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Research Article

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Attitudes and preferences towards future old-age support amongst tomorrow's elders in China

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Abstract

BACKGROUND
The life course experiences of those born in China from the late 1950s to early 1970s have been very different to those of their predecessors; they may not be able to, or wish to, rely on their family for support in later life in the future.

OBJECTIVE
We investigated the attitudes towards current provision of old-age support and preferences for their future old-age living arrangements amongst individuals aged 40–55, representing the next generation of China's older people.

METHOD
Using data from the 2013 Chinese Household Finance Survey, we made multi-variate analyses focussed on understanding the roles of family structure, socioeconomic status, and current patterns of intergenerational support in shaping attitudes and preferences towards old-age support among today's mid-lifers.

RESULTS
Attitudes and preferences towards old-age support are shaped by relations within the family, which in turn are affected by broader historical and contemporary social, economic, and cultural conditions. Specifically, the number of children, having a son, Hukou status, and education influence people's attitudes and preferences. The results also point to important gender and cohort differences. One unexpected finding is that around a quarter of Chinese mid-life women living in urban areas and with just one adult child are actively considering the option of institutional care for their own old age, highlighting that social norms around care in later life are shifting.

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CONTRIBUTIONS

This study advances understanding of how decisions in old-age care relate to individuals' life course and to changing family structures in China.

1. Introduction

Until recently, the family has been considered the main source of support in later life in China, while state interventions have largely been limited to individuals who are particularly vulnerable, that is, those with no surviving children, living on very low incomes, and with no other forms of support (Cai et al. 2012). However, traditional systems of familial support in later life in China are now coming under increasing pressure; improvements in mortality mean that more people are surviving to older ages at the same time as extensive migration is leading to families being increasingly separated across large distances (Evandrou et al. 2017), whilst three decades of strict family planning policies have reshaped family structures (Zimmer and Kwong 2003). There are important questions as to whether in the future older people will expect to, or wish, to rely on their adult children, or indeed whether adult children will be willing or able to provide care (Aboderin 2004). At the same time, like many governments around the world, Chinese authorities are reassessing elder support strategies in the face of population ageing and increasing fiscal pressures (Bloom et al. 2015). Understanding individuals' attitudes and preferences towards alternative sources of support in later life is therefore of critical importance for policy planning and the design of future service provisions (Daatland and Herlofson 2003). This paper examines the attitudes towards current old-age support and preferences for their own future old-age living arrangements amongst individuals currently in mid-life (aged 40–55 in 2013), representing the next generation of China's older population.

The life course experiences of those born in the late 1950s, 1960s, and early 1970s have been very different to those of their predecessors. These individuals came 'of age' in the late 1970s just as Deng Xiaoping initiated the 'open door policy', opening up China to foreign investment and setting into motion the economic transformation of modern China (Quach and Anderson 2008). Joining the labour market during a period of rapid economic growth, this cohort also entered their prime reproductive ages alongside the implementation of the 'one child policy' (Qin, Falkingham, and Padmadas 2018). Thus this cohort is distinctive in a number of ways: they are the first cohort to enter mid-life with a high probability of having a surviving parent and thus to have had direct personal experience of being a mid-life carer; they are also the first cohort to have, on average, two or fewer children; finally, they are the first cohort who

are likely to enter later life with their own pension savings, and to have adequate economic resources to fund themselves during their retirement. Such experiences may shape their attitudes and preferences towards old-age support. Against this context, the paper uses data from the Chinese Household Finance Survey (CHFS) in order to examine how the attitudes and preferences towards future old-age support among today's mid-lifers vary according to their family structure, socio-economic status, and current experiences of intergenerational support, providing important insights for the design of future policy.

2. Familial, community, and state old-age support in China

China is experiencing rapid growth in the proportion and number of older people in its population (Du 2013; Wang, Huang, and Yang 2019). In Chinese society, intergenerational exchanges have traditionally been guided by the social norm of filial piety; this is neatly captured by Confucius saying, "helping the old not only benefits them and their family, but leads to peace and harmony throughout the world" (Yao 2000). Filial piety and dutiful repayment to one's parents has been performed through the coresidence of the parents with their adult children, usually a married son, who then caters for the material needs of older adults, whilst the daughter-in-law takes care of the older persons' physical needs (Whyte 2004). With the processes of modernisation and urbanisation, the demographic transition, and the move towards individualised rather than familial interests, such traditional filial obligations should be under pressure (Aboderin 2004). However, studies across Asian countries, including China, have suggested that instead of being eroded, traditional norms of filial piety governing intergenerational relations have, until recently, largely persisted. The extended families with three generations living together remain the dominant living arrangement among the oldest old persons (Du 1999; Sun 2013). Sons and daughters both provide financial and practical support to ageing parents (Cong and Silverstein 2008; Whyte 2004). The older and younger generations have been adapting to the social and environmental changes to fulfil filial obligations (Zimmer and Kwong 2003; Croll 2006). Whether this will continue as the first generations to live their entire lives in the People's Republic of China enter later life (i.e., those born in the late 1950s, 1960s and early 1970s) remains an open question.

As ageing in place has become increasingly important, driven by the preference of a majority of older people to remain in their homes in communities as long as possible, the role of the community- and community-based services is of growing salience with both service providers and policymakers acknowledging the importance of building age-friendly communities (Lui et al. 2009). As people become older and frailer, the

importance of neighbourhood characteristics that facilitate them to age in place increases (Cramm, van Dijk, and Nieboer 2016). In western societies, although a range of community-based old-age support initiatives have emerged, there remains a lack of a broader theoretical basis for community-based intergenerational practice (Kuehne and Melville 2014). The concept of the 'community' and shared responsibility for elder care is similarly under-explored in the Chinese context. Nevertheless, the past two decades have seen the development of a range of formal 'community care' services encompassing meal service, personal care, day care, health care, household care and emergency assistance. However, the extent of the provision of such formal services remains limited, with most of them concentrated in big cities such as Shanghai and Beijing or other urban areas (Chen and Han 2016). In rural areas, only those communities in the more prosperous, modernising regions are able to provide their elderly residents with welfare and social benefits, whilst in poorly developed rural areas provision is either very patchy or non-existent, as the local economy cannot support expansion or improvement (Joseph and Phillips 1999).

Formal institutional care provision in China remains very limited, and specialist training of nurses for older people has only recently been introduced into the nursing curriculum (China Daily 2015; State Council 2019). Moreover, public attitudes remain quite unfavourable towards the institutionalisation of older persons as a solution, reflecting the conflict between the development of institutional elder care and filial piety in the traditional Chinese culture (Mu 2012). The proportion of the total elderly population living in institutional care settings was estimated to be just 1.5% in 2014 (Zhang 2019).

In recent years, the issue of old-age support in China has received increasing public attention, with a recognition that in the future, family members may be less able to provide old-age support due to the reduction in the average family size alongside increased labour migration (State Council 2013; 2019; Qin, Falkingham, and Padmadas 2018; Giles, Wang, and Zhao 2010). It is interesting to note how 'public' (or politically sanctioned) opinion regarding who (state or family) should take the responsibility of future old-age support has changed over time since the implementation of strict family planning policies in the 1980s (Chen and Xia 2013). In 1985, when the strict family planning policy was underway, the officially endorsed slogans in the People's Daily read, '*One child is good, government is going to take responsibility for your old-age support'*; in 1995, they read, '*One child is good, government is going to help for your old-age support'*; however, by 2005 a headline commented, '*One cannot rely on the government for old-age support'*. Finally, by 2012, the slogans posited, '*Delayed retirement is good, for old-age support one must rely on themselves'* (Chen and Xia 2013).

These changes in the public messaging partially reflect the reassessment of the state towards elder support strategies in the face of population ageing and fiscal

pressures, as well as public concerns about the uncertainty of old-age care. However, the extent to which they tally with the actual attitudes and expectations of people is further examined below. In our analysis, we distinguish between *attitudes* towards current provision of support towards older people and personal *preferences* with regard to one's own living arrangements in later life. An attitude may be thought as "an individual's favourable or unfavourable predisposition toward a target" (Riemer et al. 2014: 619). In Western contexts, personal preferences are central to attitudes, whereas in non-Western settings, personal preferences and social norms jointly shape the attitudes (Ibid). Before turning to the analysis, it is first useful to explore the relevant theoretical background. Below, the literature is briefly discussed, with a number of associated hypotheses outlined based on the findings of previous studies.

3. Theoretical background

The modernisation and ageing theory has provided one of the main foundations for the debate on changes in the family support for older people. Goode (1963) argued that modernisation – as reflected in industrialisation, urbanisation, and migration – will weaken traditional norms by promoting individualistic attitudes and eroding individuals' adherence to traditional beliefs, eventually resulting in a reduction of family support towards older parents. Goode's theory suggests that a movement towards family 'nuclearisation' and a weakening of extended family links occur in conjunction with socioeconomic development, and the idea of changing macro-level systems impacting upon micro-level family systems is supported by evidence from many societies, especially in Northern and Western Europe, and the United States (McDonald 1992). However, the theory has been criticised for relying on unrealistic assumptions and an overly simplistic view of socio-economic development. Critics highlight that the predicted decline of family support for older family members has not come about; even in advanced welfare states, the family is still the main source of support for most older adults (Djundeva, Dykstra, and Emery 2019), although formal providers play an important role either in supplementing the efforts of family helpers or in supporting disabled older people without available informal support resources. Moreover, it is recognised that substantial variation exists in cultural norms regarding the appropriate role of the family and the state in elder care provision (Janus and Koslowski 2019).

The evidence is also mixed in the global south (Aboderin 2004). A variety of kinship structures and living arrangements can be observed, and there is little indication that they converge to a uniform model centred around the nuclear family. A study by Bongaarts and Zimmer (2002) found that most older adults in the 43 developing

countries studied tended to live in large households and were likely to be living with an adult child, who is more likely to be male than female. Nevertheless, the authors also found that older adults with a higher socioeconomic status, particularly those with a higher education level, are less likely to be living in extended family arrangements; such findings are in accordance with Goode's original theory.

Similar mixed results are also reported in studies in the Chinese context. Census data shows that in 2010, among older people aged 60 and above, multi-generation (two or three more generations) households accounted for 60%, whilst single-person and couple-only-households together accounted for 38%. However, between 1982 and 2010, the proportion of older people living in couple-only households had increased by 16 percentage points, while two-generation or three-or-more-generation households had decreased by 15 percentage points, indicating a trend towards moving away from the traditional model of older people coresiding with their offspring (Du 1999; Sun 2013). In addition, independent living (i.e., living in a 'couple-only' household) has been found to be linked with a relatively higher socioeconomic status (e.g., higher education, urban Hukou, and with pension or asset income) (ibid). However, there has been little change among the advanced age group (80 and above), with the majority still living in two-generation or three-or-more-generation households (Guo 2002). Other studies have found that older people's preference regarding their living arrangement is associated with their education, material resources, and the number of children (Zhang 2012; Meng et al. 2017). Therefore, at the individual level, we might expect that middle-aged individuals with more children or from a lower socioeconomic status might favour a model of old-age support from adult children based on coresidence; while those with fewer children, particularly those with no sons, and those with a higher socioeconomic status might have more positive attitudes and preferences towards independent old-age support and living arrangements.

> *H1*: Middle-aged people with fewer children, particularly sons, and those with higher socioeconomic status will have more positive attitudes and preferences towards independent old-age support and living arrangements.

Family sociologists have highlighted the important role that reciprocity plays in intergenerational support. Reciprocity implies a chain of support and return-support between family generations, which is maintained by collective norms and values and enforced through social pressure (Arrondel and Masson 2006). Reciprocity can take a direct or indirect form. With indirect reciprocity, support can be reciprocated to a third party in the same form as that given out or in a different form (e.g., financial, emotional, or physical support). For example, children could 'repay' their parents for their education by investing in their own children. Similarly, a middle generation could be repaid by the younger generation for their caregiving to the older generation. It is

argued that indirect reciprocity is an important channel of cultural norm transmission, facilitated through the older generation's behaviour and teaching, and reflected in social learning, public supervision, and state policies and regulations (Yao 2000). The notion of direct reciprocity is supported by micro-level empirical studies, which have shown various types of transactions within family and between generations. For example, Cong and Silverstein (2011) found that the financial transfers that Chinese labour migrants make to their parents are related to the amount of time and money their parents invested in them. The provision of childcare by grandparents is also particularly common in China (Falkingham et al. 2019). From this perspective, we would therefore expect an association between middle-aged people's current intergenerational support patterns, especially upward flows of support, and their old-age support expectations.

> *H2*: Current patterns of intergenerational support provision by those in mid-life, especially upward flows, will be associated with their own expectations of old-age support.

The life course perspective provides a useful conceptual tool, rather than a theory, for the study of intergenerational relations including parent-child relationships. It emphasises the importance of historical conditions, and wider social, economic, and political change, for understanding individual development and family life (Elder, Kirkpatrick, and Crosnoe 2013; Putney and Bengtson 2003). Individuals are then linked across generations by bonds of kinship and processes of intergenerational transmission. Their development and life transitions shape, and are shaped by, interactions within the family, which in turn affect and are affected by broader social, economic, and cultural events and conditions. Ageing and family development are therefore both seen as lifelong processes, with relationships and events in earlier life stages having consequences for later life relationships. Moreover, family members are viewed as active agents in their lives, making choices and negotiations within the constraints of social structure and conditions. From the feminism, ageing, and life course perspective, the life course paradigm allows us to think about how cohort and gender interact with other forces of history, society, and culture to structure the experiences, attitudes, and beliefs of older persons (Utz and Nordmeyer 2007). Different generations interpret old-age support differently, because they have shared with similarly aged peers the various stages of life that are involved within a particular macro-historical context. For example, the contemporary Italian woman is more likely to be childless and unmarried. Thus, the expectation that children will provide social support and caregiving in times of need is not as likely for this generation of women as it was for generations of women who had a more traditional family structure (ibid). Moreover, social support and social networks vary between men and women. A study in the United States found gender differences in parent-child dependence after widowhood, which was influenced by the

traditional gender roles into which they had been socialized in the life course (Ha et al. 2006).

Taking a life course perspective has implications for the study of intergenerational relationships in the Chinese context. The impact of social and demographic changes on different cohorts of men and women is likely to be heterogeneous, depending on their social and personal circumstances, preferences, and life histories. Hermalin and Yang (2004) conducted cohort analysis among women aged 20–40 in Taiwan in which several birth cohorts were traced longitudinally in order to determine how their expectations of living arrangements varied over time. The results showed that over a 20-year period there is an increasing expectation towards coresidence with a married son, and most of the observed change in expectations was due to within-cohort changes (accounting for 80% to 85%) rather than between-cohort differences (accounting for 15% to 20%). Du's (1999) and Sun's (2013) analyses of the 1982, 1990, and 2000 census data in China found that, over time, there were age, cohort, as well as gender differences reflected in the changes in the living arrangements among older people. From this life course perspective, we would therefore anticipate certain gender and cohort differences in the attitudes and preference of old-age support.

> *H3*: There will be gender and cohort differences in the respondents' attitudes and preferences towards old-age support.

4. Data and method

The data for this study is drawn from the Chinese Household Finance Survey (CHFS), which is a nationally representative household survey conducted by the Survey and Research Center for China Household Finance at Southwestern University of Finance and Economics (SWUFE). The survey aims to collect micro-level information about household financial and physical assets, debts and credit constraints, income, expenditures, social insurance, intergenerational transfer payments, demographics, employment, and payment history, etc., which can be used for academic study and policymaking (Gan et al. 2013). The data was collected in 2011, 2013, 2015, and 2017. This study uses the 2013 data, as this was the most recent publicly available dataset at the time of writing.

The analytical sample used here includes all study respondents aged 40 to 55 who have at least one surviving parent and one child. As detailed above, those cohorts born in the late 1950s, 1960s, and early 1970s have historically been exposed to a very different demographic and socioeconomic context from their parental generations. They are more likely to have experienced a longer period of their lifetime with surviving

parents but, as a result of family planning policy, are likely to have had fewer children, particularly those living in urban areas. More importantly, these respondents are expected to be wealthier and to have made pension contributions and thus will have pension entitlements and other material resources to support themselves as they age. All these experiences may shape their attitudes and preferences towards old-age support.

The two dependent variables used are a) *attitudes* towards current old-age support and b) *preferences* on their future old-age living arrangement.

The survey questions were:

Who is responsible for the life of a senior citizen who has children?

1. Mainly the government
2. Mainly the children
3. Mainly him/herself
4. Responsibility shared equally among the government, child, and senior

Which old-age living arrangement would you choose in the future?[3]

1. Nursing home
2. Living in the community
3. Living with children

Independent variables include demographic characteristics, such as age and gender (Meng et al. 2017). The probability that a parent receives care when needed is likely to increase with the number of potential caregivers, and therefore the number of the respondents' siblings [4] was also included, along with the total number of the respondents' children. In addition, a new categorical variable was derived indicating whether the children included at least one son (Hermalin and Yang 2004).

Socioeconomic characteristics were captured by four proxies: the respondents' education, occupation, household assets, and Hukou status. Household assets are a computed variable, comprising non-financial assets (agricultural instrument assets, business assets, land assets, house, vehicle, and other non-financial assets) and financial assets (social security account balances, cash, savings, stocks, funds, bonds, investment, foreign currency, gold, other financial assets, and lending) (Gan et al. 2013). The value of household assets ranged from 60 to 20 million Chinese Yuan. Due to its skewed nature, the financial variable was transformed using the natural log function and measured by quartiles, which included a lower, median, and upper quartile.

Previous research on intergenerational reciprocity suggests that parents who are providing care to their parents may in turn expect future old-age support from their

[3] This is the translation as supplied in the English version of the questionnaire.

[4] This variable turned out no effect on the outcomes and was excluded from the multivariate analysis.

children (Schatz, Seeley, and Zalwango 2018). Thus, a variable which captures the adult child's coresidence with parents was also included, reflecting three categories: coresidence, child lives nearby, and child lives further apart. Phone contact with parents during the previous month was also explored, and money exchanges with one's parents during the previous year, but little or no association was found and thus it was decided not to include these in the statistical analysis. A profile of the analytical sample for each of the dependent and independent variables is provided in Table 1.

Table 1: Profile of analytical sample – all those aged 40–55 with a least one surviving parent and one child (N = 6,520)

	Categories	%	% applying sampling weight
Age group	40–44	38.2	38.0
	45–49	33.7	33.9
	50–55	28.1	28.0
Gender	Male	49.4	50.7
	Female	50.6	49.3
Education	Primary and lower	25.8	28.7
	Lower secondary	36.4	37.8
	Upper secondary	19.0	17.4
	Higher education (university)	18.8	16.1
Occupation	Employed	34.8	32.2
	Self-employed	12.0	12.0
	Farmer	26.6	31.6
	Homemaker	9.7	8.4
	Not working	16.9	15.7
Value of household asset (Ln) (Quartile values)	25% respondents	11.8	11.7
	50% respondents	12.8	12.7
	75% respondents	13.6	13.6
Hukou	Agricultural	53.3	59.4
	Non-agricultural	46.7	40.6
Number of children	1	54.8	52.5
	2	29.4	30.9
	3+	15.8	16.7
Whether have at least one son	No	28.4	27.2
	Yes	71.6	72.8
Coresidence with parent	Coresidence	14.4	14.9
	Live nearby	30.0	32.7
	Live apart	55.6	52.4
Who is responsible for the life of a senior citizen who has children?	Mainly the government	9.2	8.6
	Mainly the children	39.6	42.1
	Mainly him/herself	15.8	15.5
	Responsibility shared equally among the government, child, and senior	35.4	33.8
Which old-age living arrangement would you choose?	Elder home	11.5	10.2
	Living in the community	54.0	53.4
	Living with children	34.5	36.4
Total		100.0	100.0

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.

Bivariate analysis and multinomial logistic regression were applied. Tables 2 and 4 present the bivariate distribution of the respondents' current attitudes towards old-age support and preferences of future old-age living arrangements for each of the independent variables. The associations based on multivariate multinomial logistic regression models were then tested with the respondents' current attitudes towards who should be responsible for old-age support and their preferences for future living arrangements in later life as the dependent variables (Tables 3 and 5). In order to examine gender differences in their future preferences, the multinomial logistic regressions were run for the whole sample, and then for men and women separately. In order to provide a clearer interpretation of the findings, the average marginal effects (AMEs) are also presented along with the confidence intervals. AMEs are presented in terms of percentages. For instance, if the AME is 9.0% for those respondents with two children who believed that it should be mainly the children who are responsible for the life of a senior citizen, this means that the probability of being part of the sub-group (believing that children are mainly responsible for the life of a senior citizen) for those with two children was on average 9.0% points higher compared with those with only one child. Differential effects of family structure and socioeconomic characteristics across cohorts were tested through an interaction effect. Separate testing of multiple moderators is recommended to avoid potentially confounding colinearity effects (Fairchild and MacKinnon 2009). The results of major interaction effects are presented in Figures 1 and 2.

5. Results

Table 1 presents the attitudes towards current, and preferences towards future, old-age support among the respondents. Among the middle-aged respondents, 42% believed that the children should be responsible for the life of a senior citizen who has children. One-third of respondents thought that the responsibility should be shared equally among the government, child, and senior person, while just 9% of respondents reported that the government should be primarily responsible for old-age support. When asked about their preferences with regard to their own future living arrangements, over half of the respondents (54%) preferred living in the community when they are old, more than one-third of respondents (35%) expressed a preference to live with their children, and one-tenth would like to live in a home for elderly people.

The main analytical sample was restricted to those respondents who had at least one parent alive and at least one child. If we consider all people in middle-age, including those who are childless and those whose parents have both passed away, the proportion who stated a preference to live in the community was slightly higher (53.4%

vs. 51.6%), while the preference to live with children was somewhat lower (36.4% vs. 38.3%). Perhaps not surprisingly, a higher proportion of childless respondents reported that the responsibility for old-age support should lie either with the government or should be shared. A higher proportion of childless mid-lifers expressed a preference to live in a nursing home in the future (Table A-1). The remainder of this paper focusses on those mid-lifers with at least one surviving parent and child, comprising the majority of those in mid-life in China today.

Looking at the socioeconomic characteristics of the mid-life respondents, one-third of respondents had obtained upper secondary or university education. Sixty percent had agricultural Hukou. More than half had only one child, but the majority (73%) reported having at least one son. Respondents had close ties with their parents; 15% were coresiding with their parents, whilst a third were living in the same community or neighbourhood as their parent. Among those not living together with their parent or nearby, three quarters had had phone contact with their parents more than once a month before the survey (data not shown).

5.1 Attitudes towards current sources of old-age support

The respondents' attitudes towards current sources of old-age support varied according to their family structure and socioeconomic status (Table 2). Mid-lifers were more likely to report that 'children should take care of older people' if they had two or three more children, at least one son, agricultural Hukou, lower education, were from relatively poor households, and were working in their own farmland. In contrast, those respondents who were more likely to report that 'responsibility should be shared equally among government, child, and the senior person' were those with only one child, with a non-agricultural Hukou, higher education, or in a relatively wealthy household. Similarly, those who were more likely to report that 'the government should take care of old-age people' were those with only one child, no sons, those with a non-agricultural Hukou, in wealthier households, and who were currently employed. Attitudes also differed according to current intergenerational exchange behaviours (Table 2). The respondents who were currently coresiding with their parents or living nearby were more likely to report that the responsibility should lie with the children, while those who were living apart from their parents were more likely to think that it should be shared equally among the government, child, and the senior person themselves. Interestingly, there were differences by age; those aged 50–55 were more likely to report that the older person him/herself should be responsible for their old-age support, whilst the younger group aged 40–44 were more likely to think that the

responsibility should be shared among the government, child, and senior person. There were no gender differences.

Table 2: Attitudes towards who should be responsible for old-age support amongst mid-life cohorts in China by demographic and family characteristics and socioeconomic status (%)

		Who is responsible for the life of a senior citizen who has children?				
		Mainly the government	Mainly the children	Mainly him/herself	Responsibility shared equally among the government, child, and senior person	Total (P value)
Age group	40–44	7.9	39.6	15.3	37.2	100.0 (p <
	45–49	8.8	42.4	15.2	33.6	0.001)
	50–55	11.4	36.2	17.3	35.1	
Gender	Male	9.8	40.4	15.5	34.3	100.0 (p =
	Female	8.6	38.9	16.1	36.4	0.122)
Number of children	1	11.5	29.0	18.4	41.2	100.0 (p <
	2	5.6	51.4	13.5	29.5	0.001)
	3+	8.3	54.4	11.2	26.2	
At least one son	No	11.8	29.4	17.8	41.1	100.0 (p <
	Yes	8.2	43.7	15.0	33.1	0.001)
Education	Lower than primary	6.1	58.9	12.6	22.4	100.0 (p <
	Lower secondary	7.5	43.9	16.1	32.6	0.001)
	Upper secondary	11.4	26.8	18.8	42.9	
	Higher education	14.6	17.8	16.5	51.0	
Occupation	Employed	11.3	28.4	17.4	42.9	100.0 (p <
	Self-employed	8.2	41.1	18.0	32.7	0.001)
	Farmer	6.0	56.1	11.5	26.4	
	Homemaker	12.7	30.5	20.5	36.3	
	Not working	8.8	40.9	15.0	35.3	
Value of household asset	Lowest quartile	8.6	49.2	13.7	28.5	100.0 (p <
	2nd quartile	8.6	45.4	13.6	32.5	0.001)
	3rd quartile	8.7	37.2	16.4	37.7	
	4th quartile	11.0	26.6	19.5	43.0	
Hukou	Agricultural	5.9	53.5	12.8	27.8	100.0 (p <
	Non-agricultural	13.0	23.8	19.2	44.0	0.001)
Coresidence with parents	Coresidence	10.2	44.6	14.5	30.7	100.0 (p <
	Live nearby	7.9	47.0	13.6	31.5	0.001)
	Live apart	9.7	34.3	17.3	38.7	

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.
Note: N = 6,520.

Table 3 shows the results of the multivariate multinomial logistic regression. Respondents with old-age support attitudes of the responsibility lying 'mainly with the government', 'mainly with the children', 'mainly with him/herself', and that the 'responsibility [should be] shared equally among the government, child, and senior person' were defined as sub-group 1, sub-group 2, sub-group 3, and sub-group 4

respectively. Respondents with two or more children were more likely to be in sub-group 2 but less likely to be in other sub-groups, while those with at least one son had a higher probability of being in sub-group 2. The respondents' education had an effect on their attitudes towards old-age support. Higher educated people were more likely to be in sub-group 1 or sub-group 4 but less likely to be part of sub-group 2 or sub-group 3. People from the wealthiest household were less likely to be part of sub-group 1 or sub-group 2 but were more likely to be in sub-group 3. Those with a non-agricultural Hukou were much less likely to be in sub-group 2 but more likely to be in sub-group 1 or sub-group 3. Despite the current close ties with parents, current patterns of intergenerational exchange seem to have little impact on the respondents' attitudes with regard to who should provide old-age support once other factors have been controlled for.

Table 3: Factors associated with attitudes towards who should be responsible for old-age support amongst mid-life cohorts in China

		Who is responsible for the life of a senior citizen who has children?			
		Mainly the government (1) AME (95% CI)	Mainly the children (2) AME (95% CI)	Mainly him/herself (3) AME (95% CI)	Responsibility shared equally among the government, child, and senior person (4) AME (95% CI)
Age group	40–44 (ref)				
	45–49	1.2 (–0.5 to 2.8)	0.5 (–2.2 to 3.1)	0.3 (–1.8 to 2.4)	–2.0 (–4.8 to 0.7)
	50–55	2.7 (0.8 to 4.5)	–2.2 (–5.1 to 0.7)	1.7 (–0.7 to 4.0)	–2.1 (–5.1 to 0.9)
Gender	Male (ref)				
	Female	–1.4 (–2.9 to 0.2)	–0.1 (–2.6 to 2.5)	–0.7 (–2.6 to 1.2)	2.1 (–0.4 to 4.6)
Number of children	1 (ref)				
	2	–2.8 (–4.5 to –1.0)	8.0 (5.1 to 10.9)	–2.3 (–4.6 to -0.1)	–2.9 (–5.9 to 0.1)
	3+	1.1 (–1.6 to 3.7)	7.4 (3.9 to 11.0)	–4.4 (–7.2 to –1.7)	–4.1 (–7.9 to –0.3)
At least one son	No (ref)				
	Yes	–1.3 (–2.9 to 0.3)	4.4 (1.8 to 7.1)	–0.6 (–2.6 to 1.5)	–2.6 (–0.5 to 0.1)
Education	Lower than primary (ref)				
	Lower secondary	–0.3 (–2.3 to 1.7)	–8.0 (–11.2 to –4.9)	0.3 (–2.4 to 3.0)	8.1 (5.1 to 11.1)
	Upper secondary	1.5 (–1.0 to 4.0)	–17.6 (–21.7 to –13.5)	–0.5 (–3.8 to 2.7)	16.7 (12.6 to 20.7)
	Higher education	4.4 (1.3 to 7.5)	–22.1 (–26.8 to -17.3)	–4.0 (–7.4 to –0.5)	21.7 (16.9 to 26.4)
Occupation	Employed (ref)				
	Self-employed	0.1 (–2.4 to 2.6)	3.0 (–0.9 to 7.0)	0.8 (–2.3 to 3.9)	–3.9 (–7.8 to –0.1)
	Farmer	–0.5 (–3.0 to 2.0)	2.7 (–0.8 to 6.2)	–2.1 (–5.0 to 0.9)	–0.1 (–4.0 to 3.7)
	Homemaker	1.5 (–1.2 to 4.1)	–0.6 (–5.0 to 3.8)	1.6 (–1.8 to 5.0)	–2.5 (–6.7 to 1.8)
	Not working	–0.4 (–2.6 to 1.7)	2.6 (–1.0 to 6.2)	–2.1 (–4.8 to 0.7)	–0.2 (–3.7 to 3.4)
Value of household asset	Lowest quartile (ref)				
	2nd quartile	–0.9 (–3.2 to 1.4)	–0.7 (–3.8 to 2.4)	–0.6 (–3.1 to 1.9)	2.2 (–1.1 to 5.5)
	3rd quartile	–2.8 (–5.0 to –0.6)	–0.6 (–3.8 to 2.7)	0.9 (–1.7 to 3.5)	2.5 (–0.9 to 5.9)
	4th quartile	–2.5 (–4.8 to –0.2)	–4.3 (–7.9 to –0.7)	3.1 (0.2 to 5.9)	3.7 (0.1 to 7.4)
Hukou	Agricultural (ref)				
	Non-agricultural	5.1 (3.0 to 7.3)	–12.4 (–15.7 to –9.1)	3.9 (1.3 to 6.5)	3.4 (0.1 to 6.8)

Table 3: (Continued)

		Who is responsible for the life of a senior citizen who has children?			
		Mainly the government (1) AME (95% CI)	Mainly the children (2) AME (95% CI)	Mainly him/herself (3) AME (95% CI)	Responsibility shared equally among the government, child, and senior person (4) AME (95% CI)
Coresidence with parents	Coresidence (ref)				
	Live nearby	–1.2 (–3.6 to 1.2)	–1.2 (–4.7 to 2.3)	–0.2 (–3.0 to 2.7)	2.5 (–1.2 to 6.2)
	Live apart	–1.8 (–4.1 to 0.5)	–2.8 (–6.3 to 0.8)	1.7 (–1.0 to 4.4)	2.9 (–0.7 to 6.4)

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.
Note: AME/se refers to average marginal effects and standard error based on multinomial regression analysis, N = 6,520.

Figure 1 illustrates the interaction effect of cohort and rural/urban Hukou status with respect to one's attitudes towards who should be responsible for old-age support. The oldest cohort was more likely to report that it is older people's themselves who should be responsible for their old-age support rather than their children, compared with the younger cohorts. Variation of attitudes was more considerable among non-agricultural Hukou respondents than that of their agricultural Hukou counterparts.

Figure 1: Average marginal effects with 95% CI of expressing different attitudes towards old-age support by age cohort and Hukou status amongst mid-life cohorts in China (N = 6,520)

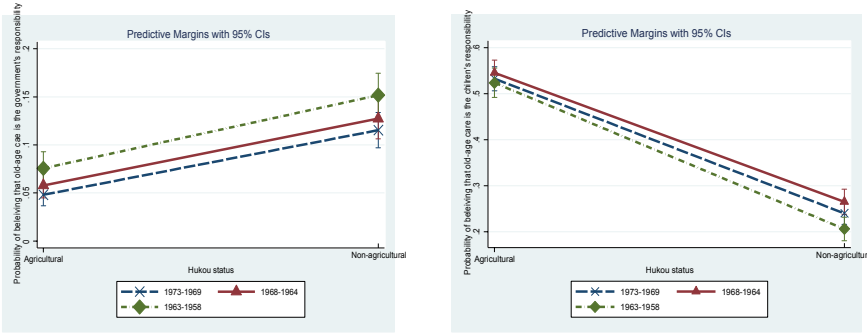
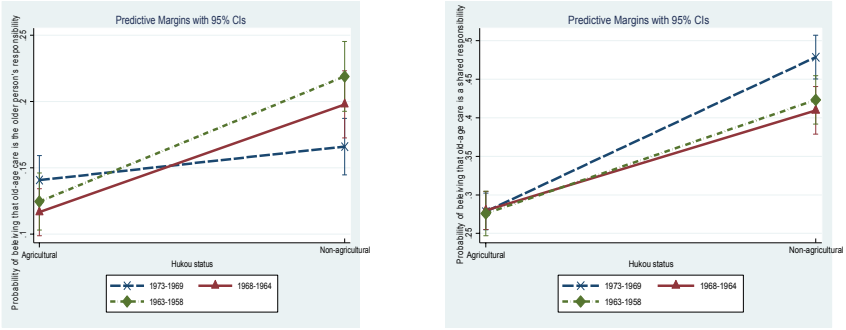


Figure 1: (Continued)



Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.

5.2 Future preferences towards living arrangements in later life

The preferences towards old-age living arrangement varied among respondents by familial structure and socioeconomic status (Table 4). Respondents who preferred living with children were more likely to have two or three more children, at least one son, to have an agricultural Hukou, lower education, to be working in their own farmland, or to be living in an impoverished household. Respondents who were more likely to support living in an institutional setting in later life were those with only one child, those with a non-agricultural Hukou, and those in a wealthier family. There were also differences in the respondents' preferences according to current patterns of intergenerational exchange (Table 4). Unsurprisingly, those who were currently coresiding with or living nearby their parents were more likely to prefer to live with their children in the future. In contrast, those who were currently living apart from their parents were more likely to prefer living independently in the community.

Table 4: Preferences concerning future living arrangements in later life amongst mid-life cohorts in China by demographic and family characteristics and socioeconomic status (%)

		Which old-age living arrangement in the future would you choose?			
		Nursing home	Living in the community	Living with children	Total (P value)
Age group	40–44	10.4	59.7	29.9	100.0 (p < 0.001)
	45–49	9.5	51.8	38.7	
	50–55	15.3	48.7	36.0	
Gender	Male	9.0	56.2	34.8	100.0 (p < 0.001)
	Female	13.9	51.8	34.3	
Number of children	1	17.0	57.7	25.3	100.0 (p < 0.001)
	2	4.7	52.3	43.0	
	3+	4.9	44.2	51.0	
At least one son	No	17.9	59.7	22.4	100.0 (p < 0.001)
	Yes	9.0	51.7	39.4	
Education	Lower than primary	4.3	42.7	53.0	100.0 (p < 0.001)
	Lower secondary	8.8	54.1	37.1	
	Upper secondary	17.5	57.3	25.2	
	Higher education	20.5	65.7	13.7	
Occupation	Employed	15.4	61.1	23.5	100.0 (p < 0.001)
	Self-employed	8.8	61.2	30.0	
	Farmer	3.7	45.4	50.9	
	Homemaker	20.2	49.4	30.5	
	Not working	12.6	50.3	37.1	
Value of household asset	Lowest quartile	7.9	47.1	45.0	100.0 (p < 0.001)
	2nd quartile	7.6	51.9	40.5	
	3rd quartile	12.6	57.6	29.8	
	4th quartile	17.8	59.3	22.9	
Hukou	Agricultural	4.7	48.3	47.0	100.0 (p < 0.001)
	Non-agricultural	19.2	60.4	20.3	
Coresidence with parents	Coresidence	10.3	49.0	40.6	100.0 (p < 0.001)
	Live nearby	7.6	49.8	42.5	
	Live apart	13.9	57.5	28.6	

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.
Note: N = 6,520.

Table 5 shows the results of the multivariate multinomial logistic regression. We defined respondents whose preferences for future old-age living were in a nursing home, living in the community, and living with children as sub-group 1, sub-group 2, and sub-group 3 respectively. With increasing age, the probability of being part of sub-group 2 reduced, but that of being part of sub-group 1 or sub-group 3 increased. Respondents with two more children were more likely to be in sub-group 3 but less likely to be in the other two sub-groups. Those with at least one son had a higher probability of being in sub-group 3 but a lower chance of being in the other two sub-groups. The respondents' education had an effect on their preferences for their future old-age living arrangement. Higher educated people were much more likely to be part of sub-group 1 or sub-group 2 but less likely to be part of sub-group 3. Those from a wealthier household were less likely to be in sub-group 3, while those with a non-agricultural Hukou were more likely to be in sub-group 1 or sub-group 3 but less likely to be part of sub-group 3. Compared with those coresiding with their parents, those who were living apart had a higher probability of being in sub-group 2 but a lower chance of being in sub-group 3.

Preferences also varied by gender (Table 5). Women were more likely to prefer to live in a nursing home and less likely to prefer to live in the community compared with men. The separate models by gender highlight that amongst women, those with the highest education are most likely to express a preference towards living in a care home, whilst for men, having a non-agricultural Hukou status and household assets of a higher value increased the likelihood of preferring to live in the community. In addition, men currently living apart from their parents were more likely to prefer to live in the community and less likely to favour living with their own children in the future. These factors had no effect, however, among women.

Table 5: Factors associated with future living arrangements in later life amongst mid-life men and women cohorts in China

		Which old-age living arrangement in the future would you prefer?									
		Total AME (95% CI)			Men AME (95% CI)			Women AME (95% CI)			
		Nursing home (1)	Living in the community (2)	Living with children (3)	Nursing home (1)	Living in the community (2)	Living with children (3)	Nursing home (1)	Living in the community (2)	Living with children (3)
Age group	40–44 (ref)									
	45–49	0.1 (–1.6 to 1.9)	–6.3 (–9.1 to –3.4)	6.1 (3.5 to 8.7)	0.2 (–2.1 to 2.4)	–5.3 (–9.3 to –1.2)	5.1 (1.4 to 8.9)	0.3 (–2.3 to 3.0)	–7.3 (–11.2 to –3.3)	6.9 (3.4 to 10.4)
	50–55	4.0 (1.9 to 6.1)	–9.7 (–12.9 to –6.6)	5.7 (2.9 to 8.6)	3.5 (1.0 to 6.1)	–6.7 (–11.1 to –2.3)	3.2 (–0.8 to 7.2)	4.8 (1.5 to 8.0)	–14.5 (–19.1 to –9.9)	9.8 (5.7 to 13.9)
Gender	Male (ref)									
	Female	3.9 (2.3 to 5.5)	–5.6 (–8.3 to –3.0)	1.8 (–0.7 to 4.2)						
Number of children	1 (ref)									
	2	–6.1 (–8.0 to –4.3)	1.7 (–1.3 to 4.7)	4.4 (1.6 to 7.2)	–6.3 (–8.6 to –4.0)	2.0 (–2.1 to 6.1)	4.3 (0.4 to 8.2)	–5.7 (–8.7 to –2.7)	1.4 (–3.0 to 5.8)	4.3 (0.4 to 8.2)
	3+	–4.7 (–7.4 to –2.1)	–1.5 (–5.4 to 2.3)	6.3 (2.9 to 9.7)	–4.7 (–7.8 to –1.5)	–2.2 (–7.5 to 3.1)	6.8 (2.0 to 11.7)	–4.9 (–9.1 to –0.8)	–0.5 (–6.1 to 5.1)	5.5 (0.6 to 10.3)
At least one son	No (ref)									
	Yes	–3.2 (–4.9 to –1.5)	–5.5 (–8.3 to –2.7)	8.7 (6.1 to 11.3)	–2.5 (–4.7 to –0.3)	–4.2 (–8.3 to –0.2)	6.7 (3.0 to 10.5)	–4.0 (–6.5 to –1.4)	–6.2 (–10.0 to 2.4)	10.2 (6.6 to 13.7)
Education	Lower than primary (ref)									
	Lower secondary	2.3 (0.1 to 4.5)	6.5 (3.2 to 10.0)	–8.8 (–11.8 to –5.7)	1.4 (–1.6 to 4.4)	5.6 (0.8 to 10.3)	–6.9 (–11.3 to –2.6)	3.0 (–0.3 to 6.2)	7.1 (2.5 to 11.7)	–10.1 (–14.4 to –5.8)
	Upper secondary	5.0 (2.4 to 7.7)	9.6 (5.4 to 13.9)	–14.6 (–18.6 to –10.7)	4.4 (0.8 to 8.1)	7.9 (1.9 to 13.8)	–12.3 (–17.8 to –6.8)	5.4 (1.4 to 9.4)	10.2 (4.1 to 16.2)	–15.6 (–21.3 to –9.9)
	Higher education	6.4 (3.4 to 9.4)	14.3 (9.3 to 19.2)	–20.6 (–25.3 to –16.0)	3.2 (–0.6 to 7.0)	10.8 (3.7 to 17.8)	–14.0 (–20.7 to –7.2)	9.7 (4.8 to 14.5)	17.1 (10.2 to 23.9)	–26.7 (–32.9 to –20.5)

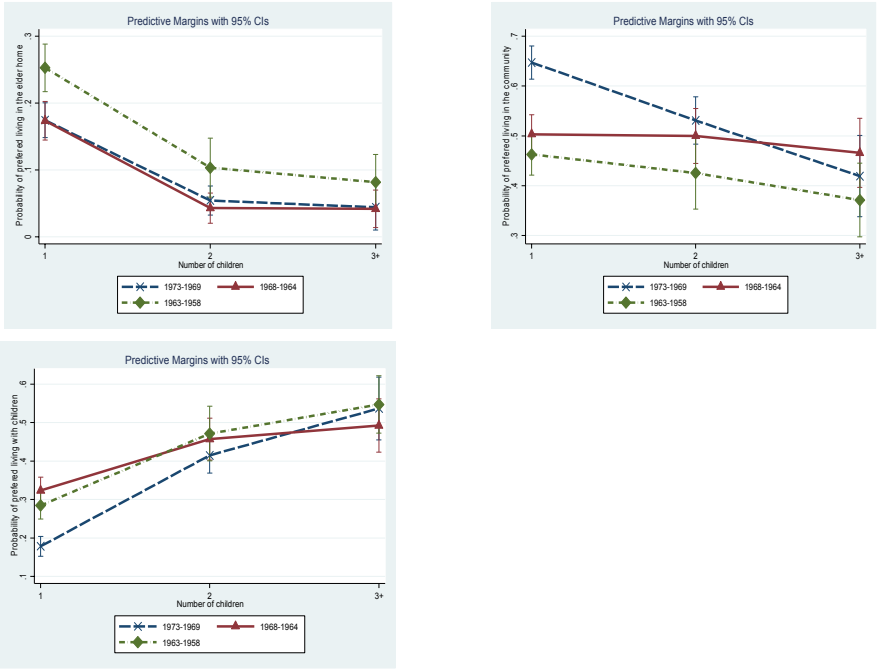
Table 5: (Continued)

		Which old-age living arrangement in the future would you prefer?								
		Total AME (95% CI)			Men AME (95% CI)			Women AME (95% CI)		
		Nursing home (1)	Living in the community (2)	Living with children (3)	Nursing home (1)	Living in the community (2)	Living with children (3)	Nursing home (1)	Living in the community (2)	Living with children (3)
Occupation	Employed (ref)									
	Self-employed	–1.7	3.2	–1.4	–0.8	1.6	–0.8	–2.5	4.9	–2.4
		(–4.3 to 0.8)	(–1.0 to 7.3)	(–5.2 to 2.4)	(–4.0 to 2.3)	(–4.0 to 7.2)	(–6.0 to 4.4)	(–6.5 to 1.5)	(–1.4 to 11.2)	(–8.1 to 3.3)
	Farmer	–2.8	–0.5	3.3	–2.1	1.7	0.4	–3.1	–4.1	7.2
		(–5.6 to 0.1)	(–4.4 to 3.5)	(–0.2 to 6.7)	(–5.6 to 1.2)	(–3.5 to 6.9)	(–4.1 to 5.0)	(–7.7 to 1.5)	(–10.1 to 2.0)	(1.9 to 12.5)
	Homemaker	1.5	–5.1	3.6	1.8	–11.3	9.5	2.0	1.4	–3.4
		(–1.2 to 4.2)	(–9.7 to –0.5)	(–0.7 to 7.9)	(–2.4 to 6.0)	(–18.3 to –4.3)	(2.9 to 16.1)	(–2.0 to 6.0)	(–5.0 to 7.8)	(–9.2 to 2.4)
	Not working	0.9	–4.5	3.5	–0.8	0.7	0.1	2.2	–7.3	5.1
		(–1.4 to 3.3)	(–8.3 to –0.7)	(0.1 to 7.0)	(–3.9 to 2.4)	(–5.4 to 6.8)	(–5.6 to 5.9)	(–1.3 to 5.7)	(–12.3 to –2.2)	(0.5 to 9.7)
Value of household asset	Lowest quartile (ref)									
	2nd quartile	–1.7	2.9	–1.2	–2.3	4.1	–1.9	–1.2	1.8	–0.6
		(–4.1 to 0.6)	(–0.5 to 6.3)	(–4.2 to 1.8)	(–5.4 to 0.9)	(–0.7 to 9.0)	(–6.2 to 2.5)	(–4.7 to 2.2)	(–2.9 to 6.6)	(–4.7 to 3.5)
	3rd quartile	0.2	3.9	–4.1	–0.6	7.5	–6.8	1.0	0.2	–1.2
		(–2.1 to 2.6)	(0.3 to 7.4)	(–7.2 to –0.9)	(–3.8 to 2.5)	(2.4 to 12.5)	(–11.4 to –2.3)	(–2.5 to 4.4)	(–4.7 to 5.2)	(–5.6 to 3.1)
	4th quartile	1.5	2.7	–4.2	–0.4	6.3	–5.9	3.5	–0.9	–2.6
		(–0.9 to 3.9)	(–1.2 to 6.5)	(–7.7 to –0.6)	(–3.7 to 2.8)	(0.8 to 11.9)	(–11.0 to –0.8)	(–0.2 to 7.1)	(–6.2 to 4.5)	(–7.4 to 2.2)
Hukou	Agricultural (ref)									
	Non-agricultural	5.5	4.8	–10.3	4.5	8.5	–13.0	6.8	–0.6	–6.2
		(3.4 to 7.7)	(1.3 to 8.3)	(–13.5 to –7.1)	(1.6 to 7.4)	(3.5 to 13.6)	(–17.7 to –8.2)	(3.5 to 10.0)	(–5.3 to 4.2)	(–10.6 to –1.9)
Coresidence with parents	Coresidence (ref)									
	Live nearby	–1.6	3.2	–1.5	–3.1	5.2	–2.0	2.0	–1.8	–0.2
		(–4.4 to 1.2)	(–0.7 to 7.0)	(–5.0 to 1.9)	(–6.0 to –0.2)	(0.7 to 10.0)	(–6.1 to 2.1)	(–3.1 to 7.2)	(–9.5 to 4.2)	(–7.1 to 6.7)
	Live apart	–1.7	7.3	–5.6	–1.6	9.4	–7.8	0.1	3.2	–3.3
		(–4.2 to 0.8)	(3.5 to 11.1)	(–9.1 to –2.1)	(–4.4 to 1.3)	(4.5 to 14.2)	(–12.3 to –3.3)	(–4.4 to 4.6)	(–3.7 to 10.2)	(–9.7 to 3.1)

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.
Note: AME/se refers to average marginal effects and standard error based on multinomial regression analysis, N = 6,520 (total), N = 3,219 (men), N = 3,301 (women).

Figure 2 shows the results of the interaction effect of cohort and the number of children with regard to preferences for future living arrangements among women. Interestingly there is a marked difference by cohort with respect to preferring to live in the community, with those from the youngest cohort (born 1973–1969) and with one child exhibiting the highest probability of preferring this mode of living and the lowest probability of preferring to live with their child.

Figure 2: Average marginal effects with 95% CI of alternative preferred future living arrangements in later life by age cohort and number of children amongst mid-life women in China (N = 3,301)



Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.

6. Discussion

This study has investigated the attitudes and preferences of those currently in mid-life in China towards different sources of old-age support analysing nationally

representative survey data – both for today's elders and for themselves in their own later life – and how these vary according to demographic and socioeconomic circumstances, and current flows of intergenerational exchange. To our knowledge, this is the first paper to investigate these relationships within the contemporary Chinese context.

Overall, the attitudes and preferences of old-age support are rooted in life course relations within the family, which are affected by broader historical and contemporary social, economic, and cultural conditions. First, the results offer support to the argument that the broad cultural values of intergenerational support have remained relatively stable and that middle-aged people in China are adapting to the changing life circumstances. However, the results in this paper do also point to new patterns of old-age support, especially for those with one child living in urban areas, where a sizeable minority were considering living in a nursing home as a future option. Consistent with previous studies (Meng et al. 2017; Zhang 2012; Hermalin and Yang 2004), an increasing number of children, especially sons, increases the probability of believing old-age support should be mainly the responsibility of children; this group is also more likely to prefer living with their adult children in future. In contrast, middle-aged respondents with an only child may recognise their child's incapacity to offer old-age support (Aboderin 2004). In line with the modernisation and ageing theory, results show that people with a higher socioeconomic status favour independent living. As they tend to have a higher earning power, better access to public social security and health care, and a stronger preference for privacy, individuals in this group may wish to avoid being a burden on their children in the future (Whyte 2012; Cai et al. 2012).

Secondly, the results support the notion of indirect reciprocity. The middle generation who provide coresidence to the older generation are in turn more likely to expect coresidence from the younger generation. Adults who help their parents in the presence of their young children hope to provoke the desired effect and to have later return-support from the next generation (Arrondel and Masson 2006). Those currently coresiding with older parents might also be better placed to understand the advantages of coresidence and thus to prefer living with their children when they themselves are old.

Lastly, the results also point to important cohort and gender differences in attitudes and preferences towards old-age support. Over their life span, the majority of the late 1950s, 1960s, and early 1970s cohort were beneficiaries of modern China's socioeconomic reforms, especially amongst urban (non-agricultural Hukou) respondents (Whyte 2012). Nevertheless, the explanation of cohort differences in old-age support attitudes and preferences and the role of one's Hukou status as well as the number of children, may require further exploration. In addition, the socialist system had made full-time employment among urban women almost as common as for men (Falkingham et al. 2019). Women may enjoy better material and health resources than

previous generations. However, gender norms in China still assign domestic work to women, and there remains a family ideology that assigns daughters-in-law to positions of near servitude with respect to their parents-in-law (Attane 2012). Therefore, it is possible that female respondents are expressing their opposition to such an ideology by declining the option of coresidence and having a reasonable expectation of living independently in the future. Gender differences may also reflect the difference in longevity between men and women. Women face a higher risk of being widowed in advanced old age. Therefore, when their health deteriorates or their spouse dies, women may prefer to live in an elderly home, assuming they value privacy highly and can afford it (Zimmer 2005).

The findings have important implications for policymakers and planners. The demographic and socioeconomic environment in China is continuously changing. Tomorrow's older people will differ considerably from those of today in terms of the number and geographical location of their children, their economic resources, and their life experiences. They will be better educated, have different employment histories, will likely be in better health, and many more will be covered by some form of formal retirement benefits. Policy needs to adapt to these changing circumstances, enabling future elders and their adult children to access support, which facilitates older people to retain their independence for as long as possible, be that by supporting coresidential family carers or through the provision of enhanced assistance to people living in their own homes with tasks such as cleaning, cooking, washing, and dressing (Zhou and Walker 2016), or the provision of residential care with the full range of medical support. No one solution will meet all needs, rather there should be a continuum of care that adapts to individuals' needs and preferences across the life course.

There are several limitations to this study. First, there is a limitation in terms of how proximity is defined in the survey, with a separate but 'near enough' residential arrangement being in a position to meet the needs of independence for both adult children and parents, whilst retaining the opportunity for frequent contact and continued assistance. Therefore 'living in the community with children nearby' is likely to be a preferred future living arrangement. However, information on the proximity of adult children to their parents is limited, and the survey did not include such an option. Second, individual and local contexts may combine to shape individuals' attitudes and preferences towards old-age support. Ideally extended time-series data on living arrangements and a comprehensive set of development indicators including those at macro- and institutional level should be used for such an analysis. Third, given the purpose of this study, we only selected respondents who had at least one child. The number of childless older adults is, however, expected to increase in the future, due to both voluntary and involuntary factors, including delayed marriage or non-marriage, infertility, high divorce rates, and child death (Sun and Wang 2008). Indeed, research has shown that individuals in some of these categories are particularly vulnerable and

require special attention for their old-age support (Feng 2017). Lastly, caution should be applied in using the findings to predict actual future living arrangements. It is hard for a cross-sectional analysis to rule out possible reverse relationships. Personal attitudes and preferences towards old-age support are likely to be dynamic over time, reflecting the vicissitudes in life that accompany changes in health and the ability to care for oneself, or changes in the family structure due to, for example, adult children's migration. It would be interesting in future work to link the generations and to explore the causality longitudinally.

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Appendix

Table A-1: Percentage of attitudes towards old-age support and future old-age living arrangement preferences among total middle-aged respondents (aged 40–55) and sub-groups

		All	With at least one live parent and one child	Without a live parent	Without a child
Attitudes towards old-age support	Mainly the government	8.5	8.6	8.7	10.2
	Mainly the children	43.6	42.1	46.2	38.1
	Mainly him/herself	15.7	15.5	16.2	17.1
	Responsibility shared equally among the government, child, and senior	32.2	33.8	29.0	34.7
Total		100.0	100.0	100.0	100.0
Preference of old-age living arrangement	Elder home	10.2	10.2	10.1	15.8
	Living in the community	51.6	53.4	47.8	51.8
	Living with children	38.3	36.4	42.1	32.4
Total		100.0	100.0	100.0	100.0
Sample size		10,509	6,520	3,127	718

Source: Authors' analysis of the Chinese Household Finance Survey (CHFS), 2013.
Note: % applying sampling weight.