Living Arrangements of Older Adults in China: The Interplay Among Preferences, Realities, and Health

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Introduction

Much of the recent research on population aging in China focuses on living arrangements and family support for older adults (Gu, Dupre et al. 2007; Chen and Short 2008; Song, Li et al. 2008; Wu and Schimmele 2008; Zhang 2008; Zimmer 2008; Li, Zhang et al. 2009). Living arrangements are important to the health and well-being of the elderly because the household is a major factor in determining social roles by providing support and interactions (or not) to older adults (Waite and Hughes 1999). Studies of living arrangements often discuss coresidence preferences but rarely measure them, instead assuming that actual living arrangements are a partial consequence of preference (Wilmoth 2001). Utilizing the 2005 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), this paper seeks to add understanding to the dynamics of living arrangements among community-residing elderly in China by exploring not only actual living arrangements but also preferences regarding them, and what factors influence "living arrangement concordance" – having a match between preferred and actual living arrangements. Furthermore, I investigate whether living arrangement concordance influences the health of older adults.

Living Arrangement Concordance

The extent of fit between an individual's competence, needs, personality and their environment may be relevant to life quality, well-being, and mental health (Carp and Carp 1984). The congruence theory of person-environment fit argues that an individual often strives to maximize concordance between environment and needs, either by changing environments or altering her perception of needs (Kahana 1975; Kahana, Liang et al. 1980). Studies have shown that elders with congruence (concordance) between needs and environment have higher morale (Lawton 1976). Having a 'match' between preferences and realities also elevates sense of control, which has long been recognized as critical to well-being for people at any age.

There is limited research on concordance of living arrangements, but some comes from East Asia. A recent study of older women in Taiwan examined living arrangement concordance and how it differs over time and cohort (Hermalin and Yang 2004). Current family status and living arrangement had a strong influence on preference — 80% of women already living with a married son preferred to continue to do so. Those who did not prefer coresidence with children mostly preferred living alone or with a spouse only. They found that educated individuals were more likely to have concordance and also to prefer living independently.

Another study, using survey data collected in urban China in 1987, looked at the relationship between actual and preferred living arrangements. About one third of the sample did not have concordance. The study indicated that widows were more likely than married persons to prefer coresidence. The paper gave evidence that preferences strongly affect coresidence, while coresidence has a modest negative effect on preferences (Logan and Bian 1999).

Preferences and Other Determinants of Living Arrangements

Fertility surveys often ask women if old-age support is a motivation for higher fertility, but living arrangement preferences of the elderly are rarely surveyed (Hermalin and Yang 2004). In addition, studies may not measure preference directly by survey questions. Nevertheless, researchers acknowledge that preferences influence actual living arrangements and that preferences are shaped not only by cultural norms, but also by education and exposure to new ideas (Knodel and Ofstedal 2002).

Several studies, from both more-developed and less-developed countries, conclude that demographic factors — such as age, ethnicity, and gender — influence living arrangements of older adults. In a study of immigrant and non-immigrant American elderly, Wilmoth, Jong, et al. (1997) found that immigrants were more likely than native-born Americans to live with their extended family. Women in this sample were also less likely to be living in extended family

living arrangements. Evidence from less-developed countries shows the opposite. Women come from a more vulnerable position in terms of economic power, but may command more emotional loyalty from children. Empirical results show that older elderly Egyptian men are more likely to live alone than women (Yount and Khadr 2008). In a sample of Chinese older adults, women in poor health are more likely than men in poor health to move in with children (Zimmer 2008).

Availability of family members, particularly a spouse, determines the living arrangements available. Research from China found that parental residence changes over time and that it responds to children's need for childcare, death of one parent, and health status of parents (Chen 2005). Several studies indicate that married individuals are less likely to live with children (Wilmoth, De Jong et al. 1997; Zimmer, Kwong et al. 2007). Number and proximity of children is also an influence. Among elderly in Beijing, two children maximizes the likelihood of coresidence, but three or more children makes coresidence less likely (Zimmer, Kwong et al. 2007). In Japan, older adults with more children are less likely to live solely with their spouse but are more likely to live with an unmarried child. Japanese elderly with children nearby are less likely to live with a spouse only (Brown, Liang et al. 2002).

The literature indicates that socio-economic factors, namely education and income, also play a major role in determining living arrangements of older adults. In Japan, higher education was shown to increase the likelihood of living independently (Brown, Liang et al. 2002). Yount and Khadr (2008) found that more economically vulnerable Egyptian men were more likely to live alone than women. In China, socio-economic status determines normative value and aspects of material well-being among older adults in China (Logan and Bian 1999; Knodel and Ofstedal 2002). In Beijing, educated elderly and those previously employed in higher status occupations were found to be less likely to live with children (Zimmer, Kwong et al. 2007).

Living Arrangements and Health

We have a limited understanding of the relationships, both direct and indirect, between health and living arrangements, but scholars are interested in elucidating them (Liang, Brown et al. 2005). When thinking about the health of older adults, it is important to consider not only objective measures of health, such as the incidence of chronic disease or functional disability, but also psychological health and measures of well-being, which may include concordance.

In China, intergenerational coresidence may give older adults a sense of pride, as well as instrumental and emotional support which could improve health. Alternatively, coresidence could encourage dependence and speed up age-related loss of physical ability (Li, Zhang et al. 2009). Several studies have found that older adults living together with family members have better subjective well-being than those living alone (Chen and Silverstein 2000; Chen and Short 2008; Wu and Schimmele 2008). Using data from Beijing, Xuan Chen and Silverstein (2000) found that number and gender of children had no impact on older parents' morale, whereas Feinian Chen and Short (2008) found that among CLHLS elderly, oldest-old adults living with daughters had higher scores of positive well-being. Wu and Schimmele (2008), also using the CLHLS, found that benefits of coresidence with family members persist regardless of socio-economic status (SES) and health disparities.

Regarding more physical measures of health, some studies among Chinese older adults have found that elderly who live alone are less likely to have activities of daily living limitations than those who coreside with children (Beydoun and Popkin 2005; Zimmer, Kwong et al. 2007; Li, Zhang et al. 2009). In contrast, CLHLS elderly who live with children report better self-rated health (SRH) than those who live alone (Liu and Zhang 2004), but another study shows a particular health advantage of living with a spouse only (Li, Zhang et al. 2009). Living arrangements, however, do not seem to moderate the positive effect of psychological disposition

on SRH (Wu and Schimmele 2006) nor the negative effect of education on instrumental activities of daily living (IADL) disability (Beydoun and Popkin 2005).

Eldercare in China

Living arrangements in China carry added significance stemming from Confucian ideals of filial piety, which consider serving one's parents to be the highest virtue (Whyte 2003). A deep-seated tradition of coresidence with one or more married children, usually the eldest son, arose from these ideals and continues into the current era (Zimmer 2005). Both before 1949 (Yan, Chen, *et al*. 2003) and today (Zeng and George 2002), the elderly in China coresided with family members and relied on them for support, especially in the countryside. Coresidence with children, however, has declined over time as family sizes have decreased due to the one-child policy and other social and economic changes. It is not yet clear, however, how a decline in coresidence will affect financial and instrumental intergenerational support more generally.

Data

The data come from the 2005 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS), which was launched in 1998 in China with a focus on the oldest-old, though later waves included younger elderly. The baseline and follow-up surveys with replacement for deceased elders was carried out in a random sample of half of the counties and cities in 22 of China's 31[1] provinces and municipalities in 1998, 2000, 2002, 2005, and 2008-2009. The population in these regions makes up about 85% of the total population of China. The 2005 wave had 15,638 respondents ranging from ages 65 to 112 (Zeng 2008).

The current study makes use of an item that was first added in 2005, "Which living arrangement setting do you prefer?" Respondents were given a choice of five possible responses: (1) living alone (or with spouse only) regardless of residential distance to children; (2) living

[1] These areas are Liaoning, Jilin, Heilongjiang, Hebei, Beijing, Tianjin, Shanxi, Shaanxi, Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong, Henan, Hubei, Hunan, Guangdong, Guanxi, Sichuan and Chongqing.

alone (or with spouse only) but children living nearby; (3) coresidence with children; (4) living in an institution; and (5) do not know. I focus on those elders who responded with choice 1, 2, or 3. Concordance of living arrangement is defined as living in a given living arrangement and preferring to do so —having a 'match' — otherwise the respondent has discordance. For ease of analysis, categories 1 and 2 have been combined. The analysis is limited to older adults who either live independently (live alone or live with a spouse only) or coreside with children, and who also prefer one of these two living arrangements. The sample is limited to ever-married elders in these two living arrangement and preference types, and to those individuals with one or more living children, thus reducing the sample to 14,445 respondents. A previous work explored concordance among Chinese elders who live in institutions (Sereny and Gu 2008).

Methods

Multiple sets of binary logistic regression analysis were carried out to explore the relationships among preferences, actualities, and health. The dependent variables are living arrangement preference, living arrangement concordance, poor self-rated health, and ADL disability, in that order. The first set of regressions, which predict preference and concordance, include demographic, SES, and family caregiving variables as controls. The second set of regressions, which examine the effect of living arrangement concordance on two different health measures, control for all previous covariates, as well as some additional health measures, and a personality variable (positive outlook, described below).

Demographic variables include age, gender, and being non-Han (minority) ethnicity. Measures of socio-economic status are not standard across studies of aging in China, but a review of the literature lead me to include the following SES variables: urban residence, education (Zhu and Xie 2007), main occupation before age 60 (Wu and Schimmele 2008),

economic independence, and home registration in own name. Family care variables include marital status, number of living children, and children living nearby.

Self-rated health is assessed using a single item in this study. Subjects were asked, "In general, would you say your health is: (1) very good, (2) good, (3) fair, (4) poor, or (5) very poor?" Studies have shown that SRH is a good predictor of mortality among the elderly (Idler and Benyamini 1997) and among oldest old in previous waves of the CLHLS (Li and Liu 2008). If a respondent needed assistance in any of the six ADL items (bathing, dressing, indoor transferring, toileting, incontinence, and eating), she was considered to be disabled. Chronic health conditions and cognitive disability are also binary variables. Positive outlook is an index of items that are related to subjective well-being: 1) How do you rate your life at present? 2) Do you always look on the bright side of things? 3) Are you as happy now as when younger? The index values range from 3-15 with higher numbers indicating a more positive outlook on life (cronbach's alpha=.51) (Wu and Schimmele 2006; Chen and Short 2008).

Results

Table 1 shows the number and percentage of elderly that live in five types of living arrangements as derived from the data. The majority coreside with children, while about 30% of the sample live independently (4,885 respondents), with more than 2/3 of them living near children. These data are similar to 2000 Chinese census data which show that 30.8% of elders lived with a spouse only and 61.3% lived with children or others (He, Sengupta et al. 2007).

---Table 1 about here---

Table 2 shows the respondents' answers to the question, "Which living arrangement setting do you prefer?" More than half of the respondents chose coresidence with children as their preferred living arrangement. Missing values have been imputed.

---Table 2 about here---

My focus is on living arrangement concordance, and health – namely self-rated health and activities of daily living disability. To that end, Table 3 shows mean self-rated health, the percentage of the sample that self-rates health as poor, and the percentage of respondents with ADL disability, stratified by type of living arrangement. Mean SRH and the percentage of the sample self-rating health as poor are roughly similar across living arrangement types, while ADL disability ranges considerably.

---Table 3 about here---

Table 4 instead examines health conditions stratified by living arrangement concordance. Those who have independent-living concordance are healthier — statistically better (lower) SRH, smaller percentage in self-rated poor health, and lower prevalence of ADL disability — whereas among elders who coreside with children it is the opposite. Nearly one-third of the elderly who have coresidence concordance have difficulty with one or more activities of daily living, compared to only 21% of elders who do not have coresidence concordance. Among elders who coreside, however, there is not a statistically significant difference in self-rated health between those who have concordance and those who do not.

---Table 4 about here---

Characteristics of the sample are shown in Table 5, stratified by living arrangement type. Overall, the majority of the respondents are female, Han Chinese, rural residents, lacking economic independence, do not live in own home, are widowed, have children living nearby, have one or more chronic health conditions, and are not cognitively disabled. There are statistically significant differences within the vast majority of the variables.

---Table 5 about here---

The first regression looks at odds ratios for predicting preference to coreside with children. In Model I, each additional year of age and being non-Han Chinese increases the likelihood of preferring coresidence. Those who are male, have economic independence, have a

home registered in his own name, are married, have five or more children (as compared to one), and have children living nearby are less likely to prefer coresidence. When actual living arrangement is added in Model II, the model fit increases, and actual coresidence is highly predictive of preference, with those who actually live with children being more than sixteen times more likely to prefer it than those who live independently. Additionally, in Model II, the effect of demographic and SES variables weaken, and the previously significant family care variables are only significant at the 0.1 level. The significance and effect of occupation, however, strengthens: those older adults with lower-status occupations are more likely to prefer coresidence, which is in line with the direction of the other SES variables. Older adults with better SES are more likely to prefer living independently. Models were also tested which included health factors in the analysis, but the results were extremely similar and omitted here.

---Table 6 about here---

The next regression explores what factors predict concordance of living arrangements, with separate models for those who coreside with children and those who live independently. The results for predicting concordance among those who coreside with children are similar to the results from Table 6. The effect of ethnicity has increased with non-Han Chinese elders being 2.67 times more likely to have coresidence concordance than Han Chinese, net of other factors. With all else being held at its mean, elders whose homes are in their names, meaning that their children moved in with them, and not vice versa, are less likely by a factor of 1.45 to have coresidence concordance[2]. The effect of marital status is also higher than before, with married elders being 1.72 times more likely to have living arrangement discordance than widowed elders.

In direct contrast, older adults are less likely to have independent living concordance, while higher SES elders are more likely to do so: those who can support themselves

[2] Here I will refer to odds ratios under 1 as a "factor change" in the odds for ease of comparison with odds ratios higher than 1. The factor change is calculated as 1/odds ratio.

economically are 83% more likely to have concordance. A new finding, however, is that more children increases the likelihood of having independent living concordance. Those with four children or five or more children (as compared to one child) are 51% and 54% more likely to have concordance, respectively.

---Table 7 about here---

The next set of regressions looks at health as the dependent variable. First, in Table 8 I look at the effect of living arrangement concordance on predicting poor self-rated health, net of controls, and in Table 9 I explore the relationship between ADL disability and living arrangement concordance. In both analyses, Model I includes only demographic factors as controls, model II adds SES covariates, model III adds family care variables, model IV adds additional health measures, and model V adds a control for positive outlook.

Model I in Table 8 shows that both types of concordance, as compared with discordance in living arrangements, decreases the likelihood of self-reporting health as poor by factors of 1.16 and 1.17, respectively. When SES factors are added in Model II, the effect of coresidence concordance on SRH weakens. Older age increases the likelihood of self-rating health as poor, while being male lowers the odds. SES is mixed. Older adults who worked in lower-status occupations are somewhat more likely to have better health and older adults with economic independence are 56% more likely to have good self-rated health. Those who live in their own home, however, are 22% more likely to have poor SRH. Further exploration is necessary.

The relationship between independent living concordance and self-rated health strengthens after family care variables are added to the model, while it weakens the effect of coresidence concordance on health. Married elders are 15% more likely to self-rate health as poor. Only the odds ratio for 5 or more children is significant at the .05 level, and having more children decreases the likelihood of self-rating health as poor by a factor of 1.18.

When other health variables are controlled for, both types of concordance are equally predictive of decreasing the likelihood of self-rating health as poor. All three health variables are highly predictive of poor self-rated health. In addition, after controlling for health variables, the effect of age reverses. A further finding is that in model IV education becomes significant and positive, while the magnitude of the other SES variables weakens slightly.

The final model adds positive outlook, and it somewhat mediates the effect of concordance on SRH. While independent living concordance is now barely significant, coresidence concordance is still predictive of lower odds of poor SRH at the .05 level, giving credence to the congruence model of person-environment fit theory. In the final model, each additional year of age, economic independence, and a positive outlook decrease the odds of a respondent having poor SRH. Those in the sample who have some education, ADL disability, chronic health conditions, and cognitive disability are more likely to self-rate health as poor.

---Table 8 about here---.

The final model predicts ADL disability among community-residing Chinese elders. The relationship between concordance and this particular health outcome is quite different from the previous regression. In every model, coresidence concordance increases the likelihood of ADL disability while independent living concordance decreases it. While the high significance of independent living concordance gives credence to person-environment fit theory, there is a different story behind the odds ratio for coresidence concordance. It is not entirely surprising, however, because the results from Table 4 show that a greater percentage of elders with coresidence concordance have ADL disability than those with discordance.

---Table 9 about here---

The variables and models fit the data better for predicting ADL disability than self-rated health. In addition, the effect of individual covariates changes little as additional variables are

added to the model, with the exception of economic independence. In the final model of Table 9, males, non-Han Chinese, those elders who were previously farmers or fishermen, those with children living nearby, good self-rated health, and higher scores on the positive outlook index are less likely to be disabled. Older adults, urban residents, married elders, those with chronic health conditions, and those with cognitive disability are more likely to have ADL disability. Economic independence decreases the odds of having ADL disability in Models II and III , but the effect disappears after health is controlled for.

There are both similarities and differences in the effect of covariates in predicting poor SRH and ADL disability in Tables 8 and 9. Economic independence and positive outlook both decrease the likelihood of poor SRH and ADL disability. Male gender is highly significant and negative in all models predicting ADL disability but the effect of gender on poor SRH drops out when health variables are added to the model. There is no effect of ethnicity on poor SRH, but non-Han Chinese are less likely to have ADL disability in the final model. Urban residence does not influence poor SRH in my models but urban elderly are more than 50% more likely to have ADL disability. In addition, while educated elderly are 12% more likely to have poor SRH in my regression analysis, education plays no role in predicting ADL disability. Surprisingly, economic independence does not influence the likelihood of having ADL disability, but it is highly predictive of good SRH. Another SES variable—having one's home registered in one's own name – also does not predict ADL disability but it strongly increases the odds of having poor SRH in the previous regression. Number of children seems to play no role in predicting disability, but proximity of children does. This is different from Table 8 where there was evidence that greater numbers of children decreased the odds of poor SRH. Cognitive disability has larger odds of predicting ADL disability than the other health variables, but chronic health conditions has a

larger impact on poor SRH. Each additional score on the positive outlook index has a slightly higher effect on poor self-rated health than it does on ADL disability**.**

Discussion

This study gives insight into the interactions among living arrangement preferences, actual living arrangements, and health status of older adults in China. Some of the major findings of this study are that although actual living arrangement has a strong influence on preference to coreside with children, other factors are also at play, including age, gender, ethnicity, socio-economic status, and marital status. Additionally, different factors influence coresidence concordance than independent living concordance. I find some support for the congruence model of person-environment fit, with concordance of living arrangements predicting better health among some groups, but also evidence that preference itself may be a strong predictor of health. In addition, the survey data on preference of living arrangements also indicates the growing acceptance of living separately from children, something that was also found in an earlier study of Chinese elderly in urban settings (Logan and Bian 1999).

Older adults and people with lower socio-economic standing are more likely to prefer coresidence with children, while older adults with better socio-economic status and more family care resources are less likely to prefer coresidence. This could mean that lower SES people have more traditional attitudes towards intergenerational coresidence or that greater resources enable elders to live independently. There is some indication that if individual finances were sufficient, independent living would be preferred. This goes against traditional attitudes that value intergenerational coresidence.

Coresidence concordance predicts better self-rated health even after controlling for other health problems and positive attitude, thus giving support to the congruence model of person-environment fit. Having satisfaction through a match between preferred and actual living

arrangements may improve the well-being of older adults in China. The congruence model of person-environment fit may also pertain to ADL disability among elders with independent living concordance, as they have lower odds of ADL disability.

Coresidence concordance, however, predicts greater odds of ADL disability. This is not in line with my hypothesis but is still a very interesting finding. I can only conjecture, because the cross-sectional nature of the data does not allow me to verify this, but it is possible that disability preceded coresidence (or coresidence preference) and that older adults with functional disability may self-select into coresidence with children. Their lower functioning makes them need and prefer coresidence with children, and thus having concordance predicts ADL disability.

There are several limitations of this study that deserve additional attention. First, many studies which examine intergenerational coresidence in China look at the gender of the coresidential child, because the traditional pattern is for older parents to live with the eldest married son. Because the preference question did not specify gender, I did not include gender of child in my analysis. Second, the paper does not yet consider children's needs or support provided by parents in the analysis. However, because the CLHLS over-samples the oldest-old, they may be less able to provide instrumental and financial assistance to younger generations. Finally, the association between living arrangement concordance and health in the present study is a snapshot, which may suffer from issues of endogeneity. The unavailability of data on living arrangement preferences in earlier waves prohibits examining the longitudinal association between living arrangement discordance and health. Once the 2008-2009 wave data is available, I will be able to test such associations. It will also be possible to see whether people change their opinion once they find themselves in a different living arrangement which they had previously

been discordant towards. This may help disentangle whether ADL disability preceded coresidence or not.

Because studying living arrangement concordance is a relatively unexplored area, there are many directions for the research to expand. If other surveys of older adults also contained a question about preference we could see what factors influence concordance and how concordance influences health in different settings. In addition, longitudinal data on living arrangement preference would enable researchers to see how preferences change over time, and whether actual living arrangement and preference influence each other.

In Western societies intergenerational coresidence has declined during the 20th century (Ruggles 1994; Grundy 1999), but it is yet unclear to what extent coresidence will decline in China and other parts of East Asia. Family sizes and numbers of adult children will decline, but rural to urban migration will also influence coresidence and living arrangement options for older adults. Future state support for social security and senior homes could also play a major role. If attitudes are indeed changing and parents do not expect the same level of support as they did in the past then perhaps we do not have to worry about negative psychological outcomes for Chinese elderly. These results show that studying living arrangement concordance among the elderly is important, because for some, concordance may lead to higher well-being, and for others, preference may actually be a proxy for health problems and need for care. Future surveys of the elderly should include questions about living arrangement preferences: we should not assume that there is a one-size fits all model in more developed or developing countries, but instead elders should have a choice of living arrangement, as 'concordance' may improve quality of life and overall well-being.

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Tables

Table 1: Actual Living Arrangement

Living Arrangement	N	Percent
Living alone (or with spouse), children are not nearby	1504	9.62
Living alone (or with spouse) and children living nearby	3381	21.62
Coresidence with children	10,027	64.12
Institutions	422	2.70
Other (other family members, missing data)	304	1.94
Total	15638	100.00

Table 2: Preferred Living Arrangement
(missing values imputed)

Living Arrangement	N	Percent
Living alone (or with spouse), regardless of residential distance of children	1480	9.46
Living alone (or with spouse) and children living nearby	4140	26.47
Coresidence with children	9449	60.42
Institutions	569	3.64
Total	15638	100.00

Table 3: Living Arrangement & Health

Living Arrangement	Mean Self-rated health (higher is worse)	% of sample self-rates health as poor	% of sample with ADL disability
Lives Independently	2.59 (.014)	51.11%	11.20%
Coresidence with children	2.60 (.009)	50.49%	30.82%
Institution	2.57 (.053)	48.67%	41.33%
Other	2.69 (.060)	50.80%	50.40%

Table 4: Living Arrangement Concordance and Health

Living Arrangement	Concordance	N	Mean SRH	% of sample self-rates health as poor	% of sample with ADL disability
Lives Independently	Yes	3733 (79.76%)	2.53*** (.015)	48.21%+++	10.31%+++
	No	947	2.80 (.031)	59.45%	14.68%
Coresidence	Yes	8275 (83.86%)	2.59 (.009)	51.16%	32.54%+++
	No	1592	2.56 (.023)	50.88%	21.86%

***t-test $p<0.001$
+++ test of proportion $z<0.001$

Table 5: Sample Distribution

	Total (N=14547)	Lives Independently (N=4680)	Coresidence with Children (N=9867)
Living Arrangement Concordance[a]	79.55	79.76	83.86
Age***	86.10	80.55	88.47
Male (%)+++	42.36	53.72	37.14
Minority (%)+++	6.2	3.68	7.38
Urban (%)	44.38	42.32	43.82
Years of Education***	2.11	2.73	1.77
Agriculture/Fishery Occupation (%)+++	61.44	58.12	64.21
Economic independence (%)+++	24.79	37.70	18.64
Lives in own home (%)+++	38.18	67.72	24.93
Widowed (%)+++	66.62	39.30	78.41
Married (%)+++	31.19	58.80	19.41
Divorced/Separated (%)	2.10	1.89	2.17
Number of Children***	3.90	4.01	3.85
Children live nearby (%)+++	61.50	72.05	57.15
One or more Chronic Health Condition(s) (%)++	59.53	61.05	58.61
Cognitive Disability (%)+++	40.54	25.43	47.31
Positive Outlook Index***	9.28	10.01	8.95

t-tests and tests of proportion are between living independently and coresidence with children groups

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

+ z<.05 ++ z<.01 +++ z<.001

[a] cannot be compared by z/t test

Table 6: Odds Ratios of Predicting Preference to Coreside with Children/Grandchildren

	Prefers Coresidence	
Lives with children		16.31***
Age	1.03***	1.03***
Male	0.89*	0.88*
Minority Ethnicity	2.14***	1.74***
Urban	1.06	0.96
Educated [a]	1.03	0.97
Agriculture/Fishery Occupation	1.10+	1.15*
Economic Independence	0.61***	0.64***
Home in own name	0.39***	0.76***
Married [b]	0.43***	0.71***
Divorced/Separated [b]	0.76*	0.84
Two Children [c]	0.93	0.86
Three Children [c]	0.95	0.86
Four Children [c]	0.88	0.84
Five or more children [c]	0.82*	0.83+
Children Living Nearby	0.64***	0.91+
N	14372	14632
Chi-Square	3266.69	6776.54
DF	15	16

***p<0.001; **p<0.01; *p<0.05; +p<0.1

a – some education compared with none

b – compared with widowed elders

c – compared with having one living child

Table 7: Odds Ratios of Predicting Living Arrangement Concordance for Elders Coresiding with Children and Elders Living Independently

Living Arrangement	Coresidence with children	Living Independently
Age	1.03***	0.98***
Male	0.88+	1.11
Minority Ethnicity	2.67***	1.20
Urban	0.99	1.07
Educated [a]	1.06	1.19+
Agriculture/Fishery Occupation	1.20**	0.94
Economic Independence	0.71***	1.83***
Home in own name	0.69***	1.09
Married [b]	0.58***	1.05
Divorced/Separated [b]	0.93	1.80+
Two Children [c]	0.93	1.32
Three Children [c]	0.85	1.13
Four Children [c]	0.95	1.51*
Five or more children [c]	0.95	1.54*
Children Living Nearby	0.87*	1.06
N	9784	4588
Chi-Square	666.77	165.43
DF	15	15

***p<0.001; **p<0.01; *p<0.05; +p<0.1

a – some education compared with none

b – compared with widowed elders

c – compared with having one living child

Table 8: Odds Ratios For Using Living Arrangement Concordance and Other Factors to Predict Poor Self-Rated Health

	Model I	Model II	Model III	Model IV	Model V
Concordance					
Coresidence Concordance	0.86**	0.88**	0.89*	0.87**	0.88*
Independent Living Concordance	0.85**	0.85**	0.84**	0.87*	0.91+
Demographic					
Age	1.01***	1.01***	1.01***	0.99***	0.99***
Male	0.86***	0.88**	0.85***	0.96	0.96
Minority	1.04	1.03	1.03	1.13+	1.08
SES					
Urban		1.04	1.04	0.99	1.02
Educated [a]		1.06	1.06	1.12*	1.12*
Agriculture/Fishery Occupation		0.92+	0.92*	0.98	0.96
Economic independence		0.64***	0.63***	0.66***	0.70***
Lives in own home		1.22***	1.21***	1.23***	1.20***
Family Care					
Married [b]			1.15**	1.10*	1.10+
Divorced/Separated [b]			1.15	1.15	1.14
Two Children [c]			0.88	0.85+	0.86+
Three Children [c]			0.87+	0.86+	0.87+
Four Children [c]			0.88	0.88	0.91
Five or more children [c]			0.85*	0.84*	0.87+
Children live nearby			1.03	1.07+	1.03
Health					
ADL disabled				1.76***	1.56***
Chronic Health Condition(s)				2.04***	2.02***
Cognitive Disability				1.87***	1.42***
Personality					
Positive outlook					0.90***
N	14445	14445	14445	14445	14445
Chi-Square	65.48	172.15	186.07	1143.44	1683.58
DF	5	10	18	20	21

***p<0.001; **p<0.01; *p<0.05; +p<0.1 ;

a – some education compared with none

b – compared with widowed elders

c – compared with having one living child

Table 9: Odds Ratios For Using Concordance and Other Factors to Predict ADL Disability

	Model I	Model II	Model III	Model IV	Model V
Concordance					
Coresidence Concordance	1.30***	1.29***	1.30***	1.31***	1.32***
Independent Living Concordance	0.66***	0.67***	0.67***	0.70***	0.72***
Demographic					
Age	1.10***	1.10***	1.10***	1.09***	1.08***
Male	0.77***	0.77***	0.75***	0.84**	0.84**
Minority	0.55***	0.60***	0.61***	0.60***	0.59***
SES					
Urban		1.49***	1.48***	1.52***	1.55***
Educated [a]		0.97	0.96	1.09	1.08
Agriculture/Fishery Occupation		0.70***	0.72***	0.71***	0.71***
Economic independence		0.85*	0.81**	0.95	0.97
Lives in own home		0.95	0.93	0.91+	0.90+
Family Care					
Married [b]			1.27**	1.25**	1.24**
Divorced/Separated [b]			1.05	1.06	1.06
Two Children [c]			0.91	0.89	0.90
Three Children [c]			0.90	0.91	0.91
Four Children [c]			0.90	0.92	0.95
Five or more children [c]			0.96	1.01	1.03
Children live nearby			0.78***	0.76***	0.74***
Health					
Self-rates health as good				0.54***	0.59***
Chronic Health Condition(s)				1.93***	1.93***
Cognitive Disability				3.12***	2.63***
Personality					
Positive outlook					0.94***
N	14455	14455	14455	14455	14455
Chi-Square	2966.79	3171.79	3215.77	4246.73	4361.97
DF	5	10	17	20	21

***p<0.001; **p<0.01; *p<0.05; +p<0.1

a – some education compared with none

b – compared with widowed elders

c – compared with having one living child