

INTRODUCTION

Having relied upon spousal support and companionship throughout adulthood, widowhood often marks the onset of pivotal changes in older adults' social and economic support arrangements. While this is true in any society, widowhood transitions are particularly consequential and fraught with risk in developing country contexts where pension and other social welfare systems are weakly developed and older adults are highly dependent upon children and other close kin to provide not only instrumental and emotional, but also economic, support. One such context is China. China presents a particularly interesting case given its rate of economic development and concomitant social change coupled with rapid population aging, where the size of the elderly population will continue to rise dramatically in coming decades to number approximately 330 million by the year 2050, creating multitudes of widows and widowers in the process (Kinsella and Velkoff 2001; Poston and Duan 2000). The scale of this social and demographic transition, occurring in myriad countries across the developing world, portends to transform the informal, family based systems of old-age security which have historically ensured the wellbeing of the elderly (Kinsella and Phillips 2005). China's unique policy and cultural environment notwithstanding, its size and its dramatic pace of demographic and economic change may make it a bellwether for the trends in older adult support and coresidence arrangements emerging across many developing societies currently witnessing rising longevity and transition to low and below replacement fertility; the sheer size of its population and its current and growing social and economic influence within the region and across the world make it a prime case study.

Recent research in China has illuminated the determinants of intergenerational co-residence (Zimmer 2005). The forces affecting transitions in living arrangements among China's elderly remain poorly understood, however (Zeng et al. 2002). A range of studies have examined marital status as a static independent variable in cross-sectional analyses of older adult living arrangements (e.g., Cooney and Shi 1999; Stinner, Xu, and Wei 1992; Zhang 2004). Far fewer have utilized prospective, longitudinal approaches to consider how later life transitions into widowhood and other states of relative need impact adaptations in supportive living arrangements. Specifically, questions remain as to whether widowhood is followed by changes in residential arrangements, whether transition to widowhood precipitates different living arrangements for elderly men versus women, and how conditions vary for son as opposed to daughter co-residence. The current study assumes that these adjustments are shaped by broader societal and cultural contexts, as well as older adults' social status positions and the structures of their familial and friendship networks. Within this framework, the study draws upon the Chinese Longitudinal Healthy Longevity Surveys, 1998-2005, and provides a set of dynamic analyses of parent-child co-residence in order to generate insights into the adaptability and durability of traditional modes of old-age support. It does this by investigating stability and change in marital status among older adults in China, and in particular whether the onset of widowhood triggers shifts in intergenerational co-residence and whether these shifts vary by gender and across families of different sizes and structures.

Longitudinal analyses which examine transitions in coresidence preceded by other influential health and social relational transitions promise to shed light on the motivations and constraints that inform living arrangements in older adulthood. For many older adults and their children, the onset of widowhood places concerns about weakened intergenerational support

relations and rising care-giving burdens into sharp relief. Studies have documented a secular decline in parent-child co-residence in China, and elsewhere in the Asia Pacific, in recent decades (Xin and Chuliang 2008). Aside from these trends, if co-residence remains a reliable form of intergenerational support it should emerge in those contexts when older adults become more vulnerable and less self-sufficient, such as when functional health worsens, or when widowhood leaves an older adult alone and bereaving.

WIDOWHOOD AND LIVING ARRANGEMENTS

Like much of the developing world, and in particular the Asia-Pacific region, population aging is proceeding at a rapid pace in China and as a result sizable segments of the population will encounter widowhood in the coming decades (Yi and George 1999). In addition, increasing longevity and the one-child policy are resulting in a so-called “4-2-1” situation; that is, family structures consisting of four older grandparents, two adult children, and one younger grandchild (Jiang 1995; Kaneda 2006). Although not nearly descriptive of China’s family structural diversity under the one-child policy, the tendency toward this structure is predicted to lead to a large number of older adults relying on support from relatively small numbers of adult children and grandchildren. In addition, it raises questions as to the durability of families in fulfilling elderly support needs and the potential demand for alternative forms of assistance in coming decades. Welfare of parents has long been considered to be a primary concern of adult children (Whyte 2003a). Yet, emerging demographic realities threaten to strain intergenerational supports and deeply entrenched filial obligations. How policy-makers and Chinese families will cope with this imbalance is difficult to anticipate. Voices from academic and policy circles have raised concerns 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 fates of certain, potentially vulnerable subsets of China's elderly population, including widows and widowers, have not been sufficiently addressed.

China's elderly have shifted toward increasingly independent living arrangements in recent decades, such that increasing proportions of older adults do not live with any adult children, and many of these live alone (Shengming, Chen, and Yang 2003; Xin and Chuliang 2008). Analyses of the Chinese Longitudinal Healthy Longevity Survey (CLHLS) indicate that although most oldest-old adults live with children, a notable minority (ranging from 6% to 13%), among them octogenarians and nonagenarians, live alone (Zeng 2004). That many lone resident oldest-old in China also do not have children living nearby suggests several possibilities. The first is that the older adults in question are relatively independent and prefer living at some distance from adult children, adopting a so-called "divide but not depart" arrangement which permits continued support, but from a preferred distance (Shengming, Chen, and Yang 2003). A second possibility is that a subpopulation of the oldest old relies not upon children, but upon other kin (especially grandchildren), nonrelatives, and more formal institutions for social and instrumental support. A third possibility is that some segment of this elderly population experiences living arrangements that result in deficits of care and support. All three of these possibilities are likely to characterize some segment of China's oldest-old population that lacks a co-resident adult child. An examination of the period following the death of one's spouse is critical for deciphering these possibilities, for if child co-residence remains a viable form of

elderly support it is at this point that we expect parental need to be great, filial children to be responsive, and living arrangements to change accordingly.

On a range of dimensions, older adult wellbeing varies along lines of gender and this marked variation has the potential to be exacerbated during the transition to widowhood. For instance, older females are more likely to be reliant upon the economic resources of spouses and to experience financial instability when their spouses die (Gu and Liang 2000; Li et al. 2005). At the same time, men's networks of support, in particular ties to children, are thought to be fostered by the kin-keeping roles fulfilled by their wives (Kalmijn 2007; Yount 2005). Thus, older men's kinship ties may be rendered more tenuous when a wife dies. Previous CLHLS analyses indicate a greater propensity of oldest-old women to be living alone compared to their male counterparts, suggesting disproportionately vulnerable living arrangements for oldest-old women linked to their greater tendency to be widowed and their relatively lengthy durations of widowhood (Zeng 2004). Moreover, it is estimated that within the next 20 to 30 years, approximately one-quarter of Chinese women will be elderly, and gender differentiated health, education and labor market outcomes in China suggest that this elderly female population will be disproportionately widowed, poorly educated, and financially insecure as compared to their male counterparts (Liu 2004; Poston and Min 2008). From the younger generation's perspective, son co-residence has long been favored under patriarchal traditions (Whyte 2003a). The combination of declining fertility with marked urbanization and migration processes, which increasingly places smaller numbers of adult children at a growing distance from elderly parents, raise questions as to whether and in which circumstances co-residence will occur, whether son preference in co-residence will persist, and whether co-residence with daughters will take place more often to meet the needs of elderly parents.

Across international contexts, much past research on widowhood has focused on the health and mortality outcomes of surviving spouses. Many of 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 due to related changes in economic and social support relations (Dupre and Meadows 2007; Gove and Shin 1989; Schaefer, Quesenberry, and Wi 1995; Sudha et al. 2006; Umberson; Elwert, and Christakis 2006; Zick and Smith 1991). Among Chinese populations in Hong Kong and mainland China, widowhood has been observed to heighten morbidity and mortality risks among the elderly in general, and the oldest-old specifically (Ho 1991; Li 2005; Poston and Min 2008). The positive relationship between widowhood and poor functional health and mortality suggests that surviving family members, especially adult children, may be central to the creation of residential arrangements that provide economic security, as well supportive social and care-giving relations, to bereaving and potentially isolated parents. This much is suggested in recent research conducted in the U.S. which finds that widowed older adults are not, as a group, more isolated than their younger counterparts. Although the death of a spouse results in the loss of a critical primary tie, widowhood is otherwise associated with relatively dense social networks and frequent contact with network members (Cornwell, Laumann, and Schumm 2008). Some scholars find that depression among bereaving widows and widowers in China is buffered by socially supportive adult children (Li et al. 2005). Recent analyses finding that household and emotional support, especially when delivered by co-resident and proximate resident children, lessens mortality risks among rural elderly Chinese suggest that intergenerational co-residence can be protective of older adult health and wellbeing (Zhang, Li, and Silverstein 2005). Accordingly, scholars and

policy-makers alike can gain valuable insights from studies of living arrangement shifts that follow in the wake of transitions to widowhood.

THEORETICAL FRAMEWORK AND HYPOTHESES

The theoretical framework which guides our analysis is one of family altruism, a perspective adopted and modified from theories of family economy (Becker 1974; Frankenberg, Lillard, and Willis 2002). This perspective emphasizes altruistic motivations for ensuring wellbeing of the family collective as guiding children's relations with elderly parents in China (Whyte 2003a). Chinese families are conceived as cooperative entities in which members are collectively adaptable and their behaviors responsive to changes in others' needs. Long extolled as the upmost virtue in Chinese society, filial piety is thought to be expressed most clearly in adult children's provision of care to their elderly parents (Ikels 1993). First and foremost, young people are expected to take care of their aging parents, an expectation commonly accomplished through co-residential living (Li et al. 2005). Such an expectation is firmly rooted, and adherence is expected, even if it results in great self-sacrifice. Much research has shown that obligations to older adults remain pervasive, guiding values among Chinese, and that these values were, in many instances, reinforced by the Chinese communist state (Chen and Silverstein 2000; Davis and Harrell 1993; Logan and Bian 2003; Whyte 2003a; Zhang 2004). During the market reform era the traditional customs and filial obligations taught in Confucian doctrine have been revived and propagated by Chinese officials (Whyte 2003a). The strong value placed on filial piety in Chinese society, especially the emphasis on demonstrating loyalty and support to parents over and above the service of one's own needs, is consistent with a family altruism orientation to intergenerational support (Hermalin 2002; Zimmer and Kwong 2003).

The family altruism perspective stands in contrast to ‘demographic supply’ and ‘modernization’ viewpoints. These latter perspectives suggest filial obligations are weakened and co-residence odds diminished in situations where relatively few children are available (low demographic supply), and in settings where market economic development undermines intergenerational dependencies and shifts family, career and lifestyle preferences toward more modern, nuclear family ideals (Goode 1970; Levy 1949; Zimmer et al. 2008).

The family altruism framework has been articulated and empirically supported in previous analyses which find that intergenerational support receipt is predicted by certain “markers of dependency,” for instance employment status and incomes that are inadequate to economic independence; or physical disabilities and health problems which inhibit daily functioning and economic independence (Frankenberg, Lillard, and Willis 2002; Logan and Bian 2003; Zimmer and Korinek 2008). The same set of research finds, consistent with family altruism, that intergenerational support relations are calibrated according to parental need, as well as to what one’s siblings and other relatives are doing to assist parents (Logan and Bian 2003). Although older and younger generations’ preferences for residential arrangements are becoming more favorable toward independent, nuclear households, family members act collectively to remain altruistic; they adapt and cooperate to meet particular family members’ needs, for instance by co-residing to provide care and economic support to elderly parents (Logan and Bian 2003; Zimmer et al. 2008). The onset of widowhood and poor health are among the times in which supportive ties, such as those expressed by monetary transfers, provision of instrumental support, or movement into a co-residential arrangement, are likely to be activated (Frankenberg, Lillard, and Willis 2002).

Processes of urbanization, demographic transition, and market economic development in China have resulted in an array of societal and familial changes that are likely to alter traditional forms of intergenerational support. For instance, urbanization and freer rural-urban migration has widened the distances separating parents and children, market liberalization has expanded housing construction and opportunities to live in separate residences, and the one-child policy has drastically reduced the numbers of adult children upon whom older adults can rely for support (Logan and Bian 2003). While modernization theories on family and living arrangements would point to these changes as eroding traditional modes of support, such as adult child co-residence with aging parents, the family altruism perspective suggests that co-residence, while less common, will emerge variably in accordance with varying degrees of parental need. Indeed, the long-standing cultural norm favoring intergenerational co-residence in China, while becoming less pervasive, still tends to emerge at pivotal points in the life course, specifically when it serves as a ‘beneficial family adaptive strategy’ meeting the support or financial needs of specific family members (Chen 2005:143).

We hypothesize then that older adults will be most likely to enter into co-residential arrangements when their circumstances are reflective of need for support. Children’s need for support from parents also may motivate intergenerational financial transfer and/or co-residence, e.g, the need for parental assistance with childcare or housing costs (Chen 2005; Logan and Bian 2003). However, data limitations prevent our conducting an analysis that adequately captures adult children’s socioeconomic situations and resources at multiple time points. Deteriorating functional health, limited financial means, the absence of other kin relations in the household, and most importantly for the current analysis – becoming a widow or widower – are conditions or events that point to relative 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. Widowhood, when accompanied by poor or declining health, suggests a situation of great parental demand for assistance, implying that co-residential living with a child is practically a necessity (see also Ikels 1993:318). Also consistent with the altruism perspective, and in contrast to the notion that co-residence is constrained by the demographic supply of children, we hypothesize that from the parental perspective the odds of adult child co-residence will be little affected by older adults' total number of living children. Since ensuring the wellbeing of family members, especially parents, is a fundamental priority, the completed size of one's family will be less important in determining co-residence than parental need and the presence and availability of other potential caregivers in the elder's household.

That widowhood is a highly gendered experience is clear given women's relatively greater life expectancy, as well as norms and tendencies of remarriage which result in higher remarriage rates for men than women. This disproportionate experience of widowhood by women should not cloud our understanding of how transitions into widowhood may have different repercussions for men and women (Knodel and Ofstedal 2003). Recently, a few studies have begun to explore the differential effects of widowhood on mothers' and fathers' intergenerational support relations (e.g., Ha et al. 2006; Kalmijn 2007). This emerging literature, conducted largely in post-industrial societies of North America and Western Europe, has begun to suggest that fathers are disadvantaged in intergenerational support and contact with adult children and that this disadvantage is heightened following widowhood or divorce (Kalmijn 2007). Parallel explorations have yet to be conducted in the rapidly aging societies of Asia.

Following from the family altruism perspective, as well as filial piety expectations that do not differentiate between mothers and fathers in children's obligations to provide support, the apparent differences in support receipt across widowed mothers and fathers in other settings are not likely to generalize to Chinese elders. Still, patrilocal norms lead to greater co-residence of sons with elderly parents. If we follow the logic of family altruism, in which children's support responds collectively according to parental needs, daughters, too, should be more likely to enter co-residential arrangements with aging parents beset with the loss of a spouse or a decline in functional health. Daughters' tendency to co-reside may be less than that of sons, however if sons are relatively few in number family altruism suggests that daughter co-residence will similarly follow when parental need exists and as it increases over time.

DATA & METHODS

The data that we analyze are from the Chinese Longitudinal Healthy Longevity Survey (CLHLS), which began in 1998 with a sample of about 9,000, aged 80 and older. Follow-up interviews were conducted in 2000, 2002 and 2005. Follow-ups included re-interviews of the baseline sample plus an add-on component to account for attrition. The sample comes from 22 provinces where half of the counties were randomly selected as part of the sample. This results in a very extensive sample covering 80% of the population in areas where Han ethnicity is dominant. The nine provinces that were excluded were due to inaccuracy in age-reporting among ethnic minorities (e.g., Coale and Li 1991; Zeng and Gu 2008). Beginning in 2002, and again in 2005, data collection was expanded to include those aged 65 to 79, in addition to the ongoing panel of oldest old. In order to capture a wide age range of older adults at risk of experiencing the onset of widowhood, we incorporate older adults 65 and older into the analysis.

That 65-79 year-olds were only included in two of the four CLHLS waves under consideration results in an age distribution that is nonrepresentative of the older adult population in sampled provinces. It should also be noted that the CLHLS oversampled male oldest-old, nonagenarians and centenarians, further shaping the age distribution of the analytic sample.

Besides allowing us to analyze a large, probability sample of older adults in China, the CLHLS offers features that are well-suited to the questions at hand. First, the longitudinal nature of the data provides a prospective framework for the 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 delineation of 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, although the CLHLS was expanded in 2002 to collect data on younger elders (a population of interest and therefore included in the following analyses), its original focus on the "oldest old," that is those 80 and older, creates a sizable oversampling of those most susceptible to the experience of widowhood.

In order to measure changes in child co-residence, we treat each segment of time between successive waves as an observation period and prepare a stacked dataset. This approach results in 16,661 person-interval records. We omit from the analyses older adults without children (N=1,424), those who had never been married or were divorced at the time of the survey (N=304), and those with missing data on key independent variables such as functional limitations (N=61). This reduces our analytical sample to 15,195 person-interval records with

information on older adult resident status at time 1 and time 2. Subsequent tests indicated that regression analyses are not significantly altered through the omission of persons with missing data. The method of 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 to account for clustering at the individual level. When presenting descriptive statistics we use individual elderly persons as the analysis unit, rather than person intervals, reducing the sample size to the 9,650 older adults who appear in the CLHLS, and in our analysis, for at least two consecutive waves.

Co-residence with a child is the outcome of interest, and given the age of the sample, in all cases this means co-residence with an adult offspring. The term ‘child’ is used as convention. Co-residence is constructed as a dichotomous variable by referring to the household roster in each CLHLS wave. First, we analyze child co-residence at time 1 to identify the determinants of co-residence in the cross-section. Subsequently, among older adults re-interviewed at least once, we consider child co-residence at time 2, controlling for co-residence during the previous survey wave. By accounting for co-residence at time 1 we are modeling co-residence ‘transitions’. Finally, we draw additional information from the household roster to determine whether co-resident children are sons, daughters, or both. This information is used to construct a categorical measurement of living arrangements, in which elderly adults are coded as having no co-resident children, only a co-resident son (or sons), or a co-resident daughter (or daughters). In our final analysis we examine this categorical variable among the subset of older adults with at least one living son and one living daughter. Such an analysis allows for an investigation into the degree to which child co-residence in the face of parental need adheres to traditional preferences for son co-residence, and when daughters are incorporated into co-residence arrangements.

Our focal independent variable is a dynamic measure of marital status. As can be seen in Figure One, widowhood is a prevalent status among older adults surveyed in the CLHLS, and it is a status that is especially prevalent among females and the oldest old. As we are interested in marital status transitions as events that evoke change, and potentially risk, we compare marital status at time 1 and again at time 2, and define marital status transitions as follows: 1) married at time 2 (reference category); 2) married at time 1, widowed at time 2; and, 3) widowed at time 1 and time 2.

[Figure One about here]

Our second focal independent variable is an interval-level measure, assessed at time 1 and subsequently, of functional health limitations. Specifically, we construct a score, ranging from zero to twelve, to indicate the number of Activities of Daily Living (ADLs) with which the older adult reports experiencing difficulty, and the severity of that difficulty (Katz et al. 1963). ADLs are specific tasks necessary for the maintenance of independence. The six ADLs considered here are: bathing, dressing, toileting, getting out of bed, continence, and feeding oneself. Specifically, for each ADL, if the respondent reports no difficulty, a score of zero is assigned; if some difficulty is reported a score of one is assigned; and if the respondent reports difficulty so great as to require assistance of another person or device, a score of two is assigned. These items are summed. Respondents with high scores are deemed as suffering severe functional limitations and thus seen as being relatively dependent upon others for providing for one's own day to day functioning and self-care.

The test of our hypotheses about child co-residence responsiveness hinges on observed changes to living arrangements that accompany transitions from married to widowed, as well as shifts from positive to poor functional health, and whether relatively debilitating outcomes (i.e.,

the experience of widowhood and the increase in functional health limitations) emerging jointly incrementally increase the odds of transitioning to co-residence with an adult child.

Our multivariate analyses consider a series of additional covariates pertinent to elderly living arrangements. 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 baseline. Other controls include the number of living children (sons and daughters) at baseline; the older adult's age (measured categorically so as to capture nonlinear associations with co-residence); highest educational attainment; main occupation prior to age 60, and geographic location of residence (i.e., whether rural village, town or city). Finally, we incorporate the older adult's gender into the main models, in addition to running separate analyses for male and female respondents.

RESULTS

In Table One we present descriptive statistics for our analytical sample. Note that we present data on characteristics at Time 1 (1998, 2000, or 2002), and at Time 2 (2000, 2002, or 2005) for those characteristics that we assess over time among older adults who appeared in at least 2 consecutive waves of the CLHLS (N=9,690). Note that sampling procedures (e.g., oversampling of oldest-old) result in a sample distribution that, when unweighted, is nonrepresentative of the elderly population residing 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 1 (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 1 becoming

widowed by time 2. Functional health also fluctuates significantly across survey waves, with greater than 20% of surveyed adults experiencing declining ability to perform ADLs during the survey interval. We expect that these pivotal life course events and health status transitions will contribute to significant rearrangement of older adults' residential situations. It is this question that we address in the multivariate analyses.

[Table One about here]

In order to illustrate the dynamic quality of older adults' residential patterns we provide a transition matrix for parent-child co-residence situations in Table Two. We delineate living arrangement status transitions for all person-intervals in the sample overall, and then for mothers and fathers separately. A brief inspection of Table Two indicates that transitions in child co-residence are common among older adults in the CLHLS. Specifically, around 25% to 35% of older adult person intervals are characterized by shifts in co-residence status. Living with at least one son, but no daughters, is the most stable status across elderly person-observation periods, while living with one or more daughters is the least common and least stable outcome across the observation intervals. Having no co-resident children is intermediate in stability – about 25% of observation intervals beginning in this state end in child co-residence after two to three years. It is important to note, however, that the extent and nature of transitions are conditional upon the parent's gender and his/her initial co-residence status. Elderly females are more likely to be living with adult children, both sons and daughters, at the beginning of the observation interval, whereas elderly males are more likely to have no co-resident children. In addition, not only are elderly women more likely to begin the interval in situations that involve co-resident children, they are also more likely to see their living arrangements transition into child co-residence. This gendered patterning is interesting and suggests implications for social support and wellbeing may

well differ for elderly men and women. It is quite likely that these observed gender differences in co-residence and co-residence transitions are associated with other parental characteristics, in particular their marital status (sampled women are more likely to be widows), age (sampled women tend to be older), disability status (sampled women have higher scores on the ADL index), and other traits. However, it is also feasible that gendered differences in co-residence outcomes are the embodiment of differing degrees of emotional closeness between children and mothers versus fathers, or differing perceptions of need or desire for support on the part of aged mothers versus fathers. Previous research in China and other contexts has suggested such divergence along the lines of parent's gender matters for support outcomes (e.g., Yount 2005; Zimmer 2008). We account for these distinct individual traits, and for gender, as determinants of child co-residence and co-residence transitions in the multivariate models that follow.

[Table Two about here]

We first model child co-residence in the cross-section and as a dichotomous outcome. Odds ratios from a logistic regression analysis with robust standard error estimation are presented in Table Three. By beginning with a cross-sectional analysis we are able to introduce the correlates of intergenerational co-residence among China's elderly. For instance, we observe a positive relationship between child co-residence and older adults' age, supply of living sons, widowed marital status, and functional health limitations. Neither the parent's sex, nor the supply of surviving daughters, influences the odds of child co-residence at baseline. We also observe that the correlates of child co-residence for older men and women diverge only slightly.

[Table Three about here]

In addition to describing these correlates, our cross-sectional modeling of child co-residence provides a starting point for the dynamic analysis. Specifically, we will be able to

discern how the static and dynamic predictors of co-residence vary, thus providing a more complete picture of how co-residence emerges in response to elder adults' emerging states of dependency and need. We explore parent-child co-residence in dynamic fashion by using logistic regression analysis to model the odds of an older adult co-residing with a child at time 2, while holding constant child co-residence at the previous time. Results, in the form of odds ratios and robust standard errors, are shown in Table Four and are consistent with our hypotheses on child co-residence and emerging states of parental need. Specifically, we observe that older adults that have recently been widowed are significantly more likely than those who remain married to have entered into a co-residence situation during the survey interval. The odds ratio for those remaining widowed suggests an increasing probability of adopting a co-residential living arrangement with at least one adult child with time.

[Table Four about here]

We include a set of interaction terms, in which co-residence with a child at time 1 is interacted with experience of marital status transition between time 1 and time 2. We adopt this approach to determine whether widowhood has a greater or lesser impact on those who are already co-resident at time 1. The results indicate that the effect of the married-to-widowed transition on child co-residence is more moderate for those older adults already residing with at least one child at time 1 (OR 0.45; $p < .001$). The attenuation of previous child co-residence on the positive effect of transition to widowhood holds for the full sample and for the separate samples of men and women. Previous child co-residence enhances the odds of co-residence for those that remain widowed for the duration of the survey interval. This interaction is positive and significant for fathers (OR 1.50; $p \leq .01$), but not mothers, a moderate gender difference. When one accounts for the size of the widowhood main effect for women and men, the

interaction of previous child co-residence and marital status transition is does not differ dramatically by gender.

The results in Table Four also indicate that older adults are more likely to enter into a co-residential living arrangement if they have recently experienced a decline in their functional health status. This is attributed to the positive association between co-residence and the disability status score at time 2, accounting for the disability status score at baseline. This pattern of results is consistent with our hypothesis and over-arching theoretical perspective in that greater limitations faced in handling tasks of daily living represent an entrance into greater physical dependency and thus greater need for support. Interestingly, there is a more marked effect for females. Given controls for marital status, this suggests that parents and children are more inclined to co-reside with a disabled mother than father. There are several explanations for this. First, elderly women have, on average, worse functional health than men at baseline. Thus, the increment of ADLs captured in this modeling approach will indicate a more severe disability status at time 2 for elderly women compared to elderly men. Second, elderly men faced with worsening disabilities may be prone to turn to their spouses to manage increasing needs for assistance in performing ADLs. Similarly, gendered differences in performance of domestic and personal care tasks may mean that elderly women with worsening disabilities may not be able to rely on surviving spouses for personal or household maintenance assistance when their functional status worsens. Third, the significant gender interaction suggests that children, feeling a greater sense of indebtedness to mothers than fathers due to more intense emotional bonding with mothers in early stages of life, are more likely to move in with mothers whose health is declining. Such a result is consistent with the notion of the so-called patriarchal bargain which women enter into in patriarchal societies and which offers protection, in exchange for sacrifice,

in the form of intergenerational loyalty and support in old age (Kandiyoti 1988; Yount 2005; Zimmer 2008).

Additional variables in the models warrant mentioning as they illustrate the set of social and demographic factors associated with transition into co-residential living with adult children. First, the presence of other family members in the households influences child co-residence differently for men versus women. Older men are more likely move into a coresident situation if a grandchild is present in the household at time 1. The likelihood of having a child come to co-reside is increased for elderly women who have in-laws co-residing at baseline. Second, age matters in shaping the transition to co-residence, with the odds tending to increase with age, especially for males. For elderly females the relationship between age and co-residence with children is neither linear nor statistically significant. Third, in terms of previous occupation, those who were employed in the professional-managerial-governmental sector are less likely to co-reside with adult children, while women who worked primarily as housewives, rather than in the formal labor market, are more likely to co-reside. This set of results also appears to relate to parental need for support, in particular the degree of economic (in)dependence that is likely to result from the income and benefits associated with primary lifetime occupation. Place of residence is significant too, with older adults in urban areas, in particular elderly males, being significantly less likely than their rural counterparts to enter co-residence arrangements. These latter results are consistent with a picture of movement away from co-residence traditions among populations in relatively modernized regions of the country and sectors of the economy.

In order to depict more clearly the interactions between functional health, marital status transitions and movement into co-resident living arrangements, we calculated a series of predicted probabilities for movement into a child co-resident household at time 2 for those elders

with no children co-resident at time 1. These probabilities, in which we have fixed older adults' values on marital status and ADL status at times 1 and 2, specified particular numbers of surviving children at time 1, and allowed the remaining variables to reflect the sample's characteristics, are summarized in Figure Two. We see that even for older adults who remain married and whose functional health remains constant or improves, the probability of entering into a co-resident situation between survey intervals is around 20 to 22 percent. Experiencing a slight worsening of functional health over the survey interval - specifically a three point increase on the ADL index - heightens this probability of transition to co-residence, but only slightly. Far more consequential for the transition to a co-residence situation is becoming widowed, which increases the probability of co-residing at time 2 by nearly 20 percent. While transitions to widowhood and declines in functional status heighten the probability of becoming co-resident with a child, these co-residence transitions are robust across numbers of surviving children, with little variation in co-residence outcomes at time 2 across those with one, three or five surviving children.

[Figure Two about here]

We perform a final multinomial logistic regression analysis in which we assess whether older adults co-reside with children, and if so, if they co-reside with sons only, or with daughters. In order to delimit the analysis to those at risk of residing with a child of either gender, we use a subsample of older adult person intervals in which the adult in question has at least one surviving son and one surviving daughter at the time of the survey (N=20,094) out of the total 29,174 person intervals. The results, shown in Table Five, convey that the odds of co-residing with a son are not dependent upon the number and gender of surviving children. However, daughter co-residence, a relatively nontraditional living arrangement in China, depends on family

composition. Specifically, older adults with numerous sons are less likely to co-reside with daughters, while having numerous daughters increases the odds of daughter co-residence. A similar pattern holds for the dynamic view – movement into a co-residential arrangement with daughters is less likely for elders with numerous sons and more likely for those with numerous daughters. The odds of the less traditional outcome of daughter co-residence are greater for elders living in cities as compared to towns and villages. From these results we gather that preference for sons to co-reside persists among Chinese elders in many places, especially rural settings, but it is malleable in the face of family demographic circumstances that favor daughter co-residence. That being said, the strongest positive predictors of both son co-residence and daughter co-residence are emerging and persistent states of widowhood.

[Table Five about here]

DISCUSSION

Is there cause for pessimism regarding the viability of intergenerational support systems and family-based old-age security in a China faced by population aging, urbanization, and a host of modernizing influences? A number of recent studies have taken up this question, their results frequently suggesting that although child co-residence with elderly parents is on the decline, there is reason for cautious optimism that support traditions will survive and elders will remain secure and supported. For instance, recent studies (e.g. Shengming, Chen, and Yang 2003, Zimmer et al. 2008) investigating the transfer of support from both co-resident and non-coresident children to parents in China and elsewhere in Asia suggest patterns consistent with a ‘modified extended family’ in which care and support of elders is ensured, albeit increasingly by children living at a distance (Litwak & Kulis 1987). Furthermore, several scholars have

observed that intergenerational obligations and an “unwritten contract of entitlement” between generations to co-reside when one generation is perceived as incapable of adequately providing for itself, override desires for nuclear households and result in persistent multigenerational living (Davis 1993; Ikels 1993). We contribute to the base of knowledge about the viability of intergenerational support relations by highlighting the experiences of subgroups deemed particularly needy – widows and the physically disabled – and the dynamic nature of living arrangements that correspond to transitions in the later years of the life course. Our results, too, are cause for cautious optimism on the continued viability of parent-child co-residence as a reliable means of old-age support in China and other developing societies in the midst of aging transitions. Like other analyses (e.g., Davis and Harrell 1993; Whyte 2003b), those presented here are not consistent with modernization theory’s predictions about eroding intergenerational support and co-residential living arrangements. Rather, the living arrangements of older adults prove to be adaptable, shaped by the needs and constraints of family members.

We obtain this conclusion from our study, which uses a logic derived from familial altruism that can be extended to other rapidly aging populations within the region and in fact across much of Confucian, if not developing, world. Older adults’ probability of co-residence with an adult child will increase following the loss of a spouse. The results of dichotomous and multinomial logistic regressions support this perspective. Although parent-child co-residence may be on the decline overall, it does not appear to have been wholly undermined as an institution of support because it rises sharply following widowhood and otherwise remains pervasive among relatively “needy” elders. Our analyses go further in supporting a family altruism perspective on intergenerational support by confirming that child co-residence odds increase incrementally along with indicators of parental need for support. Our study, like others

(e.g., Roan and Raley 1996), reveals the added insights gained through longitudinal, as opposed to cross-sectional analyses. Here we delineate the attendant rise in co-residential living that follows rather rapidly in the wake of widowhood, a transition even more likely when the widowhood transition occurs concurrently with significant deterioration in functional health.

Our findings on widowhood transitions as precursors of adult-child co-residence are robust across the gender and completed family size of older adults. This pattern suggests that older adults, including both men and women, and those with many children and few, continue to turn to child co-residence when they have lost the support and companionship of their spouse. Although older adults with larger numbers of sons are more likely to be co-residing with an adult child at any point in time, the odds of moving into a child co-resident situation when one becomes widowed or experiences functional health decline does not vary widely across those with many living children (i.e., five) versus those with few (i.e., one). The choice of co-residing with a son versus a daughter *is* influenced by the gender composition of one's children, but odds of co-residence in general are not sensitive to the numbers of living children older adults have. Although the sex of the co-resident child hinges to some extent upon the availability of sons and daughters, older adults with just one child of either gender are almost as likely to co-reside as those with multiple sons. This relative insignificance of child gender is somewhat unexpected, given that sons have been seen as the foremost providers of old age support in Chinese tradition (Chen and Silverstein 2000; Ikels 1993). The results may indicate that support relations are characterized by gender flexibility in times of increasing need.

The results presented here only begin to explore how gender, health and other life transitions influence parent-child support relations, specifically as captured through co-residence. The current study has several limitations which should be acknowledged and addressed in further

research. First, to gain a more comprehensive understanding of how intergenerational supports are mobilized to assist widows and widowers analyses of additional dimensions of intergenerational support (e.g., economic exchange, instrumental support, visits and contacts) are necessary (Frankenberg, Lillard, and Willis 2002). In future work, additional modules of the CLHLS can be combined to examine whether marital status transitions contribute to changes in older adults' instrumental and 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. In addition, while co-residence reflects traditional arrangements and preferences, it is the proximity of kin, and children specifically, which matters for provision of care (Ikels 1993; Zimmer and Korinek 2008). Especially as housing construction has expanded, functions once performed by co-resident kin may now be performed by adult children who have established nearby independent households. Adult children's perspectives, and the competing demands on their time and financial resources, as opposed to those of other family members, are also an important part of the equation, as Ikels (1993:331) suggests when she observes: "The provision of care by an elderly spouse, a residentially distant child, or a still working child presents more logistical difficulties than does care provided by someone young and co-resident or just living down the street." Further analyses that account for proximate child residence and the forms of care provided to widowed and disabled parents by co-resident, proximate and distant children may shed light onto differential care giving relations across older adults with differing levels of need for instrumental assistance. Analyses which assess adult children's own life events, health, and economic situations, too, can shed light on the constraints and encouragements surrounding exchanges of intergenerational support. Our choice of modeling child co-residence based on the absence versus presence of any children is just one possible way of assessing how family

members respond to elders' changing needs for support. We chose this approach because it is clear, pertinent, and meaningful; however, other outcomes are also relevant, such as a consideration of numbers of children co-residing, or children and children-in-law co-residing. Finally, although longitudinal approaches provide a much needed dynamic view of living arrangements in older adulthood, the line of questioning and timing of survey waves does not provide a definitive picture of the causal ordering of functional health, marital transitions, and living arrangements. Theory serves as a useful guide, but alternative explanations and interpretations are indeed possible.

Much interest in the fate of China's elderly is being generated by the overwhelming consequences of China's enormous social experiment initiated by its 'one child policy,' enacted in 1979. Even the youngest elderly persons in the current analysis (age 65 in 2002) completed their childbearing years prior to the policy, and most have three or more surviving children. Thus, analyses of the impacts of the one child policy on supports for the elderly must await the aging of the 1980s childbearing cohorts and future data collection efforts. Nonetheless, conservative and careful interpretations of our results are suggestive of the living arrangements that await older adults who have borne only one child. While a relatively rare outcome at present, we observe older adults' odds of co-residing with a child to be positively related to number of surviving sons. However, when considering the transition to co-residence in dynamic view, numbers of surviving children do not weigh significantly upon the odds of entering into a child co-resident household. Predicted probabilities comparing transitions to co-residence among those with one child to those with three and five children further substantiate this view. Clearly it is not possible to extend this result into the future socio-demographic contexts that will face older adults who confront the legacy of the one-child policy. For the time being, we

conclude that although child co-residence has declined in China overall, it remains a commonplace support arrangement for widows, widowers and other older adults whose life situations call for reliance upon family support.

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Table One. Descriptive Statistics for Older Adults Surviving and Interviewed in Subsequent Survey Wave, 1998-2005 (unweighted data)

	Males, 65+		Time 1 Females, 65+		Total, 65+		Time 2 Total, 65+	
	%	N	%	N	%	N	%	N
Sex								
Male	--	--	--	--	44.7	4,311	--	--
Female	--	--	--	--	55.3	5,339	--	--
Age Category								
65-69	14.8	638	11.5	612	13.0	1,250	--	--
70-79	28.5	1,228	22.6	1,204	25.2	2,432	--	--
80-89	34.8	1,499	29.5	1,576	31.9	3,075	--	--
90-99	17.0	734	20.0	1,068	18.7	1,802	--	--
100+	4.9	212	16.5	879	11.3	1,091	--	--
Marital Status								
Married/Separated	59.0	2,464	23.3	1,236	39.0	3,700	33.4	3,180
Widowed	41.0	1,710	76.7	4,071	61.0	5,781	66.6	6,329
Change in Current Marital Status, t1-t2								
Married, T2	52.6	2,189	18.7	991	33.6	3,180	--	--
Widowed T1 and T2	38.5	1,601	75.3	3,987	59.1	5,588	--	--
Married T1, Widowed T2	9.0	373	6.0	315	7.3	688	--	--
Mean ADL Index Score (number and weighted by severity)								
	0.3	4,295	0.7	5,328	0.54	9,623	1.12	9,640
Change in ADL Index Score, T1-T2								
Improvement in Functional Status (lowering of score)	6.5	280	11.4	605	9.2	885	--	--
No change	77.1	3,309	63.8	3,394	69.7	6,703	--	--
Decline in Functional Status (increase in score)	16.4	702	24.9	1,323	21.1	2,025	--	--
Residence (check, coding changed over years)								
City	25.6	1,103	23.9	1,277	24.7	2,380	22.7	2,193
Town	26.5	1,143	29.4	1,568	28.1	2,711	24	2,318
Rural	47.9	2,065	46.7	2,494	47.2	4,559	53.3	5,139
Education Level								
No formal schooling	31.6	1,363	81.1	4,332	59.0	5,695	--	--
1-6 years	49.6	2,137	14.9	794	30.4	2,931	--	--
7+ years	18.8	811	4.0	213	10.6	1,024	--	--
Main Occupation Prior to Age 60 (these will be combined into cats)								
Professional/Technical/Govt/Military workers	18.7	804	3.6	190	10.3	994	--	--
Agriculture/Forestry/Fishery workers	28.6	1,234	23.3	1,246	25.7	2,480	--	--
Industrial workers	46.4	2,000	48.6	2,595	47.6	4,595	--	--
Commercial or Services worker	4.0	169	15.7	838	10.4	1,007	--	--
Housework	0.4	15	7.5	398	4.3	413	--	--
Other/Missing	2.1	89	1.4	72	1.7	161	--	--
Total Living Children at Baseline (1998, 2000 or 2002)								
Zero	7.3	314	6.4	341	6.8	655	--	--
One to Two	20.4	879	25.9	1,384	23.5	2,263	--	--
Three to Four	35.8	1,542	34.6	1,846	35.1	3,388	--	--
Five to Six	27.3	1,175	25.5	1,363	26.3	2,538	--	--
Seven or More	9.3	401	7.6	405	8.4	806	--	--
Number of Children Coresident in Same House as Elderly Respondent								
None	51.1	2,202	41.1	2,195	45.6	4,397	44.8	4,319
One	44.8	1,933	55.3	2,953	50.6	4,886	52.2	5,045
Two or More	4.1	176	3.6	191	3.8	367	3	286
Number of Sons Coresident in Same House as Elderly Respondent								
None	57.4	2,473	50.2	2,681	53.4	5,154	53	5,110
One or More	42.6	1,838	49.8	2,658	46.6	47	47	4,540
Number of Daughters Coresident in Same House as Elderly Respondent								
None	92.4	3,985	89.8	4,792	91.0	8,777	90.7	8,754
One or More	7.6	326	10.2	547	9.0	873	9.3	896

Source: Chinese Longitudinal Healthy Longevity Survey

Table Two. Child Co-residential Status, and Co-residence Status Changes, for Older Adult Observation Intervals, CLHLS 1998-2

All CLHLS Adults 65+ Alive at T1 & t2					
Coresidence Arrangement, T1	% at T1	Coresidence Arrangement at T2:			N
		No Child Co-resident	Son(s) only Co-resident	Any daughter Co-resident	
No child co-resident	38.0	73.6	21.4	4.9	5,766
Son(s) only co-resident	51.4	17.0	79.4	3.6	7,814
Any daughter co-resident	10.6	18.0	15.9	66.2	1,615
N	15,195	5,864	7,697	1,634	15,195

CLHLS Adults 65+ Alive at T1 & t2 - Males					
Coresidence Arrangement, T1	% at T1	Coresidence Arrangement at T2:			N
		No Child Co-resident	Son(s) only Co-resident	Any daughter Co-resident	
No child co-resident	43.9	76.3	19.3	4.4	2,904
Son(s) only co-resident	46.9	19.2	77.5	3.3	3,106
Any daughter co-resident	9.2	21.8	15.5	62.8	607
N	6,617	2,951	3,069	612	6,617

CLHLS Adults 65+ Alive at T1 & t2 - Females					
Coresidence Arrangement, T1	% at T1	Coresidence Arrangement at T2:			N
		No Child Co-resident	Son(s) only Co-resident	Any daughter Co-resident	
No child co-resident	33.4	70.9	23.6	5.5	2,877
Son(s) only co-resident	54.9	15.6	80.7	3.7	4,714
Any daughter co-resident	11.8	15.7	16.1	68.3	1,009
N	8,578	2,919	4,637	1,022	8,600

Source: Chinese Longitudinal Healthy Longevity Survey, 1998-2005

Table Three. Logistic Regression Analysis, Coresidence with Any Children at T1, (1998, 2000 and 2002), Stacked Data, Older Adults 65+, CLHLS

Older Adult Characteristics:	Full Sample		Model A Men Age 65+		Women Age 65+	
	Any Children Coresiding, (vs. No Children Coresiding)		Any Children Coresiding (vs. No Children Coresiding)		Any Children Coresiding (vs. No Children Coresiding)	
	Odds Ratio	Robust S.E.	Odds Ratio	Robust S.E.	Odds Ratio	Robust S.E.
Total Living Sons	1.14***	0.02	1.08***	0.02	1.21***	0.02
Total Living Daughters	1.02	0.01	1.00	0.02	1.03	0.02
Older Adult is Female (ref. male)	0.98	0.04				
Age: 65-69 (ref. 80-89)	.87*	0.06	0.98	0.09	.75**	0.07
Age: 70-79 (ref. 80-89)	.79***	0.04	.83**	0.06	.73***	0.05
Age: 90-99 (ref. 80-89)	1.19***	0.05	1.12	0.07	1.26***	0.07
Age: 100-109 (ref. 80-89)	1.28***	0.06	1.50***	0.13	1.24***	0.08
Place of Residence: City (ref. rural)	0.97	0.04	0.96	0.06	1.01	0.06
Place of Residence: Town (ref. rural)	1.08*	0.04	1.17**	0.06	1.01	0.05
Educational Attainment - 1-6 years (ref. no formal schooling)	0.99	0.04	1.01	0.06	0.97	0.07
Educational Attainment - 7+ years (ref. no formal schooling)	0.93	0.07	0.98	0.08	0.76	0.11
Main occupation before age 60: Prof/Managerial/Govt (ref. agr)	.72***	0.05	.67***	0.05	0.94	0.15
Main occupation before age 60: Industrial worker (ref. agr)	0.97	0.03	0.95	0.05	0.99	0.05
Main occupation before age 60: Commercial/Services Worker (ref. agr)	0.98	0.05	1.07	0.11	0.94	0.06
Main occupation before age 60: Housework (ref. agr)	1.21**	0.08	0.88	0.30	1.21**	0.08
Main occupation before age 60: Missing/DK (ref. agr)	0.94	0.12	0.89	0.15	1.02	0.22
ADL Index Score,	1.03***	0.01	1.03*	0.01	1.03***	0.01
Marital Status - Widowed (ref. Married)	2.84***	0.12	2.66***	0.14	3.04***	0.21
N	29,174		12,230		16,944	
Pseudo R2	0.07		0.07		0.05	
Log Pseudolikelihood	-17611.1		-7710.97		-9860.37	

Source: Chinese Longitudinal Healthy Longevity Survey
 * p<=.05. ** p<=.01 *** p<=.001

Table Four. Logistic Regression Analysis, Coresidence with Any Children at T2, 2000, 2002 and 2005, Stacked Data, Older Adults 65+, CLHLS

Older Adult Characteristics at Time 1:	Coresidence at Time 2					
	Full Sample		Men Age 65+		Women Age 65+	
	Any Child Coresident, T2 (vs. No Children Coresident, T2) Odds Ratio	Robust S.E.	Any Child Coresident, T2 (vs. No Children Coresident, T2) Odds Ratio	Robust S.E.	Any Child Coresident, T2 (vs. No Children Coresident, T2) Odds Ratio	Robust S.E.
Older Adult is Female (ref. male)	0.93	0.05	--	--	--	--
Age at T1: 60-69 (ref. 80-89)	0.85	0.07	.76*	0.09	0.92	0.12
Age at T1: 70-79 (ref. 80-89)	.84**	0.05	.74**	0.07	0.94	0.09
Age at T1: 90-99 (ref. 80-89)	1.05	0.06	1.05	0.09	1.05	0.08
Age at T1: 100-109 (ref. 80-89)	0.95	0.07	1.31	0.21	0.88	0.08
Marital Status Change: Married t1, Widowed t2 (ref. married t2)	3.67***	0.41	3.81***	0.54	3.52***	0.63
Marital Status Change: Widowed t1 & t2 (ref. married t2)	1.89***	0.15	1.64***	0.19	2.02***	0.26
ADL Index Score, t1	0.97	0.02	0.92	0.04	1.00	0.03
ADL Index Score, t2	1.04***	0.01	1.03	0.02	1.05**	0.02
Interaction, ADL score t1 * ADL score t2	1.00	0.00	1.00	0.00	0.99	0.00
Any Coresident Child T1 * Marital Status Change: Married t1, Widowed t2	.46***	0.08	.47***	0.11	.44**	0.12
Any Coresident Child T1 * Marital Status Change: Widowed t1 & t2	1.32**	0.14	1.50**	0.23	1.33	0.22
Any Coresident Child, t1	9.41***	0.87	8.89***	1.06	9.22***	1.47
Total Living Sons, t1	0.99	0.02	0.96	0.02	1.03	0.02
Total Living Daughters, t1	1.03	0.02	1.02	0.02	1.04	0.02
Any coresident child-in-law, t1	1.09	0.06	1.00	0.09	1.16*	0.09
Any coresident grand child, t1	1.19**	0.07	1.39***	0.13	1.06	0.08
Place of Residence T1: City (ref. rural)	.87*	0.05	.74***	0.07	1.00	0.09
Place of Residence T1: Town (ref. rural)	0.94	0.06	0.91	0.07	0.96	0.08
Educational Attainment - 1-6 years (ref. no formal schooling)	0.97	0.05	0.98	0.07	0.95	0.08
Educational Attainment - 7+ years (ref. no formal schooling)	0.97	0.09	1.04	0.11	0.80	0.15
Main occupation before age 60: Prof/Managerial/Govt (ref. agr)	.78**	0.07	.78*	0.08	0.94	0.18
Main occupation before age 60: Industrial worker (ref. agr)	0.98	0.05	1.01	0.08	0.96	0.07
Main occupation before age 60: Commercial/Services Worker (ref. agr)	0.98	0.07	1.09	0.13	0.92	0.08
Main occupation before age 60: Housework (ref. agr)	1.21*	0.10	1.93	0.80	1.13	0.10
Main occupation before age 60: Missing/DK (ref. agr)	1.22	0.21	1.39	0.33	1.03	0.26
N	15,039		6,547		8,492	
Pseudo R2	0.27		0.29		0.26	
Log Pseudolikelihood	-7286.22		-3209.67		-4055.67	

Source: Chinese Longitudinal Healthy Longevity Survey

Table Five. Multinomial Logistic Regression Analysis, Coresidence with Children by Child Gender, 2000, 2002 and 2005, Stacked Data, Older Adults 65+, CLHLS

Older Adult Characteristics at Time One:	Coresidence at Time One <i>Model 1</i>				Coresidence at Time Two <i>Model 2</i>			
	Live w Son(s) Only vs. No		Live w any Dau(s) vs. No cores		Live w Son(s) vs. No cores		Live w Dau(s) vs. No cores	
	OR	robust s.e.	OR	robust s.e.	OR	robust s.e.	OR	robust s.e.
Total Living Sons, t1	1.03	0.02	.77***	0.03	1.10***	0.02	.53***	0.02
Total Living Daughters, t1	1.00	0.02	1.30***	0.04	.97*	0.02	1.32***	0.03
Any coresident child-in-law, t1					1.14*	0.07	0.89	0.07
Any coresident grand child, t1					1.29***	0.08	0.9	0.08
Older Adult is Female (ref. male)	1.02	0.05	1.31**	0.12	0.92	0.05	0.96	0.1
Age at T1: 65-69 (ref. 80-89)	.75***	0.06	1.04	0.14	0.9	0.08	.72*	0.11
Age at T1: 70-79 (ref. 80-89)	.74***	0.04	.71**	0.08	.87*	0.06	.74*	0.09
Age at T1: 90-99 (ref. 80-89)	1.18***	0.06	1.24*	0.12	1.04	0.06	1.1	0.11
Age at T1: 100-109 (ref. 80-89)	1.40***	0.09	1.58***	0.17	0.93	0.07	1.1	0.13
Place of Residence T1: City (ref. rural)	.77***	0.04	2.62***	0.23	.68***	0.04	2.25***	0.23
Place of Residence T1: Town (ref. rural)	1.06	0.05	1.35***	0.12	0.91	0.05	1.19	0.12
Educational Attainment - 1-6 years (ref. no formal schooling)	1.00	0.05	1.25*	0.12	0.95	0.06	1.05	0.11
Educational Attainment - 7+ years (ref. no formal schooling)	0.90	0.08	1.49**	0.21	0.92	0.09	1.21	0.18
Main occupation before age 60: Prof/Managerial/Govt (ref. agr)	.64***	0.06	0.99	0.13	.72***	0.07	1.08	0.16
Main occupation before age 60: Industrial worker (ref. agr)	0.92	0.04	1.10	0.09	0.95	0.05	1.13	0.1
Main occupation before age 60: Commercial/Services Worker (ref. agr)	.82**	0.05	1.29*	0.13	0.9	0.07	1.37**	0.15
Main occupation before age 60: Housework (ref. agr)	1.09	0.09	1.80***	0.23	1.1	0.09	1.74***	0.21
Main occupation before age 60: Missing/DK (ref. agr)	0.91	0.15	1.56	0.43	1.13	0.21	1.83*	0.49
ADL Index Score, t1	1.03***	0.01	1.07***	0.01	0.96	0.02	1.02	0.03
ADL Index Score, t2					1.03**	0.01	1.06***	0.02
Interaction, ADL score t1 * ADL score t2					1	0	0.99	0
Any Coresident Child, t1					8.92***	0.87	12.91***	2.34
Marital Status T1 - Widowed (ref. Married)	3.04***	0.15	2.83***	0.26				
Marital Status Change: Married t1, Widowed t2 (ref. married t1 & t2)					3.50***	0.41	5.27***	1.24
Marital Status Change: Widowed t1 & t2 (ref. married t1 & t2)					1.88***	0.16	1.94***	0.35
Any Coresident Child T1 * Marital Status Change: Married t1 & Widowed t2					.47***	0.09	.35***	0.11
Any Coresident Child T1 * Marital Status Change: Widowed t1 & Widowed t2					1.32*	0.14	1.33	0.27
N	20,094				15,039			
Pseudo R2	0.08				0.25			
Log Pseudolikelihood	-16640.60				-10785.66			

Source: Chinese Longitudinal Healthy Longevity Survey

Figure One. Percent Widowed by Age and Gender, Older Adults in the CLHLS 1998-2002

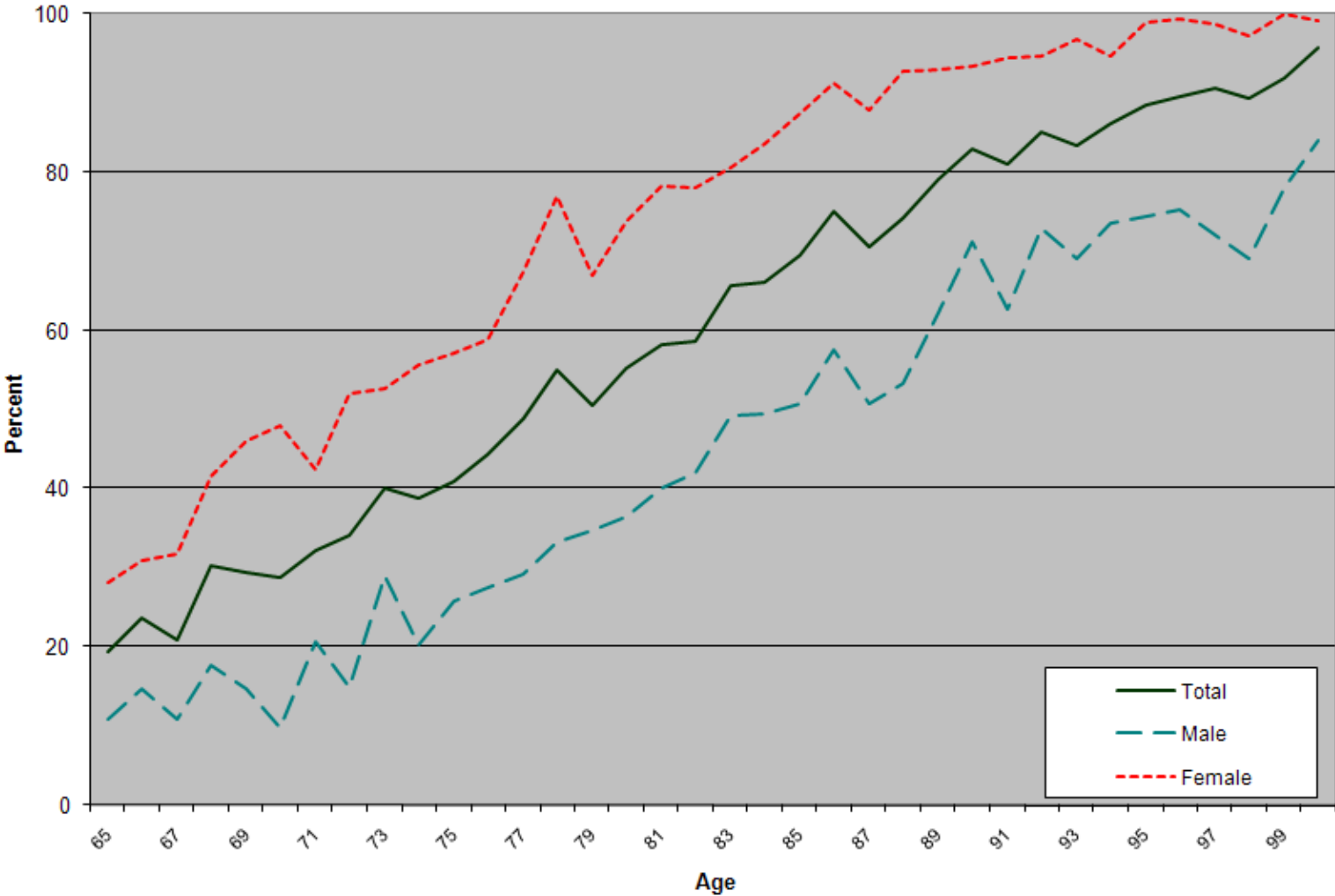


Figure 2. Probability of a Child Coresiding at Time 2, Given No Coresident Children at Time 1

