

Chinese Elders' Living Arrangement Concordance and Self-Rated Health

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Introduction

This paper explores the relationship between preferred and actual living arrangement among Chinese elders and the effect that having a match between preferred and actual living arrangement (“living arrangement concordance”) has on self-rated health. Very little research has looked at the variable ‘concordance’ in terms of elders’ living arrangements. Recent research looks at the relationship between living arrangement concordance and self-rated health among institutionalized and community-residing (broadly) Chinese elders (Sereny and Gu 2008), but this paper will focus on two specific community-residing groups – those elders who co-reside with children and those who live alone or with a spouse only.

This question can be approached in two ways, by looking at all those who prefer a certain living arrangement and how many have actually achieved it, and by looking at those who live in a certain arrangement and prefer that arrangement. The analysis begins by defining concordance as the latter, living in one circumstance and preferring it to others. In this paper I will examine what factors influence concordance among community-residing Chinese elders, and what impact living arrangement concordance has on self-rated health, net of other factors.

Literature Review

Concordance

Person-environment theory argues that an individual often strives to maximize concordance between environment and needs, either by changing environments or altering his/her perception of needs (Kahana 1975). Studies have shown that elders with congruence (concordance) between needs and environmental opportunities have higher

morale (Lawton 1976) . As competence declines, however, individual behavior becomes increasingly determined by external environmental factors (Lawton, Altman et al. 1984).

As mentioned earlier, a few studies have also examined this concept of living arrangement ‘concordance’ among the elderly. Fortunately, two such studies come from East Asia. A study from Taiwan examined living arrangement concordance and how it differs over time and cohort among Taiwanese women (Hermalin and Yang 2004). This research looks at concordance for a single point of time. In addition, the choices of living arrangement were different from the present study, and included preferences to live with a son versus a daughter. They found that 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 co-residence 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 data from the nine-city aging survey in China, conducted in 1987, also examined the relationship between actual and preferred living arrangements. The choices were between living with a married son, a married daughter, or separately. The authors found that about one third of the sample did not have concordance. They found that behaviors and preferences were affected by circumstances, with a larger-size residence increasing the likelihood of preferring coresidence. Widowed fathers and mothers were also more likely than married persons to prefer coresidence. The paper gave tentative evidence that preferences strongly affect coresidence, while coresidence has a modest negative effect on preferences to coreside (Logan and Bian 1999).

Other studies from Asian and non-Asian settings, have given differing evidence as to what influences actual and preferred living arrangements. Evidence from a study of elderly Latinos in the United States indicates that of those who live alone, men, individuals with more sons, and foreign-born Hispanics were more likely to prefer coresidence with children. Women, individuals with higher economic resources, more daughters, and native-born Latinos were more likely to prefer living alone. In addition, the article found that preferences influence actual living arrangements (Zsembik 1996). A study of Egyptian elderly finds that women are more likely than men to live with ever-married children and this is attributed to women's investment in kin-keeping throughout the life course (Yount and Khadr 2008).

A Korean study finds that seniors with higher education or economic independence are more likely to prefer a separate residence, as opposed to living with children (Kim and Rhee 1997). A study of elderly Chinese Canadians finds that those with poor financial situations are more likely to prefer living with children, and that those who prefer living with children report higher levels of dependency on others and lower levels of other social support (Lai 2005). Further evidence among Korean elderly parents shows that rural residents, Protestant Christians (as compared with non-religious respondents), and the absence of a living son increase the likelihood of preferring a separate residence; whereas older age and being currently unmarried reduces the odds of preferring a separate residence (Kim and Rhee 1997).

Living Arrangements and Health

The relationship between living arrangement and health is bi-directional. While worse health could plausibly increase the likelihood that an elder will coreside with

children, some elders may not have that option available to them, and thus live alone. On the other hand, worse health could result from living alone and not receiving proper care. Previous studies have not given evidence to a clear direction of flows between living arrangement and health.

Evidence from East Asian settings shows that worsening health (chronic conditions and depressed affect) increases the likelihood of transitioning from living with children to living alone or with a spouse only among Japanese elders (Brown, Liang et al. 2002). Among elderly Chinese Canadians, researchers found that those who preferred living with children reported more disability in instrumental activities of daily living (IADL) (Lai 2005). Additionally, Hong Kong data show that living alone is positively associated with depression among older women (Chou, Ho et al. 2006), and that older people with different living arrangements differ in psychological well-being because of varied access to social services, time for leisure, and changes in attitudes towards coresidence with children (Ng, Lee et al. 2004).

Eldercare in China

Living arrangements for the elderly take on a special meaning in the Chinese context because of the deep-seated tradition of filial piety and coresidence with one or more married children, usually the eldest son. In such a situation, ideally the elder would receive emotional, instrumental, and financial support from their co-resident family members. Evidence from pre-1949 China indicates that the majority of elderly people co-resided with family members (Yan, Chen et al. 2003).

Co-residence with children stems from the Confucian ideal of filial piety, or *xiao*. Confucius taught that respect for parents was the highest virtue of all (Whyte 2003;

Zhang and Goza 2006). According to Confucian thought, filial piety means not only carrying out duties towards serving parents, but doing so with the proper attitude (Ikels 2004).

Despite the communist party's attempt to erode family function and stress the importance of fealty to the state, filial support did not weaken to a great degree (Zimmer 2005). Elders in China rely on spouses, children, and grandchildren for emotional, physical, and financial support, especially in rural areas (Zeng and George 2002; Wu and Schimmele 2008). Co-residence 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 co-residence will affect financial and instrumental inter-generational support more generally.

Data

The data for this project comes from the 2005 wave of the Chinese Longitudinal Healthy Longevity Survey (CLHLS). The survey was launched in 1998 in China with a focus on the oldest-old because this age sub-population is growing at a rapid rate and previous studies contained few respondents over the age of 80. The baseline survey 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 provinces (and municipalities) in 1998, 2000, 2002, 2005, and 2008. These areas are Liaoning, Jilin, Heilongjiang, Hebei, Beijing, Tianjin, Shanxi, Shaanxi, Shanghai, Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi, Shandong, Henan, Hubei, Hunan, Guangdong, Guangxi, Sichuan and Chongqing. The population in these provinces and municipalities makes up about 85% of the total population of China. In the 2005 wave, for each centenarian respondent, one nearby

octogenarian and nonagenarian were interviewed, and for every two centenarians, three nearby elders aged 65-79 of predefined age and sex were interviewed. The 2005 wave had 15,638 respondents ranging from ages 65 to 112 (Zeng 2008).

The focus of this research is on a question that was first added to the questionnaire 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 alone (or with spouse only) but children living nearby; (3) co-residence with children; (4) living in an institution (e.g., elderly center, elderly apartment, and welfare center); and (5) do not know. This paper will focus on those elders who responded with choice 1, 2, or 3. Concordance of living arrangement is defined as living in a certain living arrangement and preferring to do so—having a ‘match’ (code=1), otherwise the respondent has discordance (code=0). For ease of analysis, categories 1 and 2 have been combined.

The CLHLS contains extensive data on demographic characteristics, family and household characteristics, social economic status (SES), family or social support, self-rated health (SRH), activities of daily living (ADL), and other variables. All information was obtained through in-home interviews. Systematic data quality assessments show good quality for the datasets of the CLHLS (Gu 2008; Zeng and Gu 2008).

Methods

Two sets of statistical analyses will be carried out. The first set of analysis uses binary logistic regression to separately predict living arrangement concordance among the different groups while controlling for demographic, SES, and family caregiving variables. The second set employs binary logistic regression to predict whether an elder

rates his or her health as good or not, and concordance is one of a series of variables. The living arrangement groups are living alone/spouse only with children any distance (children nearby or not), and co-residence with children. Only these two group are included because of limitations of the data set, and a previous work explored concordance among Chinese elders who live in institutions (Sereny and Gu 2008).

Demographic variables include age, gender, and being a minority ethnicity. Age was verified through a variety of methods in the data set (Zeng and Gu 2008). The majority of the elders in the sample are Han Chinese ethnicity but it is important to control for minority status because they may have different later life experiences.

SES variables include urban residence, education, economic independence, and family economic condition. In China at present a massive disparity exists between rural and urban residents. The elders in this sample had very little formal education so education is a binary variable where a code of 1 means one or more years of schooling, whereas 0 means no schooling. The variable economic independence comes from two variables, one which reports whether primary means of financial support come from self, family, or government, and the second which asks whether financial support is sufficient to pay daily costs. If financial support comes from self and is sufficient to pay daily costs than economic independence is coded as 1. “Good family economic condition” comes from a self-assessed economic condition in comparison to others in the local area.

Family care variables include having one’s own bedroom, marital status and number of living children (for now). I plan to add more variables that pertain to intergenerational transfer and children visitation (to elders living alone models) as the research continues.

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).

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 of respondents co-reside with children, while about 30% of the sample live alone or with a spouse (4,885 respondents), with more than 2/3 of them living near children. Similar numbers of respondents live in institutions (oversampled) as live in “other” arrangements. This data is similar to 2000 Chinese census data which shows 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 answer to question F16 – “which living arrangement setting do you prefer?” More than half of the respondents chose co-residence with children as their preferred living arrangement.

---Table 2 about here---

This research is interested in looking at the relationship between living arrangement, living arrangement concordance, and self-rated health. Table 3 shows mean self-rated health and the percentage of the sample in good health for each living arrangement type. We can see that the mean SRH and percentage of the sample in good health is similar across living arrangement types, with the best average SRH and

percentage of the sample in good health, surprisingly, among those who live in institutions.

---Table 3 about here---

Table 4 gives statistics for living arrangement concordance and self-rated health. Those living alone but would prefer a different living situation have the worst mean self-rated health at 2.83. There is a statistically significant difference in mean self-rated health for those living alone/spouse who have concordance and discordance, and those who have concordance rate their health better (lower). 51.7% of individuals in the sample with living arrangement concordance have good self-rated health. For those co-residing with children, self-rated health is not statistically different between those who have concordance and those who do not. For institutionalized elders, however, those with concordance have, on average, significantly better self-rated than those with living arrangement discordance. There is not a difference however, between percentage of the sample with good self-rated health among concordant and discordant institutionalized elders. Universally, elders in any living arrangement (both community and institutionalized) who have living arrangement concordance have, on average, better self-rated health than those who have discordance. There is also a greater proportion of elders in good health with concordance than elders in good health who have discordance in living arrangements.

---Table 4 about here---

Table 5 is the first set of regression analyses, using demographic, SES, and family care variables to predict whether elders will have living arrangement concordance, separated by those who co-reside with children and those who live alone or with a spouse

only. For both groups the coefficients for age, male, economic independence, good family economic condition, and number of living children are significant but not all in the same direction. Additionally, for those co-residing with children, being non-Han Chinese and having one's own bedroom also has a positive effect on concordance. The "own bedroom" variable is not meaningful for those elders living alone or with a spouse only.

For those co-residing with children, each additional year of age, being a minority ethnicity, having one's own bedroom, and each additional living child increases the likelihood of having concordance, while being male and being economically independent decrease the likelihood. The results are different for those who live alone or with a spouse only, whereas being male, having economic independence, good family economic condition, and each additional child increases the likelihood having concordance, while each additional year of age slightly decreases it.

It is interesting to note the opposite effect of being male and of economic independence on concordance among the two groups. Being male has a negative effect on concordance for those who live with children but a positive effect on those elders living alone. Women who live with their children are more likely to prefer that situation than are men, but women who live alone or with a spouse only are more likely to prefer an alternate living arrangement. Economic independence is a highly significant coefficient for both groups. Those who are economically independent but live with their children might prefer an alternate arrangement (such as living separately) while for those who already live alone or with a spouse only, being able to support themselves financially helps them enjoy their independent living.

---Table 5 about here---

Next I look at good self-rated health as my dependent variable (rating health as 1 or 2 versus 3, 4, or 5). Model I controls for demographic variables, Model II adds SES variables, Model III adds family care variables, and Model IV adds ADL disability. In table 6, which looks at elders who co-reside with children, concordance is slightly significant in all of the models, and has a positive impact on good self-rated health. Those elders with concordance are more likely to be in good health than those with living arrangement discordance. As variables are added to the model, the odds ratio decreases from 1.139 to 1.115 and is only significant at the 0.1 level in model IV.

In model I, each additional year of age has a slight negative effect on good health, though by model IV, when ADL disability is controlled for, each additional year of age increases the likelihood of rating one's health as good. At higher ages, perhaps those who are still alive, but without disability, are more likely to rate themselves as being in good health. Being male also increases the likelihood of rating health as good in each model, with model IV showing that males are 12% more likely than females to rate their health as good. Minority ethnicity status, urban residence, and being educated are not significant predictors of good self-rated health.

Economic independence, good family economic condition, and having one's own bedroom increases the likelihood of rating health as good in models II, III, and IV. With elders who have a good family economic condition being 2.3 times more likely than those with poor family economic condition to self-rate health well, even after controlling for a variety of covariates. Being married and having additional living children does not influence self-rated health, and in fact the chi-square value in model III is lower than in model II. Being disabled in ADL is significant and negative.

The most interesting finding from this regression is that even after controlling for many types of variables, living arrangement concordance is still a significant (though slight) predictor of having good self-rated health. Living arrangement satisfaction plays a role in predicting self-rated health for elders who live with their children.

---Table 6 about here---

As may have been expected from table 4 (living arrangement concordance and self-rated health), concordance plays a more significant role in predicting good self-rated health for elders who live separately from children than for those who co-reside with children. Table 7 shows that living arrangement concordance is highly significant and increases the likelihood of rating health as good, though the coefficient is lowered from 1.546 to 1.342 as variables are added to the model.

Age is only significant in model I and has a negative effect on good self-rated health. Being an urban resident has a slight negative effect on good self-rated health in model II but the robustness of this coefficient disappears completely by model IV. Being educated, surprisingly, decreases the likelihood of rating health as good in all models. Similar to table 6, economic independence and good family economic condition have a significant positive effect on self-rating health as good. The coefficients for marriage and number of living children are not significant. Being ADL disabled has a strong negative effect on rating self-rated health as good.

Concordance plays a bigger role in predicting good self-rated health among elders who live alone than it does for elders who co-reside with children, though for both groups concordance may play a role in predicting good self-rated health.

---Table 7 about here---

Discussion

These preliminary results show that elders in each type of living arrangement group have very similar mean self-rated health, but when breaking down each living arrangement type by concordance status we do find statistically significant differences in mean self-rated health. Additionally, there are different factors that influence concordance among the elders who live independently versus those who live with children. Another important finding of the regression analyses is that concordance plays a more significant role in predicting better self-rated health among elders living independently than it does for those co-residing with children. Seniors who live alone and have concordance are 1.3 times more likely than those without concordance to be in good self-rated health, net of other factors including ADL disability (and the coefficient is significant at the $p < .001$ level). Elders who co-reside with children and have concordance are only about 10% more likely than elders with discordance to have good self-rated health.

This finding not surprising based on the differences in self-rated health stratified by living arrangement concordance outlined in table four, and perhaps is also unsurprising in light of what we know about inter-generational relationships in China. That there is only a slight difference in good SRH between those co-residing elders who want to be in that situation and those who do not, may indicate that elders who live with children do not particularly value having a choice of living arrangement, co-residence is the normative state, and preference has little consequence. For older adults (and their spouses) who live separately from children, who are in the less traditional living arrangement, living in their preferred living arrangement is of higher consequence.

Those who live separately and prefer to do so possess less traditional conceptions of familial coresidence, and will benefit more from seeing their more modern attitudes towards living arrangements realized. Or perhaps the difference in predicting good SRH comes from those elders who live alone but do not want to, and perceive this lack of coresidence as a failing to achieve Confucian ideals, which leads to an overall poor condition. In addition, these findings regarding those elders who live alone are in line with person-environment fit theory.

The results of this analysis gain additional value when viewed in light of the Chinese context of traditional living arrangements and filial piety. The survey data 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).

Covariates have different influences on predicting both concordance and good SRH between the two groups studied here. For example, while being male decreases the likelihood of having concordance among those who coreside with children, it increases the likelihood of concordance among those elders who live independently; i.e. women in coresidence setting are more likely to prefer it, while women in independent setting are more likely to prefer an alternate living arrangement (likely coresidence). This contrasts with Latina women, who are more likely to prefer living independently (Zsembik 1996).

The finding that economic independence decreases the likelihood of concordance among coresiding elders is interesting within the Chinese context. This indicates that if individual finances were better, independent living would be preferred. This goes against traditional attitudes regarding intergenerational coresidence. It does however, match with

the fact that economic independence allows those individuals living independently to achieve concordance.

Being male and being educated have different effects on self-rating health as good in the two groups, while economic conditions and ADL disability differ in magnitude, not in direction or significance. In all the models, males who coreside with children are 10-20% more likely to have good SRH than females, while this variable is not significant among seniors who live alone or with a spouse only. Perhaps the families who exhibit traditional family coresidence patterns also hold more conservative values regarding the status of women, thus putting older men at an advantage with regard to health. Interestingly, education does not have a significant effect on good SRH among elders who coreside with children, but it has a significant negative effect on good SRH among those who live alone or with a spouse only. Previous studies in western countries have found that education has a strong effect on elders' health, both influencing an individual's ability to access health care and as a proxy for SES status over the life course (Grundy and Holt 2001; Dalstra, Kunst et al. 2006). Education may play a different role for Chinese elderly, many of whom may have had limited access to education over the course of their lives (Zeng, Gu et al. 2007). Perhaps education serves as a proxy for some other factor I am not accounting for in this analysis. Further exploration is warranted.

For both groups better health is associated better economic status, which conforms to previous studies of CLHLS data, as well as countless sociological studies. However, the data also indicates a difference in the magnitude of the effect. Those who coreside with children and have economic independence are 20% more likely to self-rate health as good, while those who live alone or with a spouse only are about 70% more

likely. Good family economic condition also has a stronger effect on independently living elderly adults than it does on those seniors who coreside with children (odds ratio of 2.5 versus 2.3 in model IV). Having economic independence helps both groups, but for elders who coreside, perhaps it has less of an effect because even without individual money, their coresiding children are able to provide them with care that would improve their health. Elders who live independently must rely on their own income to purchase medicines.

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. A recent study has shown that where traditional family patterns prevail and expectations for intergenerational support (including coresidence) run high, failure to receive such support may result in negative psychological outcomes (Cong and Silverstein 2008). This CLHLS data set does not indicate a decline in intergenerational support, only a decline in coresidence. 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. This study has shown that an elder who has concordance between preferred and actual living arrangement will have better health than those who do not, with the effect being stronger among elders who live independently than elders who coreside with children. 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, 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

Living Arrangement	N	Percent
Living alone (or with spouse), regardless of residential distance of children	1406	8.99
Living alone (or with spouse) and children living nearby	3940	25.20
Coresidence with children	8913	57.00
Institutions	493	3.15
Do not know	788	5.04
Missing Information	98	0.63
Total	15638	100.00

Table 3: Living Arrangement & Self-rated Health

Living Arrangement	Mean Self-rated health (higher is worse)	% of sample in good health
Lives alone/spouse only	2.59 (.014)	49.3%
Lives alone/spouse only with children not nearby	2.57 (.025)	48.6%
Lives alone/spouse only with children nearby	2.60 (.016)	49.6%
Co-residence with children	2.56 (.010)	49.8%
Institution	2.55 (.048)	51.6%
Other	2.66 (.060)	47.5%

Table 4: Living Arrangement Concordance and Self-rated Health

Living Arrangement	Concordance	N	Mean SRH	T-test (mean)	N	% of sample in good health	T-test (proportion)
Alone/Spouse	Yes	3665 (77.4%)	2.53 (.016)	p<0.000***	3733 (76.4%)	52.7%	p<0.000***
	No	1068	2.83 (.029)		1152	41.0%	
Co-residence	Yes	7480 (83.3%)	2.57 (.010)	p>0.1	8466 (84.4%)	51.2%	p>0.1
	No	1490	2.54 (.024)		1561	51.7%	
Institution	Yes	264 (69.4%)	2.47 (.058)	p<.01**	279 (66.1%)	53.0%	p>0.1
	No	116	2.74 (.084)		143	46.8%	
Any	Yes	11,409 (81.0%)	2.55 (.008)	p<0.000***	11,409 (81.0%)	51.7%	p<0.000***
	No	2674	2.66 (.018)		2674	47.2%	

Table 5: Odds Ratios of Predicting Living Arrangement Concordance for Elders Co-residing with Children and Elders Living Alone or With Spouse Only

Living Arrangement	Co-residence with children	Living alone/spouse only
Age	1.02***	0.97***
Male	0.88*	1.17*
Minority Ethnicity	1.87***	0.87
Urban	0.96	1.13
Educated	1.02	1.11
Economic Independence	0.67***	2.07***
Good Family Economic Condition	1.14+	1.44**
Has own bedroom	1.33***	--
Married	1.16	1.15
Number of Living Children	1.03**	1.14***
N	9767	4713
Chi-Square	237.48	309.73
DF	10	9

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

Table 6: Binary logistic Regression Using Living Arrangement Concordance and Other Factors to Predict Good Self-rated Health Among Elders who Co-reside with Children

	Model I	Model II	Model III	Model IV
Living Arrangement Concordance	1.139*	1.136*	1.109+	1.115+
Age	.996*	.996*	.996+	1.007**
Male	1.197***	1.150**	1.172**	1.121*
Minority Ethnicity	.941	.984	.995	.940
Urban		.954	.949	1.001
Educated		.917	.908	.915
Economic Independence		1.209**	1.225**	1.227**
Good Family Economic Condition		2.340***	2.314***	2.329***
Own Bedroom		1.309***	1.323***	1.230**
Married			1.116	1.132
Number of Living Children			1.007	1.009
ADL disability				.483***
N	8970	8970	8747	8747
Chi-square	28.96	281.1	274.65	450.23
DF	4	9	11	12

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

Odds Ratios reported

Table 7: Binary logistic Regression Using Living Arrangement Concordance and Other Factors to Predict Good Self-rated Health Among Elders who Live Alone or with Spouse only

	Model I	Model II	Model III	Model IV
Living Arrangement Concordance	1.546***	1.403***	1.363***	1.342***
Age	.991**	.996	.997	1.006+
Male	1.087	1.046	1.040	1.056
Minority Ethnicity	.766+	.796	.812	.758+
Urban		.875*	.878+	.942
Educated		.830**	.844*	.826**
Economic Independence		1.641***	1.643***	1.688***
Good Family Economic Condition		2.543***	2.508***	2.532***
Married			1.050	1.008
Number of Living Children			1.013	1.012
ADL disability				.252***
Chi Square	63.52	247.28	230.96	380.59
N	4733	4733	4581	4581
DF	4	8	10	11

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

Odds Ratios reported