002). Egocentric and sociocentric measures of network centrality. Social Networks, 24(2), 407–422. doi:10.1016/S0378-8733(02)00016-3

Marsden, P. V., & Friedkin, N. E. (1993). Network studies of social influence. *Sociological Methods & Research, 22*(1), 127–151. doi:10.1177/0049124193022001006

Paulhus, D. L., & Vazire, S. (2007). The self-report method. In R. W. Robins, R. C. Fraley, & R. F. Krueger (Eds.), *Handbook of research methods in personality psychology* (Vol. 1, pp. 224–239). New York: Guilford Press.

Peng, S., Suitor, J. J., & Gilligan, M. (2018). The long arm of maternal differential treatment: Effects of recalled and current favoritism on adult children's psychological well-being. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 73*(6), 1123–1132. doi:10.1093/geronb/gbw105

Peterson, J. C., Czajkowski, S., Charlson, M. E., Link, A. R., Wells, M. T., Isen, A. M., . . . Jobe, J. B. (2013). Translating basic behavioral and social science research to clinical application: The evolve mixed methods approach. *Journal of Consulting and Clinical Psychology, 81*(2), 217–230. doi:10.1037/a0029909

Pillemer, K., & Gilligan, M. (2018). Translating basic research on the aging family to caregiving intervention: The case of within-family differences. *Innovation in Aging, 2*(1), 1–11. doi:10.1093/geroni/igx035

Pillemer, K., & Suitor, J. J. (2006). Making choices: A within-family study of caregiver selection. *The Gerontologist, 46*(4), 439–448. doi:10.1093/geront/46.4.439

Pillemer, K., & Suitor, J. J. (2014). Who provides care? A prospective study of caregiving among adult siblings. *The Gerontologist, 54*(4), 589–598. doi:10.1093/geront/gnt066

Pillemer, K., Suitor, J. J., Pardo, S., & Henderson, C. (2010). Mothers' differentiation and depressive symptoms among adult children. *Journal of Marriage and Family, 72*(2), 333–345. doi:10.1111/j.1741-3737.2010.00703.x

Pinquart, M., & Sörensen, S. (2005). Ethnic differences in stressors, resources, and psychological outcomes of family caregiving: A meta-analysis. *The Gerontologist, 45*, 90–106. doi:10.1093/geront/45.1.90

Polenick, C. A., DePasquale, N., Eggebeen, D. J., Zarit, S. H., & Fingerman, K. L. (2016). Relationship quality between older fathers and middle-aged children: Associations with both parties' subjective well-being. *The Journals of Gerontology: Series B, 73*(7), 1203–1213. doi:10.1093/geronb/gbw094

Robins, R. W., & John, O. P. (1997). The quest for self-insight: Theory and research on accuracy and bias in self-perception. In R. Hogan, J. A. Johnson, & S. R. Briggs (Eds.), *Handbook of personality psychology* (pp. 649–679). San Diego, CA: Academic Press.

Ross, C. E., & Mirowsky, J. (1984). Components of depressed mood in married men and women—The center for epidemiologic studies depression scale. *American Journal of Epidemiology, 119*(6), 997–1004. doi:119/6/997/84379

Rossi, A. S., & Rossi, P. H. (1990). *Of human bonding: Parent–child relations across the life course*. New York: Aldine de Gruyter.

Salovey, P. (Ed.). (1991). *The psychology of jealousy and envy*. New York: Guilford Press.

Schafer, M. H. (2011). Health and network centrality in a continuing care retirement community. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences, 66*(6), 795–803, doi:10.1093/geronb/gbr112

Silverstein, M., & Bengtson, V. L. (1997). Intergenerational solidarity and the structure of adult child–parent relationships in American families. *American Journal of Sociology, 103*, 429–460. doi:10.1086/231213

Simmel, G. (1964). *Conflict and the web of group-affiliation*. New York: Free Press.

Suitor, J. J. & Gilligan, M. (In press). Applying mixed-method designs to the study of family relations. In K. Adamson, A. Few-Demo, C. Proulx, & K. Roy (Eds.), *Sourcebook of family theories and methodologies*. New York: Springer.

Suitor, J. J., Gilligan, M., Johnson, K., & Pillemer, K. (2014). Caregiving, perceptions of maternal favoritism, and tension among siblings. *The Gerontologist, 54*(4), 580–588. doi:10.1093/geront/gnt065

Suitor, J. J., Gilligan, M., Peng, S., Jung, J. H., & Pillemer, K. (2017a). Role of perceived maternal favoritism and disfavoritism in adult children's psychological well-being. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences, 72*(6), 1054–1066. doi:10.1093/geronb/gbv089

Suitor, J. J., Gilligan, M., Peng, S., & Rurka, M. (2018b). How much can be expected of one child? Consequences of multiplexity of mothers' support preferences on adult children's psychological well-being. In D. F. Alwin. D. H. Felmlee, & D. A. Kreager (Eds.), *Social networks and the life course* (pp. 263–281). Cham, Switzerland: Springer.

Suitor, J. J., Gilligan, M., & Pillemer, K. (2013). The role of violated caregiver preferences in psychological well-being when older mothers need assistance. *The Gerontologist*, *53*(3), 388–396. doi:10.1093/geront/gns084

Suitor, J. J., Gilligan, M., & Pillemer, K. (2015). Stability, change, and complexity in later-life families. In L. K. George, & K. F. Ferraro (Eds.). *Handbook of aging and the social sciences* (8th ed., pp. 205–226). New York: Elsevier Academic.

Suitor, J. J., Gilligan, M., Pillemer, K., Fingerman, K. L., Kim, K., Silverstein, M., & Bengtson, V. L. (2017b). Applying within-family differences approaches to enhance understanding of the complexity of intergenerational relations. *Journals of Gerontology Series B: Psychological Sciences and Social Sciences*, *73*(1), 40–53. doi:10.1093/geronb/gbx037

Suitor, J. J., Gilligan, M., Rurka, M., Peng, S., Meyer, J., & Pillemer, K. (2018a). Accuracy of adult children's perceptions of mothers' caregiver preferences. *The Gerontologist, 59*(3), 528–537. doi:10.1093/geront/gny064

Suitor, J. J., & Pillemer, K. (2006). Choosing daughters: Exploring why mothers favor adult daughters over sons. *Sociological Perspectives*, *49*(2), 139–161. doi:10.1525/sop.2006.49.2.139

Suitor, J. J., Sechrist, J., Plikuhn, M., Pardo, S. T., Gilligan, M., & Pillemer, K. (2009). The role of perceived maternal favoritism in sibling relations in midlife. *Journal of Marriage and Family*, *71*(4), 1026–1038. doi:10.1111/j.1741-3737.2009.00650.x

Suitor, J. J., Sechrist, J., Steinhour, M., & Pillemer, K. (2006). "I'm sure she chose me!" Accuracy of children's reports of mothers' favoritism in later life families. *Family Relations*, *55*(5), 526–538. doi:10.1111/j.1741-3729.2006.00423.x

Suls, J., & Wheeler, L. (2000). A selective history of classic and neo-social comparison theory. In *Handbook of social comparison* (pp. 3–19). Boston, MA: Springer.

Taylor, R. J., Chatters, L. M., & Jackson, J. S. (1993). A profile of familial relations among three-generation black families. *Family Relations*, *42*, 332–341. doi:10.2307/585563

Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, *52*(2), 145–161. doi:10.1177/0022146510395592

Thomas, P. A., Liu, H., & Umberson, D. (2017). Family relationships and well-being. *Innovation in Aging*, *1*(3). doi:10.1093/geroni/igx025

Umberson, D. (1992). Relationships between adult children and their parents: Psychological consequences for both generations. *Journal of Marriage and the Family*, *54*(3), 664–674. www.jstor.org/stable/353252

Umberson, D., & Karas Montez, J. (2010). Social relationships and health: A flashpoint for health policy. *Journal of Health and Social Behavior*, *51*, S54–S66. doi:10.1177/0022146510383501

Vazire, S. (2006). Informant reports: A cheap, fast, and easy method for personality assessment. *Journal of Research in Personality*, *40*(5), 472–481. doi:10.1016/j.jrp.2005.03.003

Walen, H. R., & Lachman, M. E. (2000). Social support and strain from partner, family, and friends: Costs and benefits for men and women in adulthood. *Journal of Social and Personal Relationships*, *17*(1), 5–30. doi:10.1177/0265407500171001

Williams, C. L. (1993). Psychoanalytic theory and the sociology of gender. In P. England (Ed.), *Theory on gender: Feminism on theory* (pp. 131–149). Piscataway, NJ: Transaction Publishers.

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