

Research Article

Intergenerational Relationships Across Multiple Children and Older Parents' Depressive Symptoms in China—A Resource Contingency Perspective

Ting Li, PhD and Yang Zhang, PhD*

Center for Population and Development Studies, Renmin University of China, Beijing, China.

*Address correspondence to: Yang Zhang, PhD, Center for Population and Development Studies, Renmin University of China, Zhongguancun Street No. 59, Haidian, Beijing 100872, China. E-mail: zhyoung@ruc.edu.cn

Received: March 24, 2022; Editorial Decision Date: December 23, 2022

Decision Editor: Zhen Cong, PhD, FGSA

Abstract

Objectives: The multidimensional features of intergenerational relationships and the mixed feelings among parents with multiple children complicate how intergenerational relationships shape mental health among older parents. This study explores the patterns of intergenerational relationships among Chinese families with multiple children and their associations with older parents' depressive symptoms.

Methods: Through 3 waves (2014, 2016, and 2018) of nationally representative longitudinal data obtained from the China Longitudinal Aging Social Survey (CLASS), we used the *k*-means clustering method and fixed-effects models to address the research questions.

Results: The findings revealed that over 41.64% of older parents had different types of intergenerational relationships with their different children. The *closest* parent–child relationship type was associated with the lowest levels of depressive symptoms among older parents, whereas the *most estranged* parent–child relationship type was associated with the highest levels of depressive symptoms. The most estranged parent–child relationship type (i.e., the *alienated* type) involving one child could reduce the psychological benefits gained through the closest type (i.e., the *tight-knit* type) involving another child. However, this moderation effect only manifested among socioeconomically privileged older parents.

Discussion: These findings highlight the importance of adopting a systematic view for studies regarding intergenerational relationships. The impacts of a single parent–child relationship on parents can be influenced by other parent–child relationships. Moreover, in the context of the dramatic and uneven social changes throughout China, the interactive features of intergenerational relationships have revealed an emerging strong preference for all-round relational harmony across multiple children, particularly among privileged Chinese families.

Keywords: Collective ambivalence, Depressive symptoms, Multi-child families, Parent–child relationship

Intergenerational relationships are crucial resources for ensuring optimal mental health among older adults. Supportive intergenerational relationships play a significant role in enhancing older adults' mental health (Kim et al., 2020; Umberson, 1989). However, owing to the complexities associated with the conceptualization and evaluation of intergenerational relationships, research gaps in the

associations between intergenerational relationships and older parents' mental health still exist.

The first complexity involves evaluating intergenerational relationships, which encompass various dyadic relationships on multiple dimensions, such as structure, contact, affinity, consensus, function, and norms (Bengtson & Roberts, 1991; Silverstein & Bengtson, 1997). Each

dimension can have varying effects on older parents' mental health. For example, the affinity aspect is usually positively associated with older parents' mental health (Bengtson et al., 1990; Merz et al., 2009), whereas the structural and functional aspect often yields a weaker or inconsistent association (Bangerter et al., 2015; Byers et al., 2008). To capture the multidimensional nature of intergenerational relationships, various typology methods have been widely adopted (Kim et al., 2020; Silverstein et al., 2010). The generated intergenerational relationship types can be a comprehensive yet parsimonious representation of parent-child interactions, while retaining the correlations among different relationship dimensions.

However, correlations among these different dimensions are not always positive. For example, emotional affinity does not necessarily lead to frequent functional exchanges, and intensive functional support may bring negative perception of the relation. This inconsistency is considered a manifestation of intergenerational ambivalence defined as the contradictions that parents and children experience in their relationships (Bengtson et al., 2002). Indirect measures such as coexisting contradictory emotions and behaviors are used to capture ambivalence, and thus ambivalence can be represented by relationship typologies incorporating both functional and emotional measures (Connidis, 2015).

Other than the ambivalence of older parents' relationships with a specific child, scholars have extended this term to a collective ambivalence that describes the contradictions experienced by parents across multiple children, whereby some are positive and others are negative (Lüscher & Pillemer, 1998; Ward, 2008). The varying relationship types maintained by parents across different children can also be a manifestation of collective ambivalence, which further complicates the association between intergenerational relationships and older parents' mental health. Although high-quality interactions with children are beneficial and problematic relationships with children are detrimental (Birditt et al., 2015; Polenick et al., 2018), it is unclear how mixed relationship types with multiple children shape older parents' mental health.

The second complexity relates to the social structure within which intergenerational relationships are embedded. The conceptualization of ambivalence recognizes individuals' agency to resolve mixed feelings (Bengtson et al., 2002). According to the embedded agency perspective, the agency is both limited and empowered by structure (Bengtson et al., 2002). On the one hand, individuals act as agents of their lives, creating their life stories and interpreting their experiences through utilizing the resources embedded in social structure. On the other hand, social structure may confront individuals' attempts to exercise agency, resulting in varying outcomes of managing contradiction based on the resources that individuals possess (Connidis, 2015). Such theoretical orientation highlights the necessity of introducing a resource contingency perspective when exploring the association between multiple

parent-child relationships and older parents' mental health, which posits that how older parents respond to the collective ambivalence of parent-child relationships, as a way of managing contradictions, may heavily depend on the socioeconomic resources possessed by older parents, endowed and restricted by their positions in the social structure.

Furthermore, most prior studies were conducted in Western societies (Lüscher & Pillemer, 1998; Ward, 2008). Very little is known about the way in which Chinese older parents are psychologically influenced by multidimensional and ambivalent intergenerational relationships in a unique setting, which has long been in a collective family culture and recently experienced dramatic social changes.

To fill the research gaps mentioned previously, this study addresses three questions in the Chinese context. How do different types of intergenerational relationships shape older parents' depressive symptoms? How do varied types of intergenerational relationships across multiple children shape older parents' depressive symptoms? Does the impact of collective ambivalence on older parents' depressive symptoms differ depending on socioeconomic resources?

Background

Intergenerational Relationship Types and Mental Health

The typology method is often adopted to capture the multidimensional nature of intergenerational relationships (Guo et al., 2012; Silverstein & Bengtson, 1997). By classifying the systematic variation of multidimensional parent-child dyads into discrete patterns, the generated typology can efficiently capture the major characteristics of parent-child interactions, while maintaining connectedness among different relationship dimensions.

Various indicators of intergenerational relationships have been used to derive relationship types, such as geographic distance and contact frequency capturing the structural dimension, exchanges of monetary and instrumental support capturing the functional dimension, and attachment and conflict capturing the affinity dimension (Park et al., 2005; Silverstein & Bengtson, 1997). Prior studies yielded varying typologies depending on the dimensions examined (for a review, see Guo et al., 2012). Nevertheless, these typologies can be roughly classified into the following broader categories: close and reciprocal, nonreciprocal, ambivalent, and alienated relationship types. We expected to identify a similar set of intergenerational relationship types in this study.

The associations between intergenerational relationship types and older parents' mental health also vary across studies. It is generally agreed that mutually supportive and gratifying relationship types can provide significant benefits to older adults' mental health and alienated types often result in worse mental health outcomes (Davey & Eggebeen, 1998; Yang et al., 2013). However, results regarding other

relationship types, such as ambivalent or nonreciprocal types, are less consistent. Some studies reported detrimental effects of the ambivalent type over the detached one (Kim et al., 2020; Lee & Szinovacz, 2016), and another study suggested that any interactions, despite being unequal, would be better than no interactions at all (Peng et al., 2019).

Multiple Parent–Child Relationships and Mental Health

The human ecological and family systems theories (Bowen, 1975; Bubolz & Sontag, 1993) endorse the necessity of examining the way in which multiple parent–child relationships shape older adults' mental health. Human ecological theory views family as an interactive ecosystem in which family members interact with each other, and each dyadic relationship is embedded within a multiple dyadic relationship network, thereby influencing each other (Bubolz & Sontag, 1993; Chen & Jordan, 2018). A basic characterization of the ecological system is adaptation, which proposes that individuals grow and adapt by interacting with their immediate ecosystem (Bronfenbrenner, 1979). The mental health of older parents, reflecting their degrees of adaptation to the family ecosystem, is thus influenced by multiple parent–child relationship networks. The family systems theory also views family as an interactive system, suggesting that a family functions as the synergy of relationship structures rather than the add-up of individual family members (Bavelas & Segal, 1982). Both theories stress the importance of examining the interaction dynamics among multiple parent–child relationships, leading to an interesting question on how the mix of different types of older parents' relationships across their multiple children—collective ambivalence—affect older parents' mental health (Chen & Zhou, 2021; Ward, 2008).

Within-family differences approaches (Suitor et al., 2008, 2017) are often applied to resolve the issue of collective ambivalence through three strategies, known as the threshold, additive, and moderation model. To accommodate our goal of examining collective ambivalence based on parent–child relationship typology across multiple children, we have modified but retained the essence of the three strategies by first identifying the closest and most distant parent–child relationship types for each older parent and then examining the three modified strategies.

The “threshold model” used in this study tests a threshold effect by identifying the impact of the closest or the most distant parent–child relationship types for each older parent (Suitor et al., 2017). Because a closer relationship type is often associated with fewer depressive symptoms and a more estranged type usually results in more depressive symptoms (Kim et al., 2020). We hypothesize that *the closer the closest parent–child relationship is, the fewer depressive symptoms older parents have, and the*

more estranged the most distant relationship is, the more depressive symptoms older parents have (Hypothesis 1).

The original “additive model” treats positive (or negative) relationships as an additive, such that having more favorable (or problematic) ties is associated with better (or worse) well-being (Suitor et al., 2017, p. 42). In the modified version, we further propose that the positive effect induced by the closest parent–child relationships and the negative effect caused by the most distant parent–child relationships can be added up. The according hypothesis becomes that *the closest and most distant parent–child relationships have simultaneous impacts on older parents' depressive symptoms (Hypothesis 2).*

However, the negative aspects of parent–child relationships appear to have a more salient impact than the positive ones (Krause, 2005; Umberson, 1992; Ward, 2008), suggesting a dominance of negative parent–child relationships. The third strategy, known as a “moderation (i.e., mitigating) model,” seems to be a more promising approach. Different from the original moderation model that emphasizes the mitigating effect of favorable ties on the problematic ones (Suitor et al., 2017), our modified version concerns more about whether the presence of negative parent–child relationships would diminish the benefits generated by positive ones. The moderation model also fits in the human ecological and family systems theories, recognizing the interactions among different relationship dyads. We hypothesize that *the presence of an alienated parent–child relationship weakens the beneficial effect of the closest parent–child relationship on reducing older parents' depressive symptoms (Hypothesis 3).*

Resource Contingency Perspective and the Chinese Context

An emphasis on individual agency is a significant theoretical advance of ambivalence studies. The mental health consequences in fact result from the way in which individuals manage ambivalence under the opportunities and constraints embedded in social structure (Connidis, 2015). Socioeconomic resources reflect material structures through which individuals interpret their experienced contradictions and translate such interpretations to their psychological reactions. To accommodate these theoretical considerations, we introduce a resource contingency perspective with three propositions. Individuals may have different psychological responses to collective ambivalence; these differences result from how individuals interpret the contradictions; such interpretations heavily depend on the resources that individuals own. Therefore, the resource contingency perspective emphasizes the need to examine whether the psychological impact of collective ambivalence vary for older parents with different levels of socioeconomic resources.

To understand how the resource contingent perspective leads to specific hypotheses, we need to first discuss the Chinese context. The most prominent feature of Chinese society is a comprehensive family system developed during

its long history of farming, which defined family members' obligations and responsibilities (Hsu, 1985; Li et al., 2020). Parents are obliged to raise their younger children, and adult children, especially the oldest son, have the responsibility of taking care of their older parents, known as the *feeding model* (Fei, 1983).

The institutional foundation of this feeding model resides in China's traditional self-subsistence peasant economy and the absence of a functional social security system. Although Chinese people often value family harmony highly, such a value system is fundamentally motivated by practical functional needs. Undoubtedly, a problematic parent-child relationship has adverse effects. However, when parents already have a favorable relationship with one of their children who can fulfill their daily needs of old-age care, the adverse effects of the problematic relationship may be weakened. In other words, unfavorable parent-child relationships may not significantly moderate the positive effect of favorable parent-child relationships in scenarios where parents mainly rely on their adult children for old-age care.

Dramatic social changes over the past few decades have significantly transformed China's family systems. The development of social security and the provision of old-age care services ensure that some older adults with sufficient socioeconomic resources can adequately support themselves (Du et al., 2016; Zhu & Walker, 2018). Having the capacity of self-support enables older parents to have control over their material lives. When older parents no longer depend on children for old-age care, they turn to seek more emotionally harmonious relationships with the entire family to fulfill their psychological needs (Ji et al., 2020; Liu, 2021). Note that in Chinese families, functional exchanges often have symbolic meanings of showing love beyond their practical utilities (Xie & Zhu, 2009). Therefore, both the functional exchanges and emotional affinity of each parent-child dyad matter for those older parents' mental health, and the presence of problematic parent-child relationships may diminish the benefits of supportive relationships.

Although we are unable to directly assess the family transformation, the unequal access to socioeconomic resources among older parents, to some extent, reflects the different transformation stages that they are in. Given that older parents' expectations for their adult children depend on their resources, those with insufficient socioeconomic resources may particularly value having harmonious relationships with a few of their children who can provide functional resources. However, those with sufficient socioeconomic resources may be more likely to pursue all-round harmonious relationships with all children. We therefore hypothesize the following:

When older parents have insufficient socioeconomic resources, the presence of an alienated parent-child relationship does not significantly diminish the benefits of the closest parent-child relationships on reducing older parents' depressive symptoms (Hypothesis 4a).

When older parents have sufficient socioeconomic resources, the presence of an alienated parent-child relationship significantly diminishes the benefits of the closest parent-child relationships on reducing older parents' depressive symptoms (Hypothesis 4b).

Data and Methods

Data

We used three waves of data (2014, 2016, and 2018) obtained from a nationally representative longitudinal survey—the China the China Longitudinal Aging Social Survey (CLASS; <http://class.ruc.edu.cn>). Initiated in 2014, the CLASS has been collecting data biennially since then. The survey adopted a multistage stratified random sampling procedure, with counties as primary sampling units and villages in rural areas and communities in urban areas as secondary sampling units. The CLASS is ideal for this study, as it collected detailed information on functional exchanges and emotional affinity between older parents and each of their children. It also collected consistent measures of depressive symptoms spanning 4 years.

The total number of respondents (aged 50 and above) across three waves is 20,182 (person-years = 34,400). To construct our analytic samples, we first restricted respondents to those who had at least two adult children aged 18 and older (3,765 cases [person-years = 7,219] dropped) because we focus on multiple parent-child relationships. We excluded respondents with missing values in the measures of interest (4,278 cases [person-years = 7,929] dropped). One thing to note is that systemic differences exist between those in the analytic samples and those excluded due to nonresponse or refusal; the latter are older, in poorer health, less educated, more likely to live in rural areas, and have lower incomes than the former. We will elaborate on how these systemic differences affect our results later.

The final sample for older parents is 12,138 (person-years = 19,252; referred to as the *parent sample* later). The mean age of older parents in this analytic sample is 70.30 years old; about 48.67% of them were women and 52.69% had a rural *hukou*; their mean years of schooling was 5.91 ($SD = 4.42$) years, and the mean number of children was 3.05 ($SD = 1.20$). Based on this *parent sample*, we created a sample by matching parents to each of their children. We obtained an analytic sample (referred to as the *parent-child matching sample* later) that includes parent-reported information on 36,995 children from 12,138 older parents (person-children-years = 57,008).

Measures

Depressive symptoms

Depressive symptoms were captured using a subset (nine items) obtained from the Center for Epidemiologic Studies—Depression (CES-D) scale. The CES-D scale is a brief

self-report questionnaire (20 items) developed by Radloff (1977) to measure the severity of depressive symptoms in a general population. Nine items were collected consistently in the three waves of survey and the respondents were asked to report the frequency of these items. We summarized the frequency (0 = rarely or none of the time, 1 = some of the time, and 2 = most or all of the time) of nine items and created a total score (0–18), with a higher score indicating more depressive symptoms. The nine items were feeling happy, enjoying life, feeling pleasure, feeling lonely, feeling upset, feeling useless, having nothing to do, having a poor appetite, and having trouble sleeping in the week before the survey; the first three items were reverse coded. We excluded respondents who were missing on one or more items on the CES-D scale. The Cronbach's alpha was 0.76, 0.73, and 0.74 in the 2014, 2016, and 2018 waves, respectively.

Parent–child relationships

We constructed three measures to capture multiple parent–child relationships. We first characterized the dyadic parent–child relationship through three dimensions (six measures) in our *parent–child sample*: monetary exchange, housework exchange, and emotional affinity (for more details, see Supplementary Table 1). The specific measures considered for typology include the value of economic support (in RMB, scale 1–9) over the past 12 months (from each child to the parent, or vice versa), the frequency of housework support (scale 1–5) over the past 12 months (from each child to the parent, or vice versa), the parent's reported emotional affinity to each child (scale 1–3), and the parent's rating of emotional care from each child (scale 1–4). Adopting a clustering

method, we constructed an indicator of parent–child relationship types for parents with each of their children (see *Analytic Strategy* for details). We ranked the parent–child relationship types from the most distant to closest (the closer the higher) based on the sum of the standardized scores of the six measures. Figure 1 shows the distribution of mean standardized scores for each measure. We constructed three measures by summarizing the types of parent–child relationships across multiple children: the *closest* and the most *distant* parent–child relationship types and the presence of the most distant (i.e., an alienated) parent–child relationship.

Covariates

We controlled for time-varying parents' socioeconomic, health, and demographic measures. Parents' income (in RMB, logged) was used to control for socioeconomic status. A sum score (0–16) of nine items for parents' instrumental activities of daily living were used to indicate parents' health conditions, with a higher score indicating more difficulties. The nine items included walking up- or downstairs, falling, walking outside, taking buses, managing finances, doing shopping, lifting heavy objects, preparing meals, and doing housework. Parents' marital status (0 = not in marriage, 1 = in marriage) and age (in years) were also controlled. Given that living with children promotes emotional and functional exchanges between children and older parents, we controlled for living with children. The survey year (2014, 2016, and 2018) was also controlled. As we used fixed-effects models for analyses, we did not control for time-invariant covariates, such as gender, *hukou* status, the mean years of schooling, and the number of children.

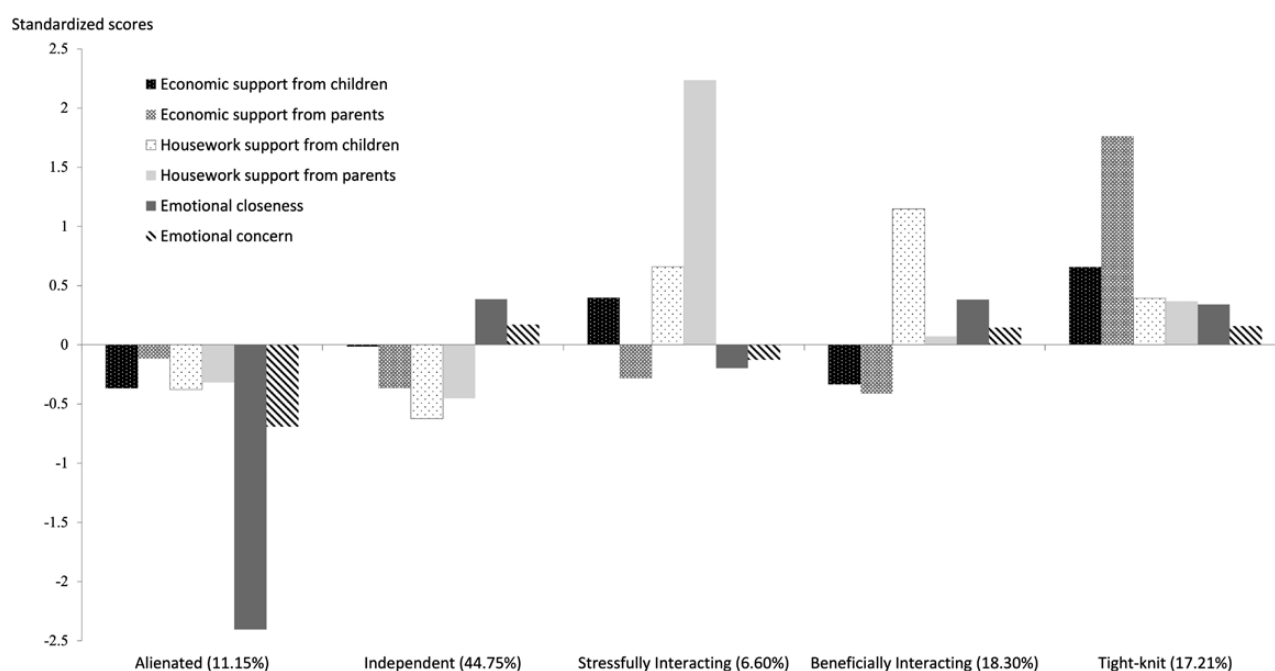


Figure 1. Parent–child functional exchanges and emotional affinity and types of parent–child relationship. *Note:* The percentages are the proportion of each type of parent–child relationship among all parent–child dyads based on the *parent–child sample* ($N = 57,008$).

Analytic Strategy

To identify intergenerational relationship patterns in multi-child families, we used the *k*-means clustering analysis to derive types of parent–child relationships in the *parent–child matching sample*. This fast clustering method sorts samples into discrete groups according to the distance of the sample in the multidimensional variable space, capturing the inherent pattern of the sample and the interconnections among parent–child relationship measures (Meyer et al., 1993). We named each type of parent–child relationships in a post hoc manner based on the combined distribution of measure means. The order of the five types of parent–child relationships (1–5)—*alienated*, *independent*, *stressfully interacting*, *beneficially interacting*, and *tight-knit*—was arranged from the most distant to the closest indicated by the sum of the standardized scores of the six measures (the closer the higher; Figure 1).

We then linked the predictors (for details, see the Measures section) to the *parent sample* and used fixed-effects models to address our research questions. Fixed-effects models are an effective statistical technique for analyzing nonexperimental data in the presence of unobserved and time-invariant variables that are correlated with the predictors of interest and exert their own effect on outcomes (Farkas, 2005).

Specifically, to test Hypothesis 1 (Hypothesis 2), we respectively (simultaneously) examined the associations of the closest and most distant types of parent–child relationships with older parents' depressive symptoms. To test Hypothesis 3, we examined how having an alienated parent–child relationship type moderates the association between the closest types of parent–child relationships and older parents' depressive symptoms. To investigate whether collective ambivalence varies by older parents' socioeconomic resources (Hypotheses 4a and 4b), we performed the moderation analysis on stratified samples based on rural–urban residence (rural vs urban), individual income (below the median vs above the median), and educational attainment income (no middle school degree vs middle school degree or above). For robustness check, we have also used *hukou* status instead of rural–urban residence to stratify samples, because *hukou*, a system of household registration in mainland China, is associated with differential benefits (e.g., education, medical care, and social security) with urban *hukou* at a higher social status than rural *hukou*. The major results remain unchanged (see Author Note 1). All the analyses were performed by STATA15.

Results

Intergenerational Relationship Patterns in Multi-Child Chinese Families

Figure 1 presents the distribution of parent–child relationship types based on the *parent–child sample*. The proportions of five types of parent–child relationships in order are

44.75% (independent), 18.30% (beneficially interacting), 17.21% (tight-knit), 11.15% (alienated), and 6.60% (stressfully interacting). For a tight-knit type, parents and children had high levels of perceived emotional affinity and functional exchanges. For a beneficially interacting type, parents had a high level of perceived emotional affinity, and an *unbalanced* pattern of functional exchanges such that children were likely to provide housework support but less likely to exchange financial resources with their parents. For a stressfully interacting type, parents and children had a low level of emotional affinity and an *unbalanced* pattern of functional exchanges, thereby demonstrating ambivalence. For an independent parent–child type, parents had a positive emotional affinity but had low levels of functional exchanges. For an alienated type, parents and children had low levels of emotional affinity and functional exchanges.

Table 1 shows the descriptive results for the analytic sample. For parents with multiple children, the most prevalent type of parent–child relationship is independent (30.70%), followed by beneficially interacting (28.24%), tight-knit (25.44%), stressfully interacting (10.35%), and alienated (5.27%). Approximately 16.29% of parents had at least one alienated parent–child relationship with their multiple children. Approximately 41.64% of parents had more than one parent–child relationship type (see Supplementary Table 2).

Multiple Parent–Child Relationships and Mental Health

Table 2 presents the results for testing Hypothesis 1 (Models 1 and 2), Hypothesis 2 (Model 3), and Hypothesis 3 (Model 4).

Results for the closest (Model 1) and the most distant (Model 2) types of parent–child relationship showed that the tight-knit type yielded the lowest levels of depressive symptoms, and the alienated type yielded the highest levels of depressive symptoms. For instance, in Model 1, compared to those in a tight-knit type, those in an alienated, independent, stressfully interacting, or beneficially interacting type had higher CES-D scores by 1.17 ($p < .001$), 0.43 ($p < .001$), 0.35 ($p < .01$), or 0.56 ($p < .001$) units, respectively (see Author Note 2). Having intensive interactions with children in all dimensions seems to be the most beneficial for older parents and having any kind of interaction was better than none. These results support Hypothesis 1 that the closer the closest parent–child relationship is, the fewer depressive symptoms older parents have, and the more estranged the most distant relationship is, the more depressive symptoms older parents have.

The closest and most distant types of parent–child relationship were both included in Model 3. The results for these predictors showed that compared to a tight-knit type, an alienated or a beneficially interacting type was associated with a higher CES-D score. These results support Hypothesis 2 that the closest and most distant parent–child

Table 1. Descriptive Statistics of Older Chinese Parents in the CLASS (2014, 2016, 2018)

	Mean (SD) or %
Depressive symptoms	
CES-D scores	6.58 (3.41)
Parent-child relationships	
The closest type of parent-child relationship (%)	
Alienated	5.27
Independent	30.70
Stressfully interacting	10.35
Beneficially interacting	28.24
Tight-knit	25.44
The most distant type of parent-child relationship (%)	
Alienated	16.31
Independent	53.74
Stressfully interacting	5.05
Beneficially interacting	10.56
Tight-knit	14.34
Have an alienated parent-child relationship (%)	16.29
Covariates	
Age	70.30 (7.34)
No spouse (%)	30.14
IADL score	1.04 (2.37)
Income (logged)	8.95 (1.47)
Reside with children (%)	39.35
Reside in urban area (%)	58.54
Above the median income (%)	53.48
Middle school degree or above (%)	34.46
Survey year	
2014	30.34
2016	34.04
2018	35.61
Persons (<i>n</i>)	12,138
Person-years (<i>N</i>)	19,252

Notes: CES-D = Center for Epidemiologic Studies—Depression; CLASS = China Longitudinal Aging Social Survey; IADL = instrumental activities of daily living; SD = standard deviation.

relationships have simultaneous impacts on older parents' depressive symptoms. Additionally, including two predictors simultaneously reduced their coefficient magnitude, as compared to including them separately in Models 1 and 2.

In Model 4, we included an interaction between having an alienated parent-child relationship and the closest type of parent-child relationship. For the closest type of parent-child relationship, compared to a tight-knit type, an independent, stressfully interacting, or beneficially interacting type yielded a higher CES-D score. The increases in CES-D scores were 0.47 ($p < .001$), 0.40 ($p < .01$), or 0.66 ($p < .001$) units, respectively. Furthermore, having an alienated type weakened the benefits of having a tight-knit type over stressfully interacting and beneficially interacting types on CES-D scores by 0.79 ($p < .05$) and 1.00 ($p < .01$) units, respectively.

To facilitate the interpretation of Model 4, we present older parents' CES-D scores across the closest types of parent-child relationship by the presence of an alienated type (Figure 2). The gap in CES-D scores between those with and without an alienated relationship was larger for the tight-knit or independent type, compared to stressfully interacting or beneficially interacting types. However, the gap in CES-D scores was not significantly different between tight-knit and independent types.

Overall, these results suggest that the benefits of having a tight-knit parent-child relationship in comparison with other relationship types is largely diminished with the presence of an alienated parent-child relationship, supporting Hypothesis 3.

Differences in Multiple Parent-Child Relationships and Depressive Symptoms by Socioeconomic Resources

We examined whether the effects of collective ambivalence on older parents' depressive symptoms vary in groups with different levels of socioeconomic resources, including urban-rural residence, income, and educational attainment (Table 3).

Among urban parents, having an alienated parent-child relationship weakened the benefits of having a tight-knit type (i.e., the closest type) over an independent type by 0.88 ($p < .05$) units and a beneficially interacting type by 1.12 ($p < .05$) units in CES-D scores. However, we did not find such significant interaction effects among rural parents. Similarly, only among those whose income was above the median, having an alienated parent-child relationship weakened the benefits of having a tight-knit type (i.e., the closest type) over an independent type by 0.93 ($p < .05$) units and a beneficially interacting type by 1.17 ($p < .01$) units in CES-D scores. Similar results were also found in stratified samples based on educational attainment. To facilitate interpretation, we presented the CES-D scores of older parents across the closest types of parent-child relationship by the presence of an alienated type in stratified samples based on socioeconomic resources (please see Supplementary Figure 1).

Different from the results in the full sample (see Model 4 in Table 2), the interaction effects of an alienated parent-child type over a stressfully interacting type is not significant in the stratified samples, while the interaction effects over a beneficially interacting type have remained significant and the interaction effects over an independent type have become significant. The seemingly inconsistent patterns of interaction effects in the full sample versus in stratified samples were driven by varying patterns of responses to collective ambivalence by parents with different levels of socioeconomic resources. We have provided a possible explanation in the discussion section.

These results jointly supported Hypotheses 4a and 4b. When older parents have insufficient socioeconomic

Table 2. Estimates of Types of Parent–Child Relationship on CES-D Scores from Fixed-Effects Models

	Model 1	Model 2	Model 3	Model 4
	β		β	β
The closest type of parent–child relationship				
Alienated	1.17*** (0.17)		0.49* (0.21)	0.12 (0.28)
Independent	0.43*** (0.10)		0.33* (0.14)	0.47*** (0.11)
Stressfully interacting	0.35** (0.13)		0.11 (0.16)	0.40** (0.14)
Beneficially interacting	0.56*** (0.10)		0.33* (0.13)	0.66*** (0.11)
Tight-knit (ref.)	// //		// //	// //
The most distant type of parent–child relationship				
Alienated		1.20*** (0.14)	0.90*** (0.18)	
Independent		0.51*** (0.12)	0.25 (0.16)	
Stressfully interacting		0.69*** (0.18)	0.55** (0.21)	
Beneficially interacting		0.82*** (0.15)	0.55** (0.19)	
Tight-knit (ref.)		// //	// //	
Have an alienated parent–child relationship				1.18*** (0.25)
The closest type of parent–child relationship				
Independent $\times$ Alienated				–0.39 (0.32)
Stressfully interacting $\times$ Alienated				–0.79* (0.37)
Beneficially interacting $\times$ Alienated				–1.00** (0.32)
Tight-knit $\times$ Alienated (ref.)				// //
Age	0.01 (0.02)	0.10 (0.02)	0.01 (0.02)	0.01 (0.02)
No spouse	0.68*** (0.16)	0.68*** (0.16)	0.66*** (0.16)	0.66*** (0.16)
IADL score	0.21*** (0.02)	0.21*** (0.02)	0.21*** (0.02)	0.21*** (0.02)
Income (logged)	–0.42** (0.16)	–0.41** (0.16)	–0.41** (0.16)	–0.40* (0.16)
Reside with children	–0.34*** (0.10)	–0.37*** (0.09)	–0.33*** (0.10)	–0.33*** (0.10)
Year				
2014 (ref.)	// //	// //	// //	// //
2016	1.65*** (0.08)	1.65*** (0.08)	1.63*** (0.08)	1.64*** (0.08)
2018	3.43*** (0.08)	3.42*** (0.08)	3.40*** (0.08)	3.41*** (0.08)
σ_u	2.70	2.70	2.70	2.69
σ_c	2.62	2.62	2.62	2.62
ρ	0.51	0.51	0.51	0.51
Persons (n)	12,138			
Person-years (N)	19,252			

Notes: For older parents whose closest type of parent–child relationship was alienated, it would be impossible for them not to have an alienated relationship type. Thus, the corresponding interaction coefficient representing the effect of the closest type being alienated conditioned on the presence of an alienated type could not be estimated and was omitted in Model 4. The coefficient for the closest type of parent–child relationship being alienated should be interpreted in combination with having an alienated relationship (see Figure 2 for its marginal effects). CES-D = Center for Epidemiologic Studies—Depression; IADL = instrumental activities of daily living. The // sign indicates that the estimated coefficients are omitted for the reference group.

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

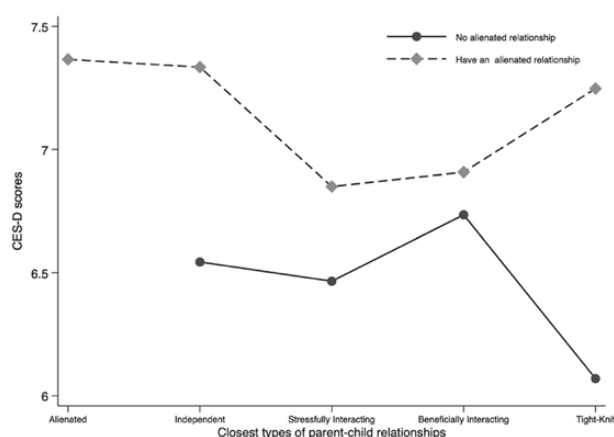


Figure 2. Interaction of having an alienated parent-child relationship on the association between the closest types of parent-child relationships and CES-D scores. *Notes:* For older parents whose closest type of parent-child relationship was alienated, no collective ambivalence existed because their parent-child relationships were all alienated; thus, the corresponding coefficients of interaction effects were omitted and no observed cases belong to “having no alienated relationship.” CES-D = Center for Epidemiologic Studies—Depression.

resources, the presence of an alienated parent-child relationship does not significantly moderate the benefits of having other positive parent-child relationships on reducing older parents' depressive symptoms. In contrast, when older parents have sufficient socioeconomic resources, the presence of an alienated parent-child relationship significantly diminishes the benefits of other positive parent-child relationships on reducing older parents' depressive symptoms.

Discussion

The associations between the patterns of intergenerational relationships in multiple-child families with older parents' depressive symptoms are still unclear, largely because of relationships' mixed (i.e., with some being positive and some being negative) and interactive (i.e., the positive and negative relationships can interact with each other) features. This study addresses this research gap in the Chinese context, which has been in a collective family culture for a long time and recently experienced dramatic social changes.

We first explored the intergenerational relationship patterns in multi-child Chinese families. Five parent-child relationship types were identified: alienated, independent, stressfully interacting, beneficially interacting, and tight-knit. The typology of parent-child relationships is similar to those in two pioneering studies on American and rural Chinese families, respectively (Guo et al., 2012; Silverstein & Bengtson, 1997). Similar to the typology proposed by Silverstein and Bengtson (1997), parent-child relationships can vary from all-dimension close to all-dimension distant. Similar to the typology proposed by Guo and colleagues (2012), the functional exchanges within parent-child

relationships can be unbalanced. Different from prior studies, this study's typology excluded geographic proximity because including proximity could diminish the varying combinations of the functional and emotional aspects that can be detected and thus prevent identifying ambivalent parent-child relationship types.

We then found that the closest relationship type was associated with the lowest and the most estranged type was associated with the highest level of depressive symptoms for older parents. Despite the progression in family modernization and individualism, which, to some extent, encourages independence and personal space within families, older parents still place more value on an all-round intimate parent-child relationship over other relationship types. Moreover, the stressfully interacting type—a manifestation of intergenerational ambivalence—was not associated with higher levels of depressive symptoms than the beneficially interacting type, suggesting that any functional interaction even unfavorable interaction, was still valuable for Chinese older parents. In contrast, studies conducted in Western societies found worse mental health for ambivalent types (Kim et al., 2020; Lee & Szinovacz, 2016). This is because functional exchanges have symbolic meanings beyond their practical utilities in Chinese families. To give or receive is a way to transmit love among Chinese family members (Xie & Zhu, 2009). Although parents may not have high emotional affinity with one child, they still tend to interpret their functional exchanges with that child as affective connections, thereby easing their psychological stress.

We next revealed that the collective ambivalence of parent-child relationships operationalized as older parents forming different types across children, with some being closer and some being more estranged, had a complex association with older parents' depressive symptoms. Specifically, the separate and significant impacts of the closest and most distant types on older parents' depressive symptoms support the modified threshold model (Hypothesis 1); the significant simultaneous impact of the closest and most distant types aligns with the modified additive model (Hypothesis 2).

Moreover, the presence of an alienated parent-child type weakened the benefits gained by a tight-knit type, as compared to stressfully interacting or beneficially interacting types. This finding supports the modified mitigated model and reveals the interacting nature of parent-child relationships with families. The pattern of interaction effects indicates that *on average* older parents in more unbalanced parent-child relationships (i.e., stressfully and beneficially interacting types have unbalanced functional exchanges) are less influenced by the existence of an alienated parent-child relationship, as compared to those in more balanced ones (i.e., independent and tight-knit ones).

However, when we performed analyses in stratified samples by parents' socioeconomic resources, we found that significant collective ambivalence only manifested among

Table 3. Estimates of Types of Parent–Child Relationship on CES-D Scores from Fixed-Effects Models by Urban–Rural Residence, Income Groups, and Educational Groups

	Rural–urban residence		Income groups		Educational groups	
	Rural	Urban	Below the median	Above the median	No middle school degree	Middle school degree or above
	β	β	β	β	β	β
The closest type of parent–child relationship						
Alienated	0.87* (0.42)	–0.47 (0.37)	0.51 (0.43)	–0.19 (0.37)	0.56 (0.35)	–0.66 (0.46)
Independent	0.88*** (0.18)	0.20 (0.14)	0.91*** (0.17)	0.14 (0.14)	0.58*** (0.14)	0.30 (0.17)
Stressfully interacting	0.44 (0.23)	0.45* (0.19)	0.53* (0.22)	0.29 (0.20)	0.45* (0.18)	0.20 (0.25)
Beneficially Interacting	0.77*** (0.18)	0.62*** (0.14)	0.78*** (0.17)	0.62*** (0.14)	0.72*** (0.14)	0.60*** (0.17)
Tight-knit (ref.)	//	//	//	//	//	//
Have an alienated parent–child relationship	0.89* (0.39)	1.44*** (0.32)	0.96* (0.40)	1.41*** (0.32)	0.91** (0.32)	1.61*** (0.39)
The closest type of parent–child relationship × Have an alienated parent–child relationship						
Independent × Alienated	0.06 (0.47)	–0.88* (0.44)	–0.02 (0.47)	–0.93* (0.44)	0.02 (0.39)	–1.22* (0.54)
Stressfully interacting × Alienated	–0.73 (0.53)	–0.66 (0.52)	–0.91 (0.54)	–0.60 (0.51)	–0.50 (0.44)	–1.32 (0.70)
Beneficially Interacting × Alienated	–0.75 (0.48)	–1.12* (0.44)	–0.74 (0.48)	–1.17** (0.44)	–0.65 (0.39)	–1.71* (0.62)
Tight-knit × Alienated (ref.)	//	//	//	//	//	//
Covariates	Yes	Yes	Yes	Yes	Yes	Yes
σ_u	2.76	2.65	2.81	2.58	2.74	2.64
σ_e	2.58	2.63	2.59	2.63	2.60	2.63
ρ	0.53	0.50	0.54	0.49	0.53	0.50
Persons (<i>n</i>)	4,947	11,270	5,720	6,418	7,948	4,190
Person-years (<i>N</i>)	7,982	7,191	8,956	10,296	12,618	6,634

Notes: For older parents whose closest type of parent–child relationship was alienated, it would be impossible for them not to have an alienated relationship type. Thus, the corresponding interaction coefficient representing the effect of the closest type being alienated conditioned on the presence of an alienated type could not be estimated and was omitted in these models. CES-D = Center for Epidemiologic Studies—Depression. The // sign indicates that the estimated coefficients are omitted for the reference group.

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

socioeconomically privileged older parents. Specifically, depressive symptoms of older parents with disadvantaged socioeconomic resources were not influenced by the existence of an alienated type. On the other hand, depressive symptoms of older parents with advantaged socioeconomic resources in a tight-knit type were influenced by the existence of an alienated type, as compared to their counterparts in beneficially interacting or independent types. These varying patterns of interaction effects in the full sample versus in stratified samples were driven by different responses to collective ambivalence by older parents with different levels of socioeconomic resources. For socioeconomically privileged older parents, they may prioritize all-round close relationships, then emotional affinity, and finally balanced functional exchanges with each of their children. We thus speculated that the existence of an alienated parent-child type for privileged older parents would diminish the benefits of an all-round close type (i.e., tight-knit) over those of emotionally close types (i.e., beneficially interacting and independent), but not over those of emotionally distant parent-child types (i.e., stressfully interacting).

These results can be interpreted from two perspectives. From an individual perspective, when older parents have sufficient socioeconomic resources, they tend to escalate their primary needs from survival and safety to belongingness and love with the entire family, and they are more likely to be psychologically influenced by collective ambivalence. From a family perspective, the development of a social security system and other modernization processes has weakened the functional basis of modern families. Chinese families have evolved from organizations that emphasize functional solidarity to organizations that emphasize all-round harmonious relationships, especially emotional solidarity. Therefore, the modernization process has not caused the decline of the family but resulted in a strong preference for all-round harmonious relationships across multiple children (Liu, 2021).

The complexity of parent-child relationship patterns urges the adoption of a systematic view of Chinese families. The family systems theory and ambivalence perspective endorse two crucial insights. The first involves considering family as an interactive system in which the relationship networks formed by individuals influence each other. The second involves recognizing that individual agency is restricted by social structure and embedded in a broader social system. Depressive symptoms of older Chinese parents are influenced by the interaction between agents within inner family systems and outer social systems.

This study is subject to several limitations. First, we followed the definition of collective ambivalence presented in Ward's article (2008), which has been criticized by Pillemer and Suitor (2008) stating that different relationships across children may not be considered "collective ambivalence" because there was no measurement of simultaneous and contradictory attitudes and feelings across children. Future

studies would merit from employing both direct and indirect measures for mixed feelings across multiple children. Second, because of the systemic differences between those in the analytic samples and those excluded due to nonresponse or refusal, we may not have detected the interaction effects of having an alienated parent-child relationship for those without sufficient socioeconomic resources because the most disadvantaged are disproportionately missing. Further examination on collective ambivalence is warranted when more representative and unbiased data are available. Third, fixed-effects models are good at controlling for unobserved confounders but cannot avoid the reverse causality between types of parent-child relationships and depressive symptoms. Results should be interpreted as association rather than causation.

Despite these limitations, this study expands prior research by revealing that the impacts of a single parent-child relationship on parents can be influenced by other parent-child relationships. Moreover, this study contributes to prior studies by embedding complicated intergenerational relationships within a social context with dramatic and uneven social changes, revealing an emerging strong preference for all-round harmonious relationships across multiple children, particularly among privileged Chinese families.

Supplementary Material

Supplementary data are available at *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences* online.

Author Notes

1. We examined collective ambivalence in samples stratified by *hukou* status and found a significant interaction effect (for Beneficially Interacting) only in respondents with urban *hukou*.
2. With different types of parent-child relationships as the reference group, the main results have remained the same. The CES-D scores for other types of parent-child relationships were significantly higher (lower) than those for the tight-knit (alienated) type. However, the differences in CES-D scores between independent, stressfully interacting, and beneficially interacting types were indistinguishable.

Funding

This work was supported by National Social Science Foundation of China (grant number 20BRK043); and the fund for building world-class universities (disciplines) of Renmin University of China.

Conflict of Interest

None declared.

Author Contributions

T. Li planned the study, performed part of the data analyses, and wrote and revised the article. Y. Zhang performed the majority of statistical analyses and wrote and revised the article.

References

- Bangerter, L. R., Kim, K., Zarit, S. H., Birditt, K. S., & Fingerman, K. L. (2015). Perceptions of giving support and depressive symptoms in late life. *Gerontologist*, 55(5), 770–779. doi:10.1093/geront/gnt210
- Bavelas, J. B., & Segal, L. (1982). Family systems theory: Background and implications. *Journal of Communication*, 32(3), 99–107. doi:10.1111/j.1460-2466.1982.tb02503.x
- Bengtson, V., Giarrusso, R., Mabry, J. B., & Silverstein, M. (2002). Solidarity, conflict, and ambivalence: Complementary or competing perspectives on intergenerational relationships? *Journal of Marriage and Family*, 64(3), 568–576. doi:10.1111/j.1741-3737.2002.00568.x
- Bengtson, V. L., & Roberts, R. E. (1991). Intergenerational solidarity in aging families: An example of formal theory construction. *Journal of Marriage and the Family*, 53(4), 856–870. doi:10.2307/352993
- Bengtson, V. L., Rosenthal, C., & Burton, L. (1990). Families and aging: Diversity and heterogeneity. In R. Binstock & L. George (Eds.), *Handbook of aging and the social sciences* (pp. 263–287). Academic Press.
- Birditt, K. S., Hartnett, C. S., Fingerman, K. L., Zarit, S. H., & Antonucci, T. C. (2015). Extending the intergenerational stake hypothesis: Evidence of an intra-individual stake and implications for well-being. *Journal of Marriage and Family*, 77(4), 877–888. doi:10.1111/jomf.12203
- Bowen, M. (1975). Family therapy after twenty years. In S. Arieti (Ed.), *American handbook of psychiatry* (2nd ed., pp. 367–391). Basic Books.
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Bubolz, M. M., & Sontag, M. S. (1993). Human ecology theory. In P. Boss, W. J. Doherty, R. LaRossa, W. R. Schumm, & S. K. Steinmetz et al. (Eds.), *Sourcebook of family theories and methods* (pp. 419–448). Guilford Press.
- Byers, A. L., Levy, B. R., Allore, H. G., Bruce, M. L., & Kasl, S. V. (2008). When parents matter to their adult children: Filial reliance associated with parents' depressive symptoms. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 63(1), P33–P40. doi:10.1093/geronb/63.1.p33
- Chen, J., & Jordan, L. P. (2018). Intergenerational support in one- and multi-child families in China: Does child gender still matter? *Research on Aging*, 40(2), 180–204. doi:10.1177/0164027517690883
- Chen, J., & Zhou, X. (2021). Within-family patterns of intergenerational emotional closeness and psychological well-being of older parents in China. *Aging & Mental Health*, 25(4), 711–719. doi:10.1080/13607863.2020.1711867
- Connidis, I. A. (2015). Exploring ambivalence in family ties: Progress and prospects. *Journal of Marriage and Family*, 77(1), 77–95. doi:10.1111/jomf.12150
- Davey, A., & Eggebeen, D. J. (1998). Patterns of intergenerational exchange and mental health. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 53(2), 86–95. doi:10.1093/geronb/53B.2.P86
- Du, P., Sun, J., Zhang, W., & Wang, X. (2016). The demands of old-age care and the family and social resources for the Chinese elderly: A study based on 2014 China Longitudinal Aging Social Survey (in Chinese). *Population Research*, 6, 49–61.
- Farkas, G. (2005). Fixed-effects models. In K. Kempf-Leonard (Ed.), *Encyclopedia of social measurement* (pp. 45–50). Elsevier. Retrieved from <https://www.sciencedirect.com/science/article/pii/B0123693985001614>
- Fei, X. (1983). Old-age care during the family structure change: Revisiting the family structure change (in Chinese). *Journal of Peking University (Philosophy & Social Sciences)*, 1(3), 7–16.
- Guo, M., Chi, I., & Silverstein, M. (2012). The structure of intergenerational relations in rural China: A latent class analysis. *Journal of Marriage and Family*, 74(5), 1114–1128. doi:10.1111/j.1741-3737.2012.01014.x
- Hsu, J. (1985). The Chinese family: Relations, problems, and therapy. In W.-S. Tseng & Y. H. W. David (Eds.), *Chinese culture and mental health* (pp. 95–112). Academic Press.
- Ji, Y., Wang, H., Liu, Y., Xu, R., & Zheng, Z. (2020). Young women's fertility intentions and the emerging bilateral family system under China's two-child family planning policy. *China Review*, 20(2), 113–142. <https://www.jstor.org/stable/26915623>
- Kim, K., Zarit, S. H., Birditt, K. S., & Fingerman, K. L. (2020). Typology of parent-child ties within families: Associations with psychological well-being. *Journal of Family Psychology*, 34(4), 448–458. doi:10.1037/fam0000595
- Krause, N. (2005). Negative interaction and heart disease in late life: Exploring variations by socioeconomic status. *Journal of Aging and Health*, 17(1), 28–55. doi:10.1177/0898264304272782
- Lee, H. J., & Szinovacz, M. E. (2016). Positive, negative, and ambivalent interactions with family and friends: Associations with well-being. *Journal of Marriage and Family*, 78(3), 660–679. doi:10.1111/jomf.12302
- Li, T., Fan, W., & Song, J. (2020). The household structure transition in China: 1982–2015. *Demography*, 57(4), 1369–1391. doi:10.1007/s13524-020-00891-7
- Liu, W. (2021). *Live in the heart: Intergenerational relationships and practice of filial piety (in Chinese)*. Shanghai People's Publishing House.
- Lüscher, K., & Pillemer, K. (1998). Intergenerational ambivalence: A new approach to the study of parent-child relations in later life. *Journal of Marriage and the Family*, 60(2), 413–425. doi:10.2307/353858
- Merz, E.-M., Consedine, N. S., Schulze, H.-J., & Schuengel, C. (2009). Wellbeing of adult children and ageing parents: Associations with intergenerational support and relationship quality. *Ageing and Society*, 29(5), 783–802. doi:10.1017/s0144686x09008514
- Meyer, A. D., Tsui, A. S., & Hinings, C. R. (1993). Configurational approaches to organizational analysis. *Academy of Management Journal*, 36(6), 1175–1195. doi:10.5465/256809
- Park, K.-S., Phua, V., McNally, J., & Sun, R. (2005). Diversity and structure of intergenerational relationships: Elderly parent-adult child relations in Korea. *Journal of Cross-Cultural Gerontology*, 20(4), 285–305. doi:10.1007/s10823-006-9007-1

- Peng, C., Kwok, C. L., Law, Y. W., Yip, P. S., & Cheng, Q. (2019). Intergenerational support, satisfaction with parent-child relationship and elderly parents' life satisfaction in Hong Kong. *Aging & Mental Health*, 23(4), 428-438. doi:[10.1080/13607863.2017.1423035](https://doi.org/10.1080/13607863.2017.1423035)
- Pillemer, K., & Suitor, J. J. (2008). Collective ambivalence: Considering new approaches to the complexity of intergenerational relations. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 63(6), S394-S396. doi:[10.1093/geronb/63.6.S394](https://doi.org/10.1093/geronb/63.6.S394)
- Polenick, C. A., DePasquale, N., Eggebeen, D. J., Zarit, S. H., & Fingerman, K. L. (2018). Relationship quality between older fathers and middle-aged children: Associations with both parties' subjective well-being. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 73(7), 1203-1213. doi:[10.1093/geronb/gbw094](https://doi.org/10.1093/geronb/gbw094)
- Radloff, L. S. (1977). The CES-D scale: A self-report depression scale for research in the general population. *Applied Psychological Measurement*, 1(3), 385-401. doi:[10.1177/014662167700100306](https://doi.org/10.1177/014662167700100306)
- Silverstein, M., & Bengtson, V. L. (1997). Intergenerational solidarity and the structure of adult child-parent relationships in American families. *American Journal of Sociology*, 103(2), 429-460. doi:[10.1086/231213](https://doi.org/10.1086/231213)
- Silverstein, M., Gans, D., Lowenstein, A., Giarrusso, R., & Bengtson, V. L. (2010). Older parent-child relationships in six developed nations: Comparisons at the intersection of affection and conflict. *Journal of Marriage and Family*, 72(4), 1006-1021. doi:[10.1111/j.1741-3737.2010.00745.x](https://doi.org/10.1111/j.1741-3737.2010.00745.x)
- Suitor, J. J., Gilligan, M., Pillemer, K., Fingerman, K. L., Kim, K., Silverstein, M., & Bengtson, V. L. (2017). Applying within-family differences approaches to enhance understanding of the complexity of intergenerational relations. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 73(1), 40-53. doi:[10.1093/geronb/gbx037](https://doi.org/10.1093/geronb/gbx037)
- Suitor, J. J., Sechrist, J., Plikuhn, M., Pardo, S. T., & Pillemer, K. (2008). Within-family differences in parent-child relations across the life course. *Current Directions in Psychological Science*, 17(5), 334-338. doi:[10.1111/j.1467-8721.2008.00601.x](https://doi.org/10.1111/j.1467-8721.2008.00601.x)
- Umberson, D. (1989). Relationships with children: Explaining parents' psychological well-being. *Journal of Marriage and the Family*, 51(4), 999-1012. doi:[10.2307/353212](https://doi.org/10.2307/353212)
- 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. doi:[10.2307/353252](https://doi.org/10.2307/353252)
- Ward, R. A. (2008). Multiple parent-adult child relations and well-being in middle and later life. *The Journals of Gerontology, Series B: Psychological Sciences and Social Sciences*, 63(4), S239-S247. doi:[10.1093/geronb/63.4.S239](https://doi.org/10.1093/geronb/63.4.S239)
- Xie, Y., & Zhu, H. (2009). Do sons or daughters give more money to parents in urban China? *Journal of Marriage and Family*, 71(1), 174-186. doi:[10.1111/j.1741-3737.2008.00588.x](https://doi.org/10.1111/j.1741-3737.2008.00588.x)
- Yang, J., Ariela, L., Todd, J., & Zheng, Y. (2013). Intergenerational latent solidarity class and relationship quality among Chinese: Implications for self-reported health and well-being. *Acta Psychologica Sinica*, 45(7), 811-824. doi:[10.3724/sp.j.1041.2013.00811](https://doi.org/10.3724/sp.j.1041.2013.00811)
- Zhu, H., & Walker, A. (2018). Pension system reform in China: Who gets what pensions? *Social Policy & Administration*, 52(7), 1410-1424. doi:[10.1111/spol.12368](https://doi.org/10.1111/spol.12368)