Marital Status Transitions and Patterns of Intergenerational Co-residence among China's Elderly

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INTRODUCTION

The current study examines whether stability and change in marital status among the very old in China, and in particular the incidence of widowhood, triggers particular responses in co-residence. The significance is based on the notion that widowhood transitions may be particularly consequential and fraught with risk in developing country contexts where social welfare systems are weak and older adults are highly dependent upon children and other close kin to provide not only social and emotional, but also economic support. Yet, only a handful of studies have examined whether widowhood relates to subsequent changes in social and economic support arrangements and whether these changes impact on overall well-being. China represents a particularly interesting setting for the analysis since it is a country in the midst of extensive social change that is social, demographic and economic, and that portends to alter age-old systems of old age security and intergenerational support (Kaneda 2006; Logan and Bian 2003). Co-residence with adult children has long been a prominent mode of support for the aged in China; however some maintain that declining fertility and rising geographic mobility threaten to undermine informal intergenerational supports like co-residence. We hypothesize that older adults' probability of co-residence with an adult child will increase following the loss of a spouse, and our preliminary regressions indicate that this is the case. This positive association is robust across the gender and completed family size. The pattern of results suggests that Chinese older adults, including both men and women, and those with many children and few, are able to turn to child co-residence as a form of support when they have lost the support and companionship of their spouse.

BACKGROUND

Population aging is proceeding quickly in China and as a result sizable segments of the population will encounter widowhood in the coming decades. In addition, increasing longevity and a one-child policy is resulting in a so-called "4-2-1" problem; that is, a family structure consisting of four older grandparents, two adult children, and one younger grandchild. This structure is predicted to lead to a large number of older adults relying on support from a small number of adult children and grandchildren (Jiang 1995; Kaneda 2006). How the country will cope with this imbalance is difficult to anticipate. Certainly, voices from academic and policy circles have raised concern that changes in Chinese society, including rapid declines in fertility, as well as changing attitudes, consumption behaviors and living arrangements associated with marked urbanization, development and global integration, will lead to isolation, risk and abandonment of older adults by children whose filial piety is diminished (Gu, Dupre, and Liu 2007; Zhan, Liu, and Bai 2006). Although some studies have countered these arguments with evidence of enduring family cohesiveness, the fate of certain, potentially vulnerable subsets of China's elderly population, including widows and widowers, has not been well documented.

Elsewhere, past research on widowhood has focused mostly on health and mortality outcomes of surviving spouses. These studies have demonstrated that widowhood transitions influence health trajectories, but more so for men than women, and that negative health-related consequences of widowhood emerge not only as a result of stresses associated with loss of a spouse, but also related changes in economic and social support relations (Dupre and Meadows 2007; Gove and Shin 1989; Umberson; Elwert and Christakis 2006; Schaefer et al. 1995; Zick and Smith 1991). While of vast importance, given the centrality of the family for receipt of

social and economic support in old age, the implications of widowhood for intergenerational support relations in Asia, and China in particular, remain poorly understood. The limited research that is applicable to our study suggests that widowhood experiences in China are shaped by parent-child relations. For instance, Yang and Victor (2008) examine determinants of loneliness among Chinese elderly and find that widowhood is a powerful predictor. Li and colleagues (2005) examine depressive symptoms among elderly Chinese in Wuhan, Hubei, who lost a spouse and those who remained married, and consider whether the nature and source of social support prior to widowhood influenced depressive outcomes. Their results indicate that receiving support from spouses during marriage exacerbated the stress of widowhood, whereas receipt of support from children provided for a buffering effect following widowhood. Like Chou and Chi's (2000) study of Chinese elderly depressive responses to widowhood in Hong Kong, Li et al. did not observe a gender difference in the effect of widowhood on depressive symptoms in China.

Theoretically, our paper develops a framework rooted in a notion of Chinese families as both altruistic toward their members and highly adaptable in the face of change. Thus, although preferences for residential arrangements are changing, with heightened preference for independent, nuclear households emerging among both older and younger generations, family members adapt and cooperate to meet particular needs, for instance the need to ensure the care of older adults (Logan and Bian 2003; Zimmer et al. 2008). Since family strategies are flexible, yet geared toward altruism, we hypothesize that older adults will be most likely to enter into co-residential arrangements when their circumstances are reflective of need for support from children. Deteriorating physical conditions, limited financial means, the absence of other kin supports, and most importantly for the current analysis – becoming a widow or widower – are conditions or events that point to relatively need and dependence upon the assistance of others. As co-residence has been the most prevalent means of providing regular support and assistance to aging parents, we hypothesize that it will vary in accordance with widowhood and other facets of older adulthood suggestive of physical, economic or social relational vulnerability.

DATA & METHODS

Data are from the Chinese Longitudinal Healthy Longevity Survey (CLHLS), which began in 1998 with a sample of about 9,000 older adults, aged 80+ in 22 provinces that cover 85% of the total population in mainland China. Beginning in 2002, and again in 2005, the CLHLS was expanded to include older adults 65 to 79, in addition to the ongoing panel of oldest old. The CLHLS oversampled those in very old age groups, for instance centenarians, hence the results do not represent the entire population aged 65 and older in the sampled provinces.

Besides allowing us to analyze a large, probability sample of older adults in China, the CLHLS offers features that are well-suited to the question at hand. First, the longitudinal nature of the data provides for a prospective framework of analysis. Re-interviews of significant proportions of respondents allow us to consider how changes in marital status across time are associated with changes in residential arrangements across the same points in time. Second, the CLHLS systematically utilizes child- and household rosters across waves of data collection, thus allowing us to delineate numbers of living children (i.e., the supply of potential co-residers) as well as numbers and types of resident kin (e.g., in-laws and grandchildren) whose presence in the elder's household may either encourage or lessen child co-residence. Third, while the CLHLS was expanded in 2002 to collect data on young elders age 65 to 79, it began, in 1998, as a study

of China's "oldest old," i.e., persons age 80 and older. This approach benefits the current study by creating a sizable sample of all older adults (i.e., persons 65 and older), including an oversampling of the elderly population most susceptible to the experience of widowhood (i.e., the oldest old).

In order to measure changes in co-residence, we treat each segment of time between CLHLS survey waves as an observation period and stack data that covers each wave and subsequent follow-up. This creates 15,649 person-interval records. We omit older adults who had never been married or were divorced at the time of the survey, those without children, and those with missing data on key independent variables such as functional limitations. This reduces the analytical sample, to 14,474. Re-interviewing means that older adults may have up to three person-interval records in the stacked data set. Thus, we utilize robust standard error estimation in our multivariate logistic regression analyses of parents' co-residence with children to account for clustering at the individual level.

Co-residence is our outcome of interest. It is constructed by referring to the household roster in each survey wave and measured as co-residence at time two controlling for co-residence at time one. The consideration of co-residence at an earlier time point means that the outcome is referring to a transition in co-residence. We adopt as our focal independent variable a measure of marital status which captures change across time. Specifically, we compare older adults' marital status at time one and again at time two, and define marital status transitions as follows: married at time one and time two; married at time one, widowed at time two; widowed at time one and time two; widowed at time one, married at time two. The multivariate analysis considers a series of additional covariates. As the presence of other kin is likely to influence the propensity of older adults to co-reside with children, we use the household roster to derive measures of the presence of children in-law or grandchildren in the household at time one. Other controls include number of living children, age, education, occupation, and ADL limitations.

PRELIMINARY RESULTS

In Table One we present descriptive statistics for our analytical sample. Note that we present data on adult characteristics at Time One (1998, 2000 or 2002) for older adults who appeared in at least 2 consecutive CLHLS waves. Also note that sampling procedures result in a sample distribution that is nonrepresentative of the elderly population in sampled provinces. Highlighting marital status and marital status transitions, over half of older adults in the sample were still married (or temporarily separated from a spouse) at time one (i.e., the first time they entered the sample). Despite the relatively small window of time that we use to assess marital and coresidence transitions (i.e., two to three years), we observe over 7% of married adults at time one becoming widowed by time two, and approximately 2% of widowed adults at time remarrying by time two. We expect that these pivotal life course events will contribute to rearrangement in older adults' residential situations. It is this question that we address in the multivariate analyses.

[Insert Table One about here]

We analyze parent-child co-residence in dynamic fashion, using logistic regression analysis to model the odds of an older adult co-residing with a child at time two, while holding constant

child co-residence at time one. Results, in the form of odds ratios and robust standard errors, are shown in Table Two.

[Insert Table Two about here]

In the bottom panel of Table Two we present odds ratios for movement into child coresidence arrangements associated with marital status transitions. The results are consistent with our expectations. Specifically, we observe that older adults that have been recently widowed are significantly more likely than those who remain married to enter into a parent-child co-residence situation. Conversely, those who shift from widowed to remarried are less likely that those who remain married to enter into a coresidence situation. The odds ratio for those who remain widowed suggests that, over time, the widowed are inclined to adopt a co-residential living arrangement with at least one adult child. We include in a second model a set of interacted terms, in which coresidence at time one is interacted with marital status transition between time one and time two. We do this to determine whether widowhood has a greater or lesser impact on those already coresident at time one. The results indicate a lesser impact (OR 0.42; $p < .01$). However, the main effects of coresidence and becoming widowed both remain positive and significant as well. Predicted probabilities for adult child coresidence according to older adults' marital status and ADL status transitions are summarized in Figure One. While transitions to widowhood and declines in functional status heighten the probability of becoming coresident with a child, these coresidence transitions are rather robust across numbers of surviving children (as shown across the three sets of probabilities). Gender of the parent (analyses not shown) does not condition the relationship between status transitions and entrance into a parent-child coresidence situation.

[Insert Figure One about here]

As far as other effects are concerned, those who were employed in the professional-managerial-governmental sector are less likely to coreside with adult children, while those who worked primarily as housewives, rather than in the formal labor market, are more likely to coreside with adult children. Place of residence is also significant, with older adults in urban areas being significantly less likely than their rural counterparts to coreside with adult children. Each of these results is consistent with a picture of movement away from co-residence traditions among populations in more modernized regions of the country and sectors of the economy. This pattern of results is consistent with that observed in other analyses of Chinese elderly populations (Zimmer and Korinek 2008). Disability status and change in functional limitations over time are also relevant to older adults' changing residential arrangements. Specifically, the logistic regression results suggest that older adults are more likely to enter into a coresidential living arrangement if they have recently experienced a worsening in their functional status. This pattern of results is consistent with our over-arching theoretical perspective that suggests co-residence is a supportive residential arrangement into which older adults can and do enter when desired or necessary. The worsening of one's functional status, and hence the greater limitations faced in handling tasks of daily living, represents an entrance into greater physical dependency and thus greater need for instrumental support from adult children. It is not surprising, then, that worsening ADLs are associated with greater odds of child co-residence.

DISCUSSION & PLANS FOR FURTHER ANALYSIS

Preliminary analyses of the CLHLS provide evidence that supports our hypothesis that widowhood triggers changes in co-residence. The results presented here, however, only begin to explore the gendered quality of parent-child support relations. Logistic regression analyses indicate that the formation of an intergenerational co-residence is not influenced by the gender of the parent who has been widowed. We recognize that older adults in China have relied primarily upon sons, more so than daughters, to ensure security in old age (Chen and Silverstein 2000). Therefore, the full analyses will include an examination of the gendering of parent-child co-residence dyads to ascertain whether sons or daughters are more likely to enter into co-residence with a surviving mother or father following the death of a parent. This approach, we hope, will shed light on how China's patrilineal traditions shape sons' and daughters' responsiveness to parents' needs for support in older adulthood generally, and widowhood specifically. The current analyses will also be extended through analyses of additional dimensions of intergenerational support and changes therein following elderly parents' entrance into widowhood. Specifically, we plan to incorporate other modules of the CLHLS to examine whether marital status transitions contribute to changes in older adults' emotional support relations with children and other kin, as well as changes in the net flow of financial resources to and from older adults and their adult children.

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Figure One. Predicted Probability of Coresiding with a Child(ren) at Time 2, Given No Children Coresiding at Time 1, By Marital & Functional Status (Source: Chinese Longitudinal Healthy Longevity Survey)

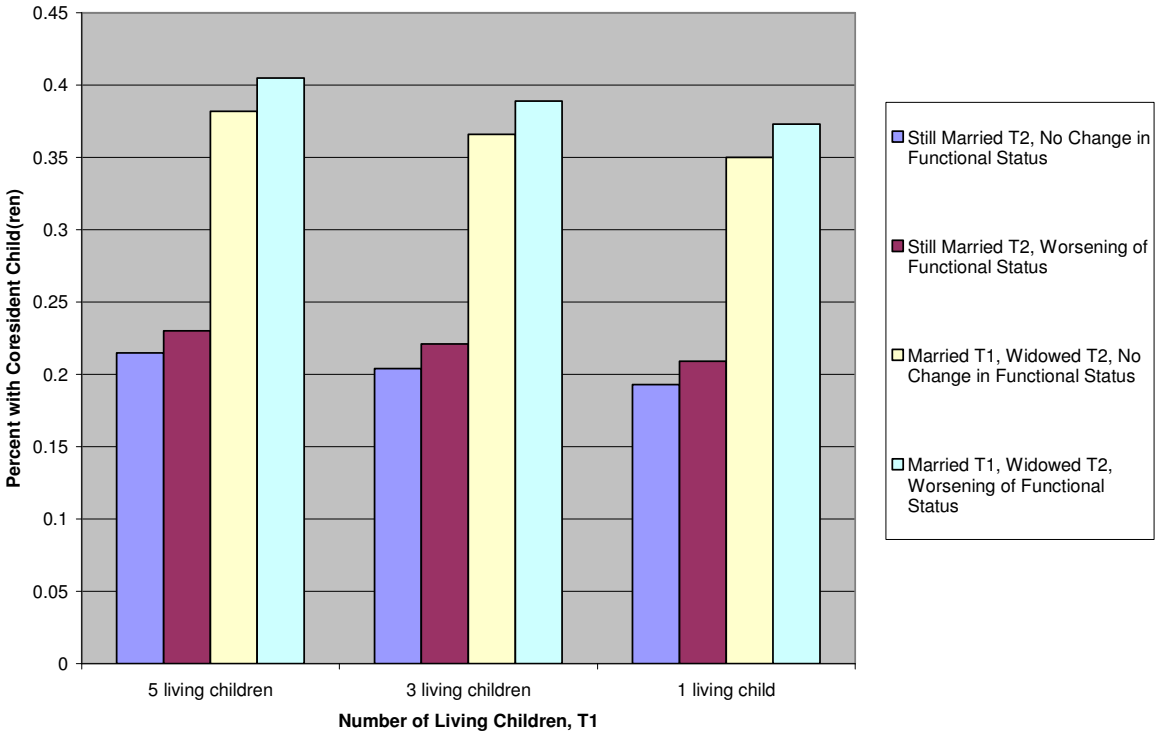

Table One. Descriptive Statistics for Older Adults Surviving and in Sample in Subsequent Wave, 1998-2005

	Time 1		Time 2	
	%	N	%	N
Sex				
Male	45.3	4,338	--	--
Female	54.7	5,247	--	--
Age Category				
60-69	13.5	1,290	--	--
70-79	25.6	2,457	--	--
80-89	33.8	3,238	--	--
0-99	17.3	1,660	--	--
100+	9.8	939	--	--
Residence (check, coding changed over years)				
City	25.3	2,426		
Town	29.8	2,857		
Rural	44.9	4,301		
Education Level				
No formal schooling	57.8	5,539	--	--
1-6 years	31.1	2,977	--	--
7+ years	10.8	1,031	--	--
Missing	0.4	38	--	--
Main Occupation Prior to Age 60 (these will be combined into cats)				
Professional/Technical/Govt/Military workers	10.7	1,024	--	--
Agriculture/Forestry/Fishery workers	25.8	2,469	--	--
Industrial workers	47.0	4,507	--	--
Commercial or Services worker	10.3	989	--	--
Housework	4.3	414	--	--
Other/Missing	1.9	182	--	--
Total Living Children at Baseline (1998, 2000 or 2002)				
Zero	38.1	3,651	--	--
One to Two	45.8	4,389	--	--
Three to Four	8.5	816	--	--
Five to Six	5.5	526	--	--
Seven or More	2.1	203	--	--
Number of Children Coresident in Same House as Elderly Respondent				
None	45.8	4,388	45.5	4,365
One	50.3	4,816	51.4	4,923
Two or More	4.0	381	3.1	297
Number of Sons Coresident in Same House as Elderly Respondent				
None	53.7	5,142	53.4	5,119
One or More	46.4	4,443	46.6	4,466
Number of Daughters Coresident in Same House as Elderly Respondent				
None	90.9	8,715	91	8,726
One or More	9.1	870	9	859
Marital Status				
Married/Separated	40.6	3,828	35.1	3,317
Widowed	59.4	5,592	64.9	6,132
Change in Current Marital Status, t1-t2				
Married, T1 and T2	33.5	3,147	--	--
Widowed T1 and T2	57.6	5,410	--	--
Married T1, Widowed T2	7.1	671	--	--
Widowed T1, Married T2	1.8	166	--	--
Mean ADL Index Score (number and weighted by severity)	0.42	9,553	0.93	9,577
Change in ADL Index Score, T1-T2				
Improvement in Functional Status (lowering of score)	8.2	781	--	--
No change	73.4	7,002	--	--
Decline in Functional Status (increase in score)	18.5	1,762	--	--

Source: Chinese Longitudinal Healthy Longevity Survey

Table Two. Logistic Regression Analysis, Coresidence with Any Children, 2000, 2002 and 2005, Stacked Data, Older Adults 65+, CLHLS

	Coresidence at Time One		Coresidence at Time Two			
	Model 1		*Model 2*		*Model 3*	
	Any Child Coresident, T1 (vs. No Children Coresident, T1)		Any Child Coresident, T2 (vs. No Children Coresident, T2)		Any Child Coresident, T2 (vs. No Children Coresident, T2)	
Older Adult Characteristics at Time One:	Odds Ratio	Robust S.E.	Odds Ratio	Robust S.E.	Odds Ratio	Robust S.E.
Total Living Sons, t1	1.77	0.05	1.02	0.02	1.02	0.02
Total Living Daughters, t1	1.01	0.02	1.02	0.02	1.02	0.02
Any coresident child-in-law, t1	--	--	1.10	0.06	1.09	0.06
Any coresident grand child, t1	--	--	1.15*	0.06	1.19**	0.07
Older Adult is Female (ref. male)	1.06	0.04	0.94	0.05	0.94	0.05
Age at T1: 60-69 (ref: 80-89)	1.45***	0.09	0.89	0.08	0.88	0.08
Age at T1: 70-79 (ref: 80-89)	1.26***	0.06	.86*	0.06	.85*	0.06
Age at T1: 90-99 (ref: 80-89)	1.22***	0.05	1.03	0.06	1.02	0.06
Age at T1: 100-109 (ref: 80-89)	1.29***	0.06	0.95	0.07	0.94	0.07
Place of Residence T1: City (ref. rural)	0.97	0.04	.85**	0.05	.85**	0.05
Place of Residence T1: Town (ref. rural)	0.97	0.03	0.91	0.05	0.91	0.05
Educational Attainment - 1-6 years (ref. no formal schooling)	0.99	0.04	0.98	0.05	0.98	0.05
Educational Attainment - 7+ years (ref. no formal schooling)	0.94	0.07	0.96	0.08	0.97	0.08
Educational Attainment - dk/missing (ref. no formal schooling)	0.95	0.19	1.06	0.35	1.05	0.35
Main occupation before age 60: Prof/Managerial/Govt (ref: agr)	.74***	0.05	.78**	0.07	.77**	0.07
Main occupation before age 60: Industrial worker (ref: agr)	1.18***	0.05	0.98	0.06	0.98	0.06
Main occupation before age 60: Commercial/Services Worker (ref: agr)	1.03	0.06	0.96	0.07	0.96	0.07
Main occupation before age 60: Housework (ref: agr)	1.11	0.08	1.19*	0.09	1.19*	0.10
Main occupation before age 60: Missing/DK (ref: agr)	1.03		1.15	0.18	1.16	0.18
ADL Index Score, t1	1.03***	0.01	1.00	0.01	1.00	0.01
Change in ADL Index Score, t1-t2	--	--	1.03***	0.01	1.03***	0.01
Any Coresident Child, t1	--	--	11.3***	0.68	10.6***	0.98
Marital Status T1 - Widowed (ref. Married)	2.84***	0.12	--	--	--	--
Marital Status Change: Widowed t1 & t2 (ref. married t1 & t2)	--	--	2.14***	0.12	1.91***	0.15
Marital Status Change: Married t1, Widowed t2 (ref. married t1 & t2)	--	--	2.87***	0.28	3.74***	0.40
Marital Status Change: Widowed t1, Married t2 (ref. married t1 & t2)	--	--	.63**	0.12	1.57	0.39
Any Coresident Child T1 * Marital Status Change: Widowed t1 & t2	--	--	--	--	1.22*	0.12
Any Coresident Child T1 * Marital Status Change: Married t1, Widowed t2	--	--	--	--	.42***	0.07
Any Coresident Child T1 * Marital Status Change: Widowed t1, Married t2	--	--	--	--	.29***	0.09
N	27,739		14,474		14,474	
Pseudo R2	0.11		0.28		0.28	
Log Pseudolikelihood	-16218.63		-7001.32		-6972.7	
BIC	-251144.6		-124410.8		-124439.4	

Source: Chinese Longitudinal Healthy Longevity Survey