

Evolving Parent-Adult Child Relations: Location of Multiple Children and Psychological Well-Being of Older Adults in China

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Abstract

Objective: This study examines the interplay among intergenerational emotional closeness, location of multiple children, and parental depressive symptoms in the context of massive migration in rural China.

Study design: This study is based on a longitudinal survey.

Methods: Longitudinal data were collected from a stratified random sample of age 60 and over living in rural townships within Chaohu, a primarily agricultural municipal district with massive out-migration in China. In 2009, 1224 individuals completed the survey, and 977 (79.8% of the original participants) were followed up in 2012. We estimate fixed-effects models to examine how changing collective emotional cohesion and the total composition of children's location affect parents' depressive symptoms.

Results: Descriptive analyses show that both the composition of children's location and intergenerational emotional closeness are subject to changes during a three-year survey interval. Results from fixed-effect models further demonstrate that collective emotional closeness and psychological well-being are positively associated with each other. This association is the strongest when all children are local but it becomes less prominent when there are more migrant than local children.

Conclusions: This study has provided important evidence that both intergenerational cohesion and location of multiple children evolve over time and jointly influence parents' psychological well-being in later life. The left-behind older adults are not necessarily the most vulnerable group in rural China. Those with most adult children living close by could also suffer from a deficit in psychological well-being if the emotional bond between them is weak.

Keywords: intergenerational relationships; migration; psychological well-being; China; older adults

INTRODUCTION

When examining psychological well-being in later life, one can hardly ignore the role of emotional bonds between parents and their adult children. A burgeoning literature has documented the linkage between intergenerational cohesion and parental well-being.¹⁻³ Close relations with children may directly improve emotional health of older adults, by strengthening feelings of self-efficacy and instilling a sense of intimacy and trust with offspring, while poor relationship quality or negative feelings toward children were found to be associated with psychological distress and declining quality of life.⁴⁻⁶ However, the quality of the relationship between parents and adult children is often challenging to characterize conceptually or methodologically. It is particularly true when parents have multiple children and may have ties of mixed quality. In addition, relationship can evolve over time as the circumstances of children or their parents change over the life course.

In this paper, we extend the existing line of research by focusing on two relatively underexplored aspects in the area of emotional closeness between parents and adult children, first, how *changes* in emotional closeness could elevate or diminish parental psychological well-being in later life, and second, the implications of intergenerational cohesion in the milieu of *multiple adult children*. The study is set in China, where intergenerational relations are historically strong and adult children have traditionally been the main source of old age support.^{7,8} The extent to which filial piety has undergone erosion in the era of rapid economic development and social changes have been a contentious topic among the public and scholars alike.^{9,10} In particular, the trend of massive rural-to-urban migration has received an enormous amount of attention. A recent report from the National Bureau of Statistics of

China estimated that about 277 million people have migrated from villages to cities in search of work, often leaving their elderly parents behind.¹¹ Numerous studies, examining the consequence of children's out migration on parental well-being, and have made considerable contribution to understand the well-being of left-behind elderly in the context of China's great migration.¹²⁻¹⁵ However, most of these studies focused on parent-child dyads, that is, whether the child is a migrant child or not, and further examined relations between the parent and that particular migrant or non-migrant child, without taking into consideration the location of other children.^{15,16} In order to get a complete picture of how intergenerational cohesion affects old age well-being, it is imperative to go beyond the dyadic relationship between parents and a single child, and to take multiple children into account.^{1,17} We, therefore, contribute to the existing literature by exploring the health implication of collective intergenerational relationship, both in its emotional cohesion and geographic proximity.

First, we maintain that collective emotional closeness between parents and adult children can be fluid in later life. Affectual solidarity, or feeling of emotional closeness, warmth and intimacy among family members is known as one of key dimensions of intergenerational solidarity, a concept that has been applied frequently on intergenerational relations and late-life well-being in the aging literature.^{18,19} The intergenerational solidarity theory treats intergenerational relationship as an "open and fluid concept", that is, the balance of intergenerational relations could change over the life course.^{20,21} However, compared with many studies focusing on changes in intergenerational exchange and support,^{16,20} relatively little attention has been paid to changes in intergenerational emotional cohesion, and it is often treated as fixed in empirical analyses. Using a two-waves longitudinal survey with a

three-year interval, we examine whether changes in collective emotional closeness between parents and all children lead to any subsequent changes in parental psychological well-being.

Second, we argue that it is not the geographic locality of a *single* child but the *composition* of all children's location that matters, and the connection between collective intergenerational cohesion and psychological well-being could be conditioned by the specific composition of all children's geographical location. Instead of just distinguishing migrant from non-migrant children in a dyad, we examine the compositional effects of migrant and non-migrant children, using a five-category typology that distinguishes those with *all local children* from those with a mixture of migrant and non-migrant children, to those with *all children migrated away*. Structural solidarity, often measured by geographic proximity between parents and children, is another key dimension of intergenerational solidarity.¹⁸ Many previous studies have examined the linkage between intergenerational geographic proximity and later-life well-being, especially focusing on children's migration.^{22–24} Some found that increasing geographical distance may negatively affect older parents' well-being since it disrupts traditional way of family interactions and leads to a decline in the probability of getting offspring support when parents are in need^{14,15,22}. Other studies also documented that migrant children maintain a strong commitment to their aging parents regardless of a lack of opportunity structure for support exchange,²⁵ with some reporting beneficial effects of children's migration, such as receiving more financial support from migrants than local children, buffering the negative effect of migration.^{12,16} However, relatively little research has examined the intersection of affectual and structural solidarity and their effects on parents' late-life well-being. We maintain that proximity could act as a “double-edged sword.” A high

level of intimacy between parents and adult children in general could translate into the biggest advantage for parents if all their children are in close proximity, but weak or distant relationships or relationships with mixed quality could be the most damaging for those parents with children all live close by. For parents with most children having migrated away, their connection may play a lesser role in affecting their emotional health.

METHODS

Sample

We use data from the 2009 and 2012 waves of a longitudinal study, “the Well-being of Older Adults in Anhui Province,” conducted jointly by the University of Southern California and Xi’an Jiaotong University in China. Data were collected from a stratified random sample of age 60 and over living in rural townships within Chaohu, a primarily agricultural municipal district with massive out-migration. Based on the latest census, the total numbers of population in Chaohu was 3.9 million in 2010 and among them 2.3 million were living in rural districts.²⁶ Since 2000, rural population has declined about 1 million, most of which were due to the rural-to-urban labor migration. In 2009, 1,224 individuals completed the survey, and 977 (79.8% of the original participants) were followed up in 2012. The primary reasons for sample attrition in between the waves were mortality and geographic relocation.²³ After excluding cases without children ($n = 50$), and those with missing values on variables ($n = 33$), the final analytical sample size was 894.

Measures

Dependent Variable. Psychological wellbeing was operationalized as depressive symptoms.

We use a subset (nine items) from the Center for Epidemiologic Studies-Depression (CES-D)

scale,²⁷ with three items indicating feelings of positive affect (happiness, enjoyment, pleasantness), two items indicating feelings of negative affect (lonely, upset), two items indicating feelings of marginalization (useless, nothing to do), and two indicating somatic symptoms (having poor appetite, having trouble sleeping). Frequency with which the respondent had experienced each symptom in the last week was coded as 0 (“rarely or none of the time”), 1 (“some of the time”), and 2 (“most of the time”). We reversed the coding of positive affective items, and then summed them all, which resulted in a CES-D score ranging from 0 to 18, with a higher score indicating higher level of depressive symptoms ($\alpha = 0.79$).

Independent Variables. One of our key independent variables is collective intergenerational emotional cohesion. Parents were asked to answer three questions adapted from the “Affectual Solidarity Inventory”²⁸ for each child. They were “Taking everything into consideration, how close do you feel to (this child)?”; “How much do you feel that (this child) would be willing to listen when you need to talk about your worries and problems?”; and “Overall, how well do you and (this child) get along together?”. These items were coded as 0 (not at all close/ not at all/ not at all well), 1 (somewhat close/ somewhat/ somewhat well), or 2 (very close/ very much/ very well). We summed them into a scale ranging from 0 to 6 for each child ($\alpha = 0.95$). We measure collective emotional cohesion by using the minimum score across children for both substantive and methodological considerations. First, previous studies using both the maximum or minimum of the quality of relations have consistently shown that negative feelings towards adult child had stronger associations with parental well-being than positive feelings.^{1,4,5}; Second, by using minimum values, we can better capture the intergenerational ties of mixed quality, while using maximum we may

underestimate the negative aspect of them which can be a source of distress or depressive symptoms.¹⁷

Another key independent variable is the composition of children's location within families. Following previous studies,^{13,14} children's migration was measured as a dichotomous variable, with "migrant children" defined as those who lived in different counties or cities from their parents, and "local children" as living with parents or living in the same village or county. By considering all children's migration status, we then categorize older parents into five distinct groups: 1) those with all local children; 2) those with more local than migrant children; 3) those with the same number of local and migrant children; 4) those with more migrant than local children; and 5) those with all children migrated away.

Control Variables. We control for a series of time-varying variables in the model.

Demographic predictors include marital status (married = 1), income (from work and pension, logged), and living arrangements (living alone = 1). Gender and number of children are excluded due to the nature of fixed-effect models (see later elaboration). Functional limitations were measured by asking respondents to indicate their level of difficulty (none = 0, some = 1, cannot do = 2) in performing 15 tasks of activities of daily living (ADL) and instrumental activities of daily living (IADL). We summed up 15 highly reliable items indicating functional health difficulties, resulting in a scale ranging from 0 (no health difficulties) to 30 (unable to perform) ($\alpha = 0.95$). Intergenerational support from adult children were widely discussed as important factors affecting aging parents' well-being in the later life.^{13,24} We measured adult children's support with two variables: monetary support and instrumental support. Monetary support was measured by the total amount of money parents

received from their children during the previous year. Instrumental support was measured as whether parents received any help in either household tasks or personal care from their offspring during the previous year.

Analytical Strategy

We estimate fixed-effects models to predict older parents' depressive symptoms by making use of the longitudinal data collected in 2009 and 2012. This analytic approach makes comparison *within* individuals at different time points, and effectively control for time invariant characteristics.^{29,30} Since our research of interests – emotional closeness, children' location, and depressive symptoms – change considerably between two waves, fixed effects models are preferred to conventional regression models.³⁰ The model can be specified as follows:

$$y_{ij} - y_{ij-1} = (\mu_j - \mu_{j-1}) + \beta(x_{ij} - x_{ij-1}) + (\epsilon_{ij} - \epsilon_{ij-1}),$$

where y_{ij} and y_{ij-1} represent the dependent variable (i.e., the depressive symptoms) of respondent i in 2011 and 2009 respectively. The terms μ and β indicate the intercepts and slope for time-varying variables for the respondent, like emotional cohesion and location of multiple children, and ϵ is the time-variant error terms. Any time-invariant characteristics (unobserved or observable, such as gender and number of children) drop out from the model automatically.

RESULTS

The descriptive statistics of all variables used in our analyses are presented in Table 1. The average score of depressive symptoms was 5.61 in 2009 while it slightly increased to 6.28 in 2012. As for emotional cohesion, it was relatively high, averaging 3.93 out of 6 in

2009 and 4 in 2012. The average scores showed little change over time. However, when we examined within-individual change across two time periods, we found that about two thirds of them experienced changes in emotional closeness from 2009 to 2012. Figure 1 shows that one third of older adults in our analysis has experienced increase in emotional closeness (on average from 2.90 to 4.91), another one third has experienced decline (on average from 4.82 to 2.87), and only one third of the sample has experienced no change in emotional closeness across two waves (on average 4.18). This finding suggests that intergenerational emotional closeness is not fixed, but could be subject to changes.

-Table 1 about here-

-Figure 1 about here-

Examining the composition of local and migrant children within families, we found that most parents had at least one child migrated away, and 14% of older parents had all children migrated in 2009 (see Table 2). With nearly half of older adults having experienced changes in the children's location, this suggests a high level of geographic mobility of adult children during this period.

-Table 2 about here-

Estimates of older parents' depressive symptoms from fixed-effects models are shown in Table 3. The fixed-effects models are nested, with the first model only including control variables, and the second adding intergenerational emotional closeness, the third model adding composition of local and migrant children, and the final one adding closeness \times composition interaction terms. After controlling for other variables, we observe that changes in collective emotional closeness are negatively associated with changes in depressive

symptoms, with increasing level of emotional closeness leading to a decline in depressive symptoms and vice versa. Interestingly, results from Model 3 show that the composition of local and migrant children is not statistically significant.

Although we did not find any independent effects of multiple children's location, results from Model 4 clearly suggest a joint effect with emotional closeness. We find that the effect of intergenerational emotional closeness on parents' psychological well-being is conditioned by the composition of local and migrant children. To aid interpretation, we present the interaction effects in a graphic form in Figure 2, which shows the predicted depressive symptoms of parents across intergenerational emotional closeness by different compositions of local and migrant children, with all covariates held at their mean values. The picture clearly shows that the association between collective emotional closeness and parents' depressive symptoms varies across different compositions of local and migrant children. The two flatter lines suggest that emotional closeness plays a relatively smaller role in predicting depressive symptoms of parents in these two groups (parents with more migrant than local children and all migrant children than other three). One-unit increase in emotional closeness with children decreases older parents' depressive symptoms by 0.55 when they have all local children. For parents with more migrant than local children, the effect reduces by almost 80% (0.13).

-Table 3 about here-

-Figure 2 about here-

DISCUSSION

As the volume of rural-to-urban migration increases astoundingly over the last two

decades in China, changes in both parents and adult children's lives are common and frequent. Accompanied by reconfigurations in children's geographical locations, emotional bonds between the generations can also evolve over time. In this paper, we provide evidence of how the psychological well-being of parents could be jointly influenced by changing collective intergenerational closeness and location of multiple children.

The paper contributes to the literature by treating intergenerational cohesion as a fluid concept, and by also taking multiple children into account. Given the trend of massive rural-to-urban migration in China, frequent changes in adult children's location are expected and observed in our sample. What has not been documented before is that collective emotional bond between parents and children is subject to change, rather than remaining stable over time. Indeed, two thirds of parents in our sample have experienced changes in their collective emotional closeness with children during the three-year interval. Our fixed-effect analyses later suggest that such changes in closeness are associated with changes in depressive symptoms.

Interestingly, the results in our study do not show significant differences in depressive symptoms by the geographical composition of local and migrant children. In contrast to the prior studies which documented either positive or negative effects of children's migration on older parents' well-being,^{13,14,22} we did not find an independent effect of location of multiple children on parental psychological well-being. It is possible that for families with multiple children, some children's migration may not necessarily disrupt older adults' life, as they may still enjoy other types of support from remaining family members such as spouse and local adult children.

Finally, we have found that the effect of collective emotional closeness on psychological well-being varies across different compositions of local and migrant children. The effect is strongest for parents with all local children but becomes much smaller for parents with more migrant or all migrant children. As two important dimensions of intergenerational solidarity, emotional closeness and proximity are interconnected but do not always correspond, and therefore their influences on psychological well-being are interactive rather than additive. Increasing independence of younger adults, decline in parental authority, and divergence in different generational expectation means that close proximity and emotional intimacy are not necessarily positively associated with each other and that living in close quarters could induce conflict instead.^{7,31} As some children migrate away, increasing distance could reduce tension and their improved economic well-being could also benefit their parents.^{5,12,16} As a result, a high level of intimacy is the most beneficial for those with most children living close by, but poor relationships could be the most damaging for the same group. The latter scenario has been reported in some qualitative studies that some older parents are not treated well by their co-resident or nearby children in rural China.^{31,32}

This study, however, is not without limitations. Although our use fixed-effects models can effectively account for individual-specific unobserved heterogeneities and thus focuses on time-varying characteristics of older adults, it does not directly establish causal ordering.³⁰ Also, one major cost of using fixed-effects models is that they cannot estimate coefficients for time-constant variables (e.g., gender and number of children)²⁹. Finally, by focusing on parent-child relationship as a collective, we do not examine each child's connection with the parent. In our future work, we plan to conduct multilevel analyses, with parent-child dyads

nested within each parent.

Despite these limitations, this study has provided important evidence that both intergenerational cohesion and location of multiple children evolve over time and jointly influence parents' psychological well-being in later life. The left-behind older adults are not necessarily the most vulnerable group in rural China. Those with most adult children living close by could also suffer from a deficit in psychological well-being if the emotional bond between them is weak. Given the complexity and heterogeneity of intergenerational relations, social policies should be designed to cater to the different needs of parents, taking into account the location of their multiple children. Future studies should further investigate the within-family differences in intergenerational relations and its volatility, as well as its implications for family division of old age parental support.

Author statements

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A version of this paper was presented at the 2016 annual meeting of Gerontological Society of America, New Orleans, LA.

Ethical Approval

Data collection was approved by Xi'an Jiaotong University Ethics Committee, and each participant was informed of the purpose of this research. Each participant in the study was voluntary and their privacy would be strictly protected.

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Competing Interests

None declared

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Table 1. Descriptive statistics of variables in the analysis and sample characteristics ($N = 894$)

Variable (Coding scheme and range)	2009		2012		
	Mean	S.D.	Mean	S.D.	
Dependent variable					
Depressive symptoms (0~18)	5.61	3.59	6.28	3.83	*
Independent variables					
Emotional closeness with children (0~6)	3.95	1.66	4.00	1.66	
Composition of local and migrant children					
All local children	0.22	0.42	0.19	0.39	
# of local > # of migrant children	0.25	0.43	0.24	0.43	
# of local = # of migrant children	0.13	0.34	0.14	0.35	
# of local < # of migrant children	0.25	0.43	0.26	0.44	
All migrant children	0.14	0.36	0.17	0.37	
Control variables					
Married (Married=1; Unmarried=0)	0.67	0.47	0.63	0.48	*
Income (log+1) (0~11)	5.19	3.82	7.65	1.27	*
Living alone (Yes=1; No=0)	0.19	0.39	0.23	0.42	*
Functional limitations (0~30)	2.69	5.30	4.75	6.93	*
Monetary support from children (log+1) (0~11)	6.86	2.12	4.85	2.91	*
Instrumental support from children (Yes=1; No=0)	0.27	0.45	0.23	0.42	*
Sample characteristics in 2009					
Age (60~96)	71.78	7.49	-	-	
Female (Female=1; Male=0)	0.52	0.50	-	-	
Education (Some formal education=1; No education=0)	0.34	0.48	-	-	
Number of sons (0~7)	2.01	1.12	-	-	
Number of daughters (0~7)	1.80	1.22	-	-	

*Indicates a significant difference ($p < 0.05$) between two waves based on chi-square test or t-test

Table 2. Changes in the composition of local and migrant children, 2009-2012 ($N = 894$)

2009	2012				
	1	2	3	4	5
1. All local children	12%	5%	2%	2%	1%
2. # of local > # of migrant children	3%	13%	3%	4%	2%
3. # of local = # of migrant children	2%	1%	6%	3%	1%
4. # of local < # of migrant children	1%	4%	1%	14%	5%
5. All migrant children	1%	1%	2%	3%	8%

Table 3. Fixed-effects coefficients predicting parents' depressive symptoms, 2009-2012

	Model 1		Model 2		Model 3		Model 4	
Intercept	5.07	***	6.24	***	6.39	***	7.29	***
	(0.59)		(0.64)		(0.69)		(0.84)	
Control variables								
Married	0.69		0.73		0.74		0.72	
	(0.66)		(0.65)		(0.65)		(0.65)	
Income (log+1)	0.00		0.01		0.01		0.01	
	(0.03)		(0.03)		(0.03)		(0.03)	
Functional limitations	0.20	***	0.20	***	0.20	***	0.20	***
	(0.02)		(0.02)		(0.02)		(0.02)	
Living alone	0.59		0.55		0.56		0.54	
	(0.42)		(0.41)		(0.42)		(0.42)	
Monetary support from children (log+1)	-0.08	*	-0.08	*	-0.08	*	-0.08	*
	(0.04)		(0.04)		(0.04)		(0.04)	
Instrumental support from children	0.09		0.12		0.10		0.13	
	(0.24)		(0.24)		(0.24)		(0.24)	
Emotional closeness with children			-0.32	***	-0.31	***	-0.55	***
			(0.07)		(0.07)		(0.15)	
Composition of local and migrant children (ref.: all local children)								
# of local > # of migrant children					-0.25		-1.08	
					(0.36)		(0.80)	
# of local = # of migrant children					-0.13		-0.69	
					(0.43)		(0.90)	
# of local < # of migrant children					-0.11		-1.74	*
					(0.40)		(0.85)	
All migrant children					-0.38		-1.72	†
					(0.45)		(0.99)	
Interactions (ref.: all local children)								
Closeness x # of local > # of migrant children							0.22	
							(0.19)	
Closeness x # of local = # of migrant children							0.15	
							(0.22)	
Closeness x # of local < # of migrant children							0.42	*
							(0.19)	
Closeness x All migrant children							0.35	†
							(0.21)	
N of individuals	894		894		894		894	
N of person-year observations	1,788		1,788		1,788		1,788	

† $p < 0.10$; * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

Figure 1. Changes in collective intergenerational closeness between 2009 and 2012 ($N = 894$)

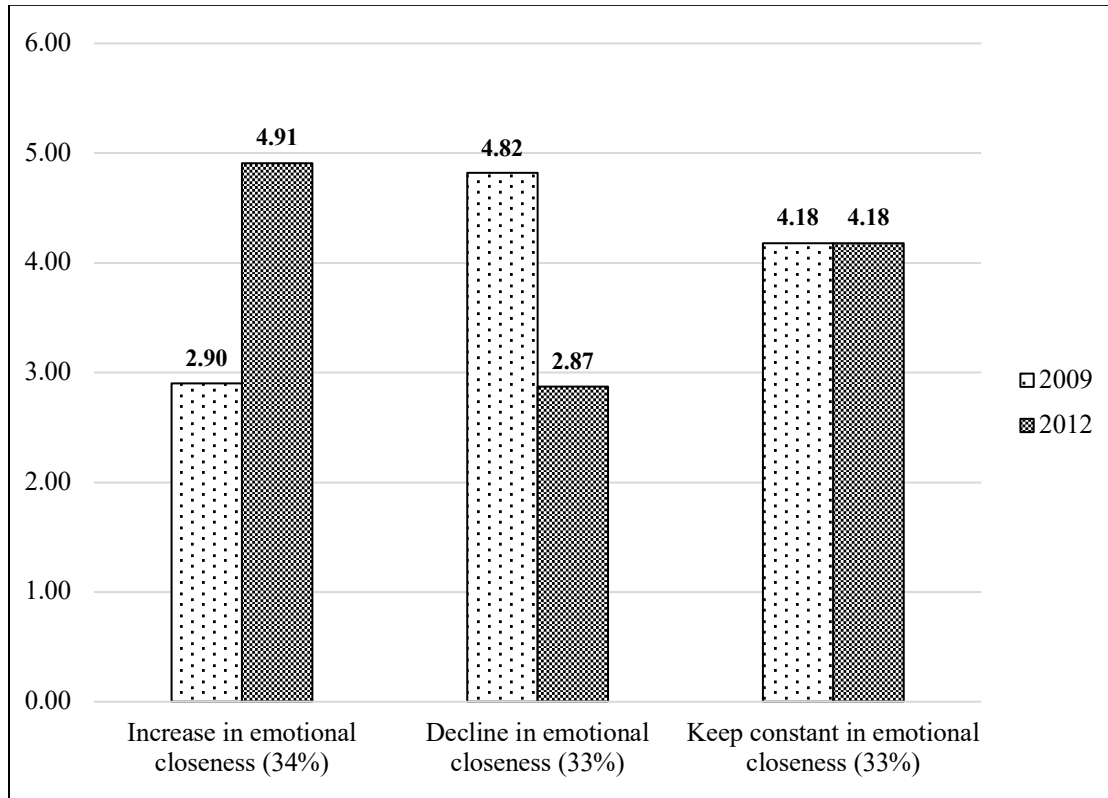


Figure 2. Predicted depressive symptoms of parents across emotional closeness with children, by composition of local and migrant children, 2009-2012 ($N = 894$)

