



# **An Empirical Analysis of Desired Living Arrangements and Their Determinants for the Elderly among Chinese Metropolitan Areas —Cases of Beijing, Tianjin, Shanghai, and Chongqing**

Jiehua Lu and Mingwen Bai

Department of Sociology, Peking University

London, England

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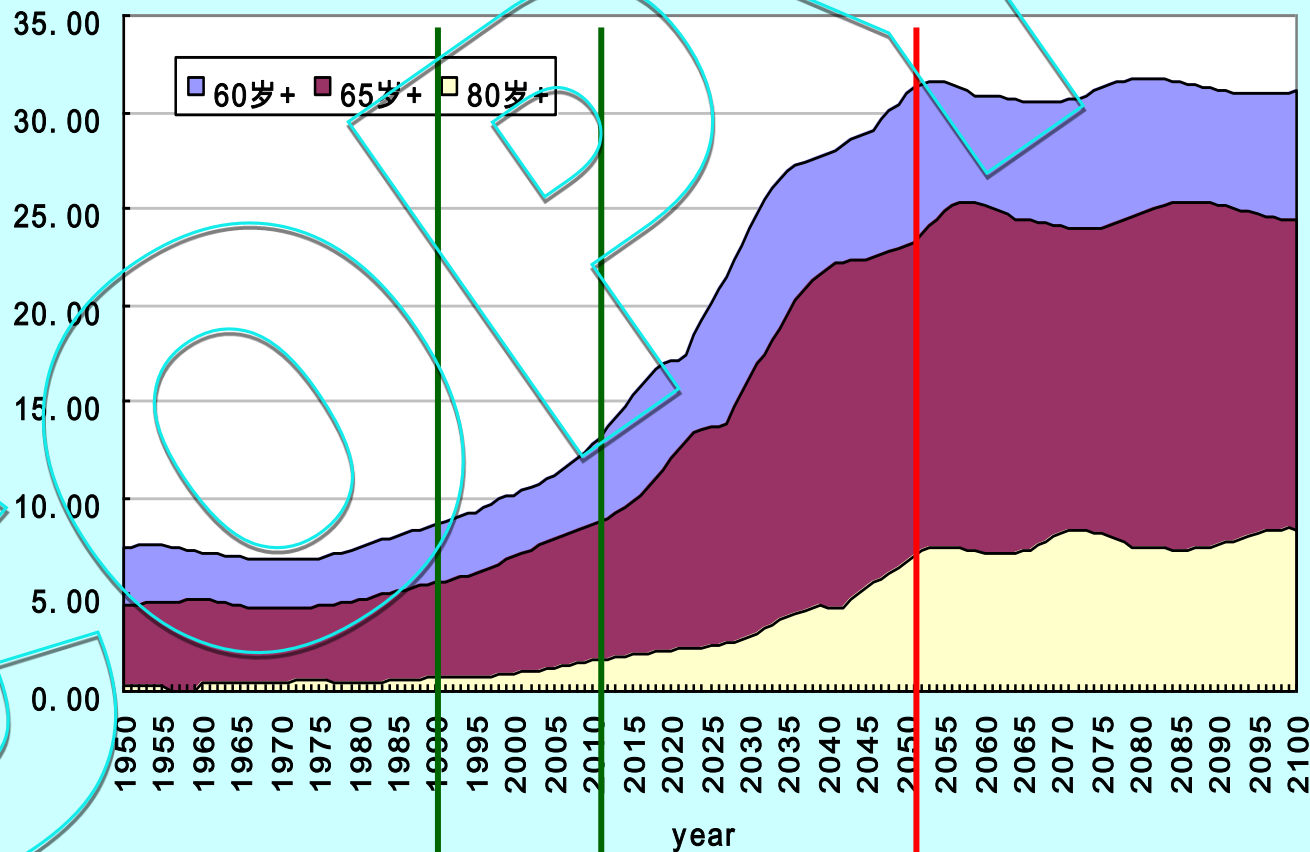
# Outline

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- ◆ Conclusions and Discussions



# Research Background

With the decrease of fertility rate and mortality rate, China population is experiencing fast aging.



Process of Chinese Aging (1950-2100年)



# Research Background

city	Average of Family Size	TFR	Dependency Ratio for Elderly	% of Aged 65 & above
Beijing	2.87	0.67	13.86	8.42
Tianjin	3.07 <small>数据来源：第五次人口普查数据</small>	0.88	14.38	8.41
Shanghai	2.89	0.68	17.72	11.46
Chongqing	3.35	1.26	12.84	8.01
National	3.39	1.78	11.57	7.10



# Research Background

- ◆ With rapid modernization and weakening function of family, the growing size of elderly has a significant impact on the living arrangements
- ◆ In spite of the fact that proportion of institutionalized support for elderly has soured up, family support for elderly is still dominant in Chinese society
- ◆ Therefore, the living arrangements for elderly has a remarkable effect on the patterns of family support for elderly

# Living arrangement by age group in urban areas

Age group	Sex	Living with families	Living alone	Nursing home
80 - 84	M	80.5	7.2	12.3
	F	70.1	15.0	14.8
85 - 89	M	81.5	8.0	10.5
	F	75.0	14.7	10.3
90 - 94	M	78.5	10.3	11.2
	F	77.4	11.4	11.2
95 - 99	M	80.1	10.9	9.0
	F	82.8	8.6	8.6
100+	M	86.8	7.4	5.9
	F	93.4	3.8	2.8
Total	M	80.8	8.5	10.7
	F	79.8	10.7	9.5



# Research goals of this paper

- ◆ Mainly focus on the desired living arrangement for the elderly among four cities
- ◆ Analyze the demographic, healthy, and economic characteristics affecting the desired living arrangements for elderly
- ◆ Make an approach to the major measures to meet the demand of older caring as well as recommend the possible public policies



# Relevant Literature Reviews

- ◆ The old like to live separately with their children, but should be live nearby, which is called as the net family (Unger, 1993)
- ◆ 79% of male old and 65% of female old like to depend on themselves, and there is only 22% of parents like to live with married children (Treas and Wang, 1993 ; Pan, 1997)
- ◆ Those who live with their children demand more daily care and economic support than those living alone. Also the former's housing condition is poorer than the latter (Yan al et, 2001)
- ◆ The traditional view of having sons to offer family support among Chinese elderly has smoothly changed and shifted into the growing quality of life (Wang, 2002)





# Relevant Literature Reviews

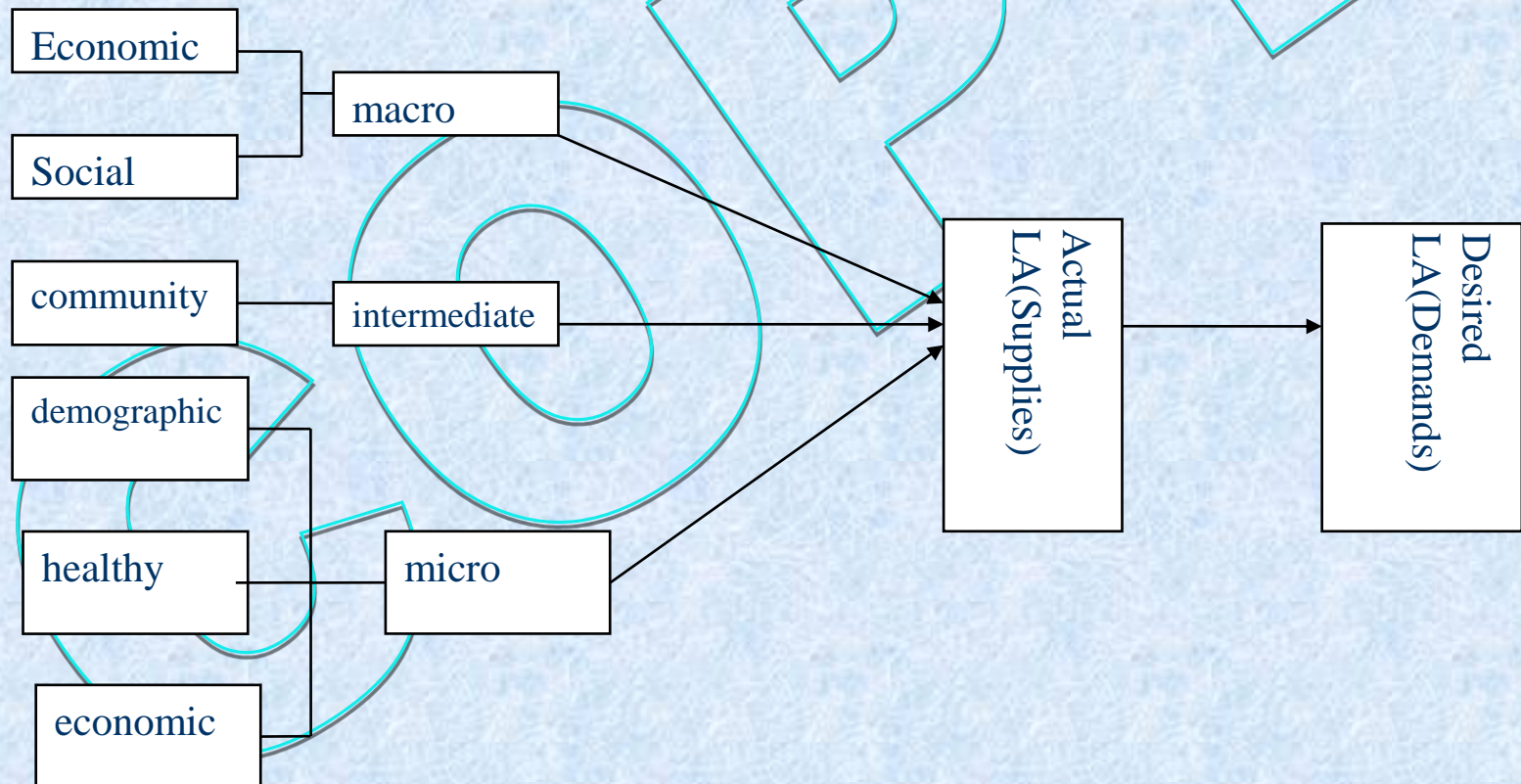
- ◆ Family relations are significantly related to healthy status, quality of life, and mortality of the elderly (Anderson, 1995)
- ◆ The daily care and emotional support from children have a positive effect on the survival of oldest old, but there is no significant effect from economic support on survival (Zhang, 2002)
- ◆ The living arrangements are not related to the age, sex, education, ADL, number of children, etc., but linked to economic status, healthy status, with or without children, alones, etc (Yao, 2002).
- ◆ Family size is somehow linked with living arrangement both in Mainland China and Taiwan (Lee et al., 1994; Logan et al., 1998)



# Relevant Literature Reviews

- ◆ **The previous literature provides theoretical framework for our study. However, there are some voids that need to fill in:**
  - ✓ Most literature pays more attention to the actual living arrangements of the elderly, none of them focus on the wanted living arrangement
  - ✓ Some studies made an approach to the living arrangements of the elderly, but little investigates this issue among the giant cities
  - ✓ There is little literature that make comprehensive and quantitative analysis of living arrangement of the elderly

# Research Methodology — theoretical framework

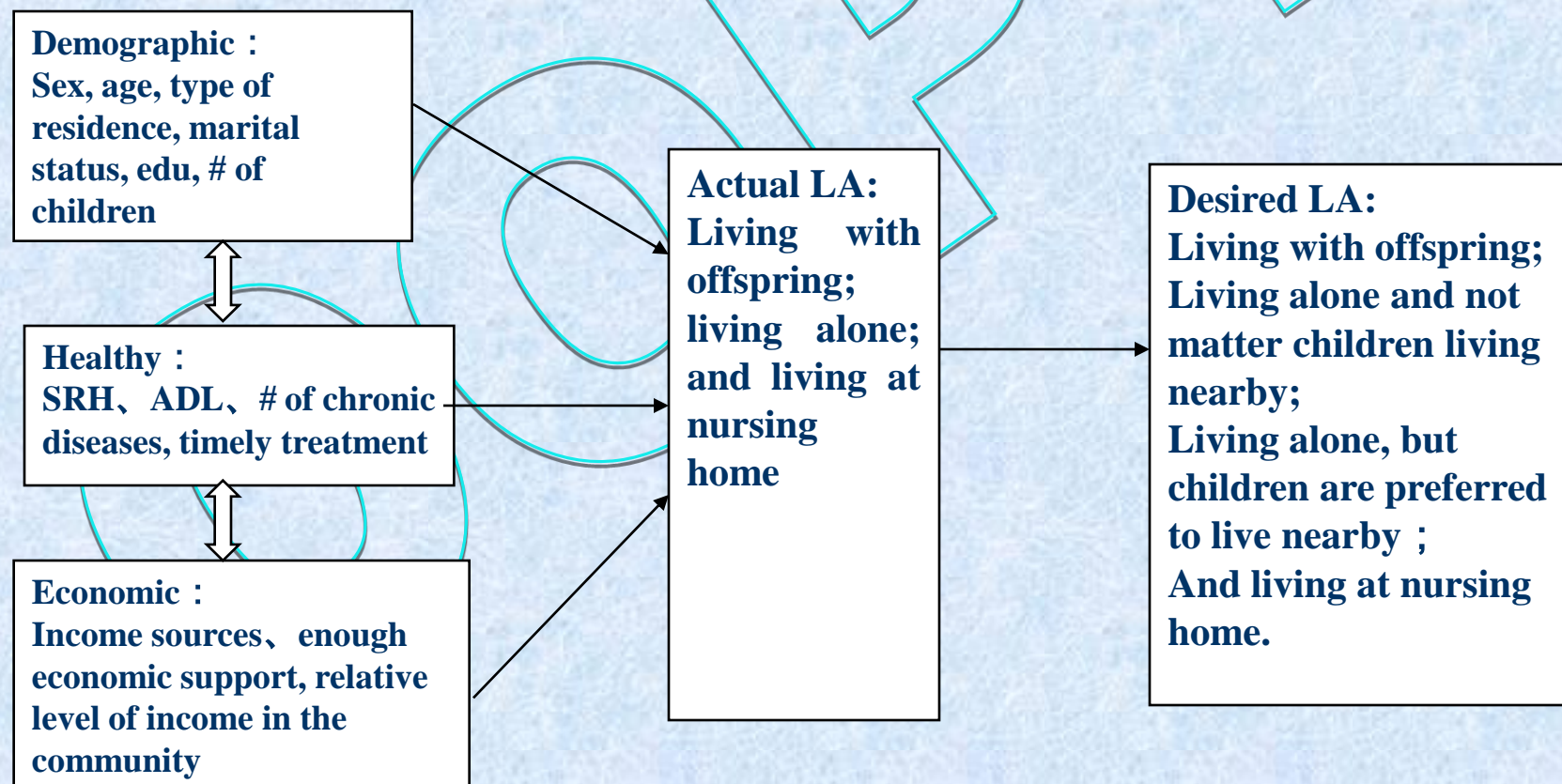




# Research Methodology— Data source

- ◆ National Population and Healthy Survey for the Elderly in 2005 and total samples of four cities are 1742 old people aged 65 and above (Beijing, 19.3% ; Tianjin, 11.4% ; Shanghai, 37.3% ; and Chongqing, 32%)
- ◆ The questionnaire include seven parts: personal background, family structure, daily living capacity, healthy checkout, etc.

# Research Methodology— Operational model





# Research Methodology—Hypotheses

- ◆ Traditional desired living arrangement has been changed greatly. Though the main desired living arrangement in big cities is still to live with offspring, a large number of aged people have been inclined to live independently because of different reasons
- ◆ Supply and demand of elderly care service in big cities is not consistent, which causes great difference between real living arrangement and the desired living arrangement. Real living arrangement may be one of the impact factors of the desired living arrangement.
- ◆ Indicators of demographic, healthy and economic factors of aged people will have influence on the desired living arrangements of aged people in big cities



# Research Methodology—Method

- ◆ logistic regression method is employed

$$\ln\left(\frac{p}{1-p}\right) = B_0 + \sum_{i=1}^N B_i * X_i$$

- ◆ The desired living arrangement of aged people is dependent variable, and demographic, healthy, and economic factors are independent variables



## Distribution of desired living arrangements

Desired LA	Frequency	%
Living with offspring	981	58.53
Living alone, but children live nearby	509	30.37
Living alone without caring whether children live nearby	131	7.82
Nursing home	55	3.28
total	1676	100





## Comparison of Real and desired living arrangements (%, $P < 0.001$ )

	Living with family members	Living alone	Nursing home	total
Living with offspring	65.38	15.56	10.87	58.53
Living alone, but children live nearby	27.17	61.67	8.70	30.37
Living alone without caring whether children live nearby	6.48	20.56	0.00	7.82
Nursing home	0.97	2.22	80.43	3.28



## Distribution of desired living arrangements of four cities (%, $P < 0.001$ )

	Beijing	Tianjin	Shanghai	Chongqing	Total
Living with offspring	48.84	57.51	57.01	66.17	58.53
Living alone, but children live nearby	33.33	32.12	34.74	22.86	30.37
Living alone without caring whether children live nearby	14.52	8.29	5.30	6.88	7.82
Nursing home	3.30	2.07	2.96	4.09	3.28



## Distribution of desired living arrangement by gender (%, $P < 0.001$ )

	Male	Female	Total
Living with offspring	48.19	66.28	58.53
Living alone, but children live nearby	37.19	25.26	30.37
Living alone without caring whether children live nearby	11.14	5.32	7.82
Nursing home	3.48	3.13	3.28



## Distribution of desired living arrangements by age groups (%, $P < 0.001$ )

	100+	90-99	80-89	65-79	Total
Living with offspring	82.48	74.02	55.83	33.64	58.53
Living alone, but children live nearby	9.67	18.85	32.22	50.73	30.37
Living alone without caring whether children live nearby	2.42	3.91	8.06	14.00	7.82
Nursing home	5.44	3.22	3.89	1.64	3.28



## Distribution of desired living arrangements by residence (%, $P < 0.153$ )

	Urban	Rural	Total
Living with offspring	57.11	61.81	58.53
Living alone, but children live nearby	32.02	26.57	30.37
Living alone without caring whether children live nearby	7.79	7.87	7.82
Nursing home	3.08	3.74	3.28



## Distribution of desired living arrangement by schooling years (% , $P < 0.001$ )

	0	1-6	7-9	9+	total
Living with offspring	76.30	59.09	47.37	44.00	65.08
Living alone, but children live nearby	16.74	31.12	36.84	38.00	25.16
Living alone without caring whether children live nearby	4.13	8.39	15.79	14.00	7.48
Nursing home	2.83	1.40	0.00	4.00	2.28



## Distribution of desired living arrangements by marital status (% , $P < 0.001$ )

	Married and living with spouse	Married but not living with spouse	Divorced	Widowed	Single	Total
Living with offspring	33.77	54.55	28.57	71.35	26.67	58.53
Living alone, but children live nearby	52.61	22.73	28.57	19.80	20.00	30.37
Living alone without caring whether children live nearby	12.50	18.18	28.57	5.02	20.00	7.82
Nursing home	1.12	4.55	14.29	3.83	33.33	3.28



## Distribution of desired living arrangements by number of children (%, $P < 0.001$ )

	0	1	2	3	4	5	Total
Living with offspring	40.00	60.34	52.27	64.38	60.14	73.73	65.29
Living alone, but children live nearby	36.00	24.14	37.88	27.40	27.97	19.04	25.24
Living alone without caring whether children live nearby	16.00	13.79	8.33	6.16	11.19	4.82	7.40
Nursing home	8.00	1.72	1.52	2.05	0.70	2.41	2.07





## Distribution of desired living arrangements by level of Self Rated Health (% , $P < 0.023$ )

	Good	So So	Bad	Total
Living with offspring	52.28	60.23	55.30	55.55
Living alone, but children live nearby	33.61	30.50	33.71	32.56
Living alone without caring whether children live nearby	10.10	7.53	6.44	8.57
Nursing home	4.01	1.74	4.55	3.32



## Distribution of desired living arrangements by level of ADL (%, $P < 0.001$ )

	Dependency	Independency	Total
Living with offspring	77.74	48.50	58.53
Living alone, but children live nearby	15.48	38.15	30.37
Living alone without caring whether children live nearby	2.78	10.45	7.82
Nursing home	4.00	2.91	3.28



## Distribution of desired living arrangement by status of chronic diseases (% , $P < 0.002$ )

	Yes	No	Total
Living with offspring	60.15	48.25	58.53
Living alone, but children live nearby	29.63	35.09	30.37
Living alone without caring whether children live nearby	7.04	12.72	7.82
Nursing home	3.18	3.95	3.28



## Distribution of desired living arrangements by level of economic independence (%, $P < 0.001$ )

	Independence	Dependent on offspring	Dependent on governments	Total
Living with offspring	45.30	75.99	57.35	58.22
Living alone, but children live nearby	41.46	17.85	21.32	30.61
Living alone without caring whether children live nearby	11.27	3.32	8.09	7.91
Nursing home	1.97	2.84	13.24	3.25



## Distribution of desired living arrangement by level of wealth of community (%, $P < 0.001$ )

	Rich	So So	Poor	Total
Living with offspring	53.97	58.47	62.07	58.65
Living alone, but children live nearby	29.63	31.73	26.33	30.46
Living alone without caring whether children live nearby	13.76	6.96	7.21	7.78
Nursing home	2.65	2.84	4.39	3.11

# Logistic Analysis of Factors affecting Desired Living Arrangements

- ◆ Dependent variable is the desired LA. For the convenience of analysis, we created the answers into dummy variable:
  - Living with offspring= 0
  - Other three=1
- ◆ Variables that are related to demographic, healthy, and economic factors are granted as independent variables



	Model 1		Model 2		Model 3		Model 4	
	S.E.	Exp(B)	S.E.	Exp(B)	S.E.	Exp(B)	S.E.	Exp(B)
Gender (Male as Ref)								
Female	0.186	0.748	0.213	0.930	0.221	1.099	0.247	1.028
Residence (urban as ref)								
rural	0.190	1.060	0.211	0.918	0.247	1.394	0.285	1.731
Marital status (married as ref)								
Widower	0.193	0.460***	0.202	0.468***	0.210	0.514**	0.242	0.228***
EDU ( 0 ass ref )								
1-6	0.201	1.263	0.213	1.416	0.226	1.352	0.258	1.333
7+	0.243	1.699	0.253	1.860*	0.268	1.576	0.300	1.539
Age ( 65-79 as ref )								
80-89	0.242	0.379***	0.254	0.411***	0.262	0.435***	0.296	0.500*
90-99	0.225	0.201***	0.250	0.235***	0.259	0.252***	0.295	0.284***
100+	0.253	0.155***	0.297	0.192***	0.309	0.205***	0.366	0.192***
Choric Disease ( Yes as ref )								
No			0.277	1.701	0.280	1.732*	0.320	1.506
ADL(depen dent as ref)								
Independent			0.213	1.404	0.222	1.241	0.258	1.032
SRH ( good as ref )								
So so			0.187	0.607*	0.195	0.596**	0.221	0.623*
poor			0.254	0.930	0.267	0.999	0.307	0.983
Timely treatment ( Yes as ref )								
No			0.340	0.804	0.389	0.916	0.473	0.864
Income source ( themselves as ref )								
Family member					0.260	0.421***	0.297	0.484*
Local government					0.367	0.750	0.465	0.422
Enough economic support ( yes as ref )								
No					0.263	0.588*	0.295	0.657
Wealth of community ( rich as ref )								
So so					0.271	0.662	0.308	0.537*
poor					0.365	0.894	0.412	0.820



## Analysis results (summary)

- ◆ Model 1: significant variables are marital status and age, two of which significantly reduce ratio of occurrence rates of “not living with offspring”
- ◆ Model 2: significant variables are marital status, age, and SRH
- ◆ Model 3: significant variables are marital status, age, SRH, chronic disease, major income source, and enough economic support
- ◆ Model 4: relative level of income in local community and actual LA are added significantly except all above variables in model 3





# Conclusions and Discussions (cont)

- ◆ Though large number of aged people with 58.3% of whole population in cities is inclined to live with their offspring, a part of aged population with about 39% of whole population is intended to live independently.
- ◆ difference of the real living arrangement and the desired living arrangement is significant ( $P < 0.001$ ). a good percentage of aged people want to live alone or live only with his/her spouse. **Due to some realistic reasons like living condition, economic situation and health status, they have to live with their offspring. Some aged people wish to live with their offspring, but have to live independently because of some realistic reasons. Supply and demand of eldercare are not in balance.**



# Conclusions and Discussions (cont)

- ◆ the living place of aged people has no significant impact on the desired living arrangement of aged people. **Personal characteristics** of age, educational level, number of offspring and marital status of aged people are related to the desired living arrangement
- ◆ **self health evaluation of aged people, chronic disease, ADL and timely help when having serious illness are significantly related to the desired living arrangement of aged people**



# Conclusions and Discussions (cont)

- ◆ main economic resource, whether main economic resource is enough, economic standard in community and living condition are related to the desired living arrangement of aged people
- ◆ factor of real living arrangement, demographic factors and economic factors have great impact on the desired living arrangement of aged people, which proves our previous theoretical framework



# Conclusions and Discussions (cont)

- ◆ Growing number of old people like to live independently and there is a gap between real and desired Las. Therefore, **how to provide enough source of old caring from the view of family support is an essential issue for policy-makers**
- ◆ Since economic factors have a major impact of desired LA, so **to increase economic and medical security level is a major measure to increase the level of quality of life for the elderly**
- ◆ For those who are young, live with spouse and are in good health, the local governments should offer the better community-based support of community-based by increasing more public inputs while actively encouraging them to live independently



**Thanks**

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