

OLD AGE SUPPORT TO PARENTS AND PARENTS-IN-LAW
IN CONTEMPORARY CHINA

by

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ABSTRACT

China's aging population is increasing at an unprecedented rate and along with increasing life expectancies, need for formal and informal sources of old age support will likely grow as well. Chinese traditional family-based old age support has been practiced for centuries. According to this tradition, in a married couple, support is focused primarily on the husband's parents. However, given the changing aging demographics, economic and social policies (including one-child policy) in contemporary China, families may have greater demands in daily life and have fewer resources to provide to either set of aging parents. Gerontological researchers and policy-makers have previously examined influential factors in the provision of old age support to parents, however, the family's efforts to provide old age support to parents-in-law specifically and to both parents and parents-in-law simultaneously has received little attention.

This study examined these aspects of old age support through secondary analysis using the 2006 panel data of the China General Social Survey. Among the 1486 eligible respondents, provision of support to parents-in-law was widespread and similarities were found between support provided to parents and parents-in-law. Factors that influenced whether support was provided included reciprocity/exchange of support and parents/parents-in-law's needs (health status). Both men and women were seen to support both sets of parents, regardless of their blood relationship with the care recipients. Adult children did not tend to favor either set of parents in terms of financial or instrumental support provision. Also, only-children provided comparable support to parents and parents-in-law as families with multiple siblings.

Implications from this study for social work education, practice and policy advocacy are based on the strengths and challenges that will continue to influence old age support among Chinese families. Traditional family-based old age support was seen as a continuing strength,

and changes may be occurring in strict adherence to prescribed gender roles in the provision of support to parents and parents-in-law. Building on these strengths, social workers can help families plan for future care and advocate with local and national policy-makers for services that can further support the care of older parents within the family system.

LIST OF ABBREVIATION AND SYMBOLS

%	Percent
n	Number
χ^2	Computed value of chi-square test
sig.	Significant/significance
SD	Standard deviation
<	Less than
=	Equal to
p	The probability that the null hypothesis (that of no relationship) is correct

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CHAPTER ONE

INTRODUCTION

Like most countries in the world, China is experiencing a rapid growth in its aging population. According to the United Nations Population Division (2010), 8.2% of Chinese people (approximately 110 million) were 65 years of age or older in 2010; by 2025, those aged 65 or older will number close to 200 million, accounting for about 14% of the population. Together with increasing life expectancy, this large, aging population of China will likely produce overwhelming demands for long-term care.

The need for long-term care will be even greater among older adults with health needs and the oldest-old (those aged 85 and above). Although life expectancy (at birth) has reached 73 and continues to increase, the World Health Organization (WHO) (2010) reported that health-adjusted life expectancy (HALE)¹ at birth was 66 in the year 2007. The major factor that threatens the quality-of-life of the aging population is disability caused primarily by chronic disease. Many of the oldest-old spend their advanced age in poor health (Peng, Lin, & He, 2010). Based on a national disability survey, Liu et al. (2009) reported that nearly one-quarter of their sample (aged 60 or older) reported having one or more disabilities (visual, auditory, physical, and mental) and chronic illnesses such as hypertension, heart disease, diabetes, and obstructive pulmonary diseases. These health conditions are more likely to affect older adults' quality of life than the natural aging process and will result in demands for assistance with activities of daily living (ADLs) and instrumental activities of daily living (IADLs), as well as medical assistance. The size of the aging population in China and their long-term care needs due to natural aging

¹ Average number of years that a person can expect to live in "full health" by taking into account years lived in less than full health due to disease and/or injury (WHO, 2011).

process and health decline have presented great challenges to older adults, their families, and Chinese society in general.

Filial Piety and Chinese Traditional Family Elder Care

Family elder care has been the only option for Chinese elderly and their adult children for thousands of years; indeed, Chinese people are often praised for this tradition known as filial piety. This section reviews this traditional value and practice in traditional China (before 1949) and pre-economic-reform (before 1979) Communist China, as opposed to the contemporary, post-economic-reform China (after 1979). The moral and cultural rationale for filial piety in the Confucian sense and the traditional shared beliefs in adult children's responsibility to support and care for their elderly parents is introduced. In addition, how the changing economic, cultural, and political factors under Communism before and after the economic reform have affected this traditional elder-care practice and beliefs in filial piety are discussed. Of particular interest is the question of the sustainability of the tradition of family elder care in contemporary, post-economic reform China.

Filial Piety, the Central Idea of Confucius, and Cultural Base for Elder Care

According to Confucius, filial piety is rooted in human nature and is a moral obligation (Chao, 1983; Fei, 1985; Lang, 1946). Children are naturally obligated to their parents because they owe their lives to the parents (Chao, 1983). Children must reciprocate what their parents had given to them years earlier and repay the "debt" of being born and receiving care. The financial support and physical care children give to elder parents are forms of appreciation for what parents had done for them; filial piety requires affection, respect, and obedience to parents. According to Confucius, "filial piety means to support one's parents, but dogs and horses are nourished too. If care for parents is not accompanied by respect, what is the difference between

them and the animals?” (Li Chi, 1879, 11: 227). In other words, the practice of filial piety on the part of the children involves not only money and physical care, but should be accompanied with the utmost and spontaneous affection.

Because the parent-child relationship is the most fundamental human relationship, filial piety has implications for social order and stability. Confucius argued that if people apply filial piety to all the other human relations, a society, even the whole world, will function peacefully (Fei, 1953; Lang, 1946). Filial piety is the essence of Confucius’ behavior code known as “propriety.” Mencius, a famous disciple of Confucius, explained propriety as follows. “Between parent and child, there should be affection; between sovereign and subject, there should be righteousness; between husband and wife, there should be respective and natural duties; between elder and younger brother, there should be fraternal kindness and respect; between friends, there should be sincere fidelity” (Chao, 1983, p. 91). This behavior code stresses an individual’s responsibility to his or her duties; mutual, reciprocal responsibility between individuals, generations, and between rulers and subjects, as well as an age and gender hierarchy, in which the young should obey and respect the old and the wife should obey and respect the husband. According to propriety, a sovereign’s status to his subjects mimics the power of a father over his son. If an individual is properly brought up and taught to respect authority within his family, he will also respect authority outside of the family and be an obedient subject of the empire. In this sense, filial piety begins with love and obedience to parents, matures into service to the sovereign, and ends with a belief that a country is similar to the family and the relationship between the ruler and the people is one of respect and obedience (Chao, 1983; Lang, 1946; Levy, 1949). Because of this implication of filial piety, its significance for Chinese society and Chinese government cannot be overemphasized. Even when Confucius was criticized by the Chinese

Communist Party after 1949, the idea that children should take care of their elder parents has always been upheld by the Communist government.

The Practice of Filial Piety: Sacrifice of the Young for the Well-being of the Old

Despite the significance of filial piety, the classic Confucian literature contains few concrete guidelines for how to put it into practice. According to one interpretation, “Children should proactively find the parents’ needs and fulfill them so as to please the parents. Only by doing so, can one say he/she acted according to his/her conscience” (Fei, 1953 p. 6). In traditional times, the guidance of filial piety was in the form of stories; today, these stories are still used by families and schools to socialize children. The two stories below, derived from the *Twenty Four Stories of Filial Devotion*², demonstrate the extent to which the behaviors were practiced.

Kuo Chu was a poor man burdened with a wife, mother and child. One day he said to his wife: We are so poor that we cannot even support mother. Moreover, the little one shares mother’s food. Why not bury this child? We may have another; but, if mother should die, we cannot obtain her again. The wife did not dare to contradict him. He began to dig the grave and suddenly discovers a vase full of gold - a gift of heaven to the filial son.

And:

When mother-in-law was pining for fish to eat in the depth of winter, her daughter-in-law, a young woman, lay down on the ice of a pond, baring her breasts to melt the ice in the hope of catching fish which may accidentally swim up to the hole.

In these stories, the adult children demonstrated their filial virtue by being attentive to the physical needs of the old, regardless of the hardship imposed on their own health, comfort, or

² Translated by Chao and included in “ Chinese Kinship”(1983), P77

circumstances. Clearly, parents are the absolute center of a family, and filial children should give priority to the parents' needs for material comfort (Chao, 1983; Fei, 1953; Fei, 1985).

Traditionally, an important norm of the Chinese family facilitated the parent-centered elder care practice: co-residence. Despite variations in family composition, the traditional ideal living arrangement for elderly men and women was a household shared with at least one married son, daughter(s)-in-law and grandchildren (Lang, 1946). Such a living arrangement was in response to immediate needs of the older parents, and reinforced the intergenerational reciprocity and obligations. To carry out such obligations, filial piety urges that "during the life of parents, one should not go far away or at least that the place one goes to should be known to parents and one should only be there with their consent. As long as one's parents are alive, their advice must be sought before any undertaking is attempted and only act with their approval. A pious son should always remember his parents' exact dates of birth in order to rejoice at their longevity and anticipate their death with becoming grief" (Chao, 1983).

The traditional Chinese co-resident family was strictly patrilocal, patriarchal, and patrilineal. Under such a system, a wife moved into and was subordinate to her husband's family and her husband's parents. Women's most important function in the new home was not that of wives but of daughters-in-law, whose prioritized obligation was to serve and please her husbands' parents. A woman's role in her own parents' family was as someone who would eventually leave, after a short-term relationship. She was not responsible for the old-age support of her parents, and thus was considered by her parents as less valuable to her family. Her brothers and brothers' wives accepted such a responsibility (Lang, 1946; Levy, 1949). This family tradition explains Chinese people's preferences for sons because only sons will secure the old-age support of parents. For parents with multiple children, typical in Chinese families, this patriarchal family

system functioned well. However, the same systems also led to gender inequality and lower status of women in the family.

Economic Factors Contributing to the Sustainability of Family Elder Care Practice

Cowgill (1986) suggested that the status of the elderly in a society is associated with their valued resources, valued information (knowledge), and life experiences. The feudalistic agrarian economy of traditional China facilitated the high economic and educational status of the elderly people because of their accumulation of resources, knowledge, and experience.

For most of Chinese history, a large majority of China's population was of the "peasant" class. In such an economy, land was the most valuable resource. Due to the authority given to elders by the Confucian tradition, the oldest males of the family (typically the fathers) were usually the heads of the family and the keepers of family property; they also had the power to allocate resources to the younger generation (sons). In this system, it was morally unacceptable for a son to challenge his father. Doing so could result in losing the right to inherit valued land resources (Lang, 1946; Stacey, 1983; Watson & Ebrey, 1999). As for knowledge, China's intensive agricultural environment required not as much physical strength as a high degree of thoroughness, care, and experience; all qualities that increase rather than decrease with age. The older men usually represented an accumulation of wisdom (Lang, 1946). The appreciation and debt owed to the elders of a family were enhanced by the wisdom of the older men (fathers).

The agrarian economy also resulted in low population mobility and reinforced interdependence between generations, both crucial for maintaining traditional family elder care practices. Most people were born, raised, and died in the same place because they remained on the land that they farmed (Fei, 1953). To be self-sufficient, adult children usually needed parents' assistance with raising children and doing housework throughout their lives. Therefore, the

internal interdependence of family members within the household further reinforced children's sense of obligation to care for their elder parents. Lack of mobility and intergenerational dependency reinforced one another, so adult, married children were likely to comply with the Confucian edict of not traveling far or for long, and of co-residence with their elder parents.

Before the Communist takeover of China in 1949, women tended to accept their role as caregiver to their husbands' parents, because women were not allowed to work outside of the home; their value and status depended on their contribution inside the family (Lang, 1946; Stacey, 1983; Watson & Ebbrey, 1999). In this context, tension and conflict between husband and wife were infrequent, and the wife accepted her status of as a filial daughter-in-law. Also, Chinese governments strongly endorsed the value and practice of filial piety because it took care of the elderly and encouraged loyalty to society. Encouraging unreserved devotion to parents was perceived as promoting solidarity and security of the state (Lang, 1946; Levy, 1949).

Old Patterns and Emerging Trends under Communism

Under Communism, the traditional pattern of elder care remained largely persistent and in both rural and urban areas, the typical living arrangement was for elderly parents to live with a married child. Sons, especially eldest sons, and their wives continued to have primary responsibility for their parents, and the husband and his wife took on the traditional gender-specific responsibilities in elder care (Stacey, 1983; Watson & Ebbrey, 1999). However, in urban areas, because women had the same opportunity for employment as men, the traditional preference of sons for old-age support purposes declined dramatically. Due to stronger kinship ties between mothers and daughters, elder parents sometimes preferred daughters over sons for old-age support (Davis-Friedmann, 1991). Since a vast majority of families before the 1970s had

multiple children, even when a daughter-in-law was not available to care of her husband's parents or was less devoted to the task, daughters filled in the gap when parents were in need.

Studies conducted in China in the 1970s and 1980s found that both the young and the old increasingly wished to live separately (Davis-Friedmann, 1991; Parish & Whyte, 1978; Stacey, 1983; Watson & Ebbrey, 1999). Although it was not prevalent, when adult children married, some of these new couples moved out of the family home if housing was available and economic capacity permitted an independent household. Even if living separately, married couples maintained close ties with parents through visiting frequently, providing in-kind gifts, and helping with housework. However, for many of these individuals, a separate residence was temporary as the two generations tended to move in together when the health and daily activities of their elder parents became a concern (Davis-Friedmann, 1991).

A Paradoxical Environment for Elder Care under Communism

During the Communist era, Chinese Communist Party leaders had periodically attacked filial piety as anti-communist, believing that it aimed to eradicate inequality in gender and age in Chinese society. According to the Party, "Filial piety is a feudal theory that makes people into slaves. Filial piety is used by landlords to make their own children loyal to them. Filial piety means that the 'young must give whatever they have to the old'" (Davis-Friedmann, 1991, p. 60). The negative characterization put forth by the Party encouraged the young to liberate themselves from their parents and shift their loyalty to maintaining the Communist society. Absolute obedience and the sacrifice of personal well-being to please parents were no longer morally necessary for adult children. It was also observed that the primary attention of the family shifted from grandparents to grandchildren (Davis-Friedmann, 1991).

The ideological attack on filial piety was spurred partly by economic change. The Chinese Communist Party established modern industry in urban areas and offered employment to people in these state- and collectively-owned cooperatives. In the cities, these work-units offered cradle-to-grave welfare benefits. This new economic/welfare system, consistent with communist ideology was intended to grant people financial independence and autonomy outside of the family institution and it had a profound effect. The incentives associated with possessing inherited land, farming resources, and wisdom and skills were removed (Chao, 1983). As a result, family elders lost economic control over the younger generation. Old age, instead of being seen as authoritative and prestigious, became associated with decline and dependency (Davis-Friedmann, 1991).

The Communist Movement also strived for egalitarianism in terms of gender. Women were granted equal educational opportunities and were encouraged to join the work force, thus patriarchal family norms and male dominance in economic matters were challenged. The financially independent, urban, young women, therefore, could choose to stay close to their own parents after marriage instead of being forced to focus exclusively on their husbands' parents (Davis-Friedmann, 1991).

In this political and economic environment it seemed that adult children, both men and women, were encouraged to liberate themselves from the old age support obligations at the family level. However, the Chinese Communist government has always insisted that old age support is a family responsibility. The Chinese Marriage Laws of 1950 clearly stated that adult children have obligations to their elder parents. Even during the peak the of Communist experiment (the Culture Revolution) whereby millions of urban youth were sent to the

countryside, the government granted exemptions to some people if their siblings had already been sent to the countryside so that someone would remain to care for the parents.

Before the economic reform period and the implementation of the one-child policy in 1979, two realities explained this paradoxical environment for elder care. First, under Communism, old age support practices were maintained by lifelong interdependence between the young and old. Adult children's dependence on parents was often the result of low wages and lack of housing. Children had to rely on parents financially before marriage and for wedding expenses. Pooling incomes for family expenses was common for Chinese families before the economic reform in the 1980s (Davis-Friedmann, 1991; Parish & Whyte, 1978). Parents also played a major role in the care of grandchildren and housework. All these contributions on the part of elder parents earned them the right to be supported and cared for by their children in old age. In addition, the government did not offer the younger generation an alternative that would alleviate their obligation of family elder care. Institutional long-term care was only available for childless elderly who were destitute (Davis-Friedmann, 1991). China was an extremely poor country before the economic reform, it was practically and economically impossible for the Communist government to provide universal institutional care for the elderly. Indeed, intergenerational interdependency and reciprocity was the only way to ensure the well-being of both the old and the young. The government did not want to disrupt this mechanism by proposing and developing alternative solutions for various family tasks. Under this situation, the Communist Party focused its attacks on the words filial piety, feudal tradition, and male domination and not on the elders. According to Stacy (1983), the Chinese Communist Party continued the tradition of age hierarchy because it served its own interests. What the party did was to remove Confucius name and make these ideas their own.

Additionally, before the economic reform, population mobility was low and urban housing shortages existed, so multiple generations had to live together in the same households. The household registration system required that all Chinese citizens obtain residence permits, thus also making it difficult to move to a different place. Housing shortages also barred young couples from establishing their own nuclear family (Parish & Whyte, 1978). These restrictions increased the likelihood of a multiple-generation living arrangement with the result that elder parents were unlikely to live alone (Davis & Harrell, 1993). Also, because housing was typically “possessed” by males, women moved into the husband’s home with his parents and then had the responsibility of caring for the husbands’ parents (Davis & Harrell, 1993; Stacey, 1983; Watson & Ebbrey, 1999).

Due to the rapid economic growth that has occurred since the 1980s, the financial situation of the Chinese family has improved significantly. There is more population mobility and no serious housing shortage, although apartments can be very expensive in large cities. These changes lessen the need for co-residence and will make the old family-centered elder care system difficult to maintain.

Old Age Support Options in Contemporary China

The Role of the Chinese Government

The Chinese government should have a dominant and decisive role in the welfare system. During the Communist era, the Chinese Communist Party carried out a very conservative welfare approach and therefore made little contribution toward caring for older adults. Family-based care was the primary old age support system for the elderly. The few government-run nursing homes that existed provided care only for people without any family (Davis-Friedmann, 1991; Zhan et al., 2006).

Despite many economic triumphs since 1979, this conservative approach has not changed (Chen, 2009; Leung & Wong, 1999; Olson, 1993). Although the elderly are among the few groups considered “deserving” and “worthy” in the welfare system and in the cultural tradition of respect for elders, the government has not developed large-scale social service programs to address the elders’ long-term care needs. Direct funding for care from the central government is limited, as income security has been the policy priority for older people. Further, the selection criteria for the limited social welfare programs are stringent and only address short-term needs (Leung & Wong, 1999). In addition, the notion of entitlement is not prevalent in society and the obligation for providing services is not fully acknowledged by the Chinese government (Leung & Wong, 1999). Because of ideology and fiscal needs, the government has started to engage individuals, families, communities, and the private sector in sharing the responsibility for old age support and in becoming the stakeholders in long-term care for older adults.

Institutional Care

In addition to traditional family care, formal institutional care is one of the alternatives often used in the care of older people. The number of formal long-term care institutions, especially privately-owned, has grown rapidly over the last two decades (Zhan et al., 2006). However, this approach is less than ideal for several reasons.

First, the willingness among older adults to live in institutions was found to be low (20%) (Chou, 2010; Zhai & Liu, 2007). Elderly parents’ anticipation of care from their own children is evident from research showing a strong association between the Chinese older adults’ mental health and intergenerational support exchange. Elderly parents want to be involved in their adult children’s lives and they anticipate future familial support (Chen & Silverstein, 2000; Krause Liang, & Gu, 1998; Sun, 2002). Second, financial constraints may be faced by elderly

individuals who want to choose institutional care (Zhan, et al, 2006; Xu et al., 2005; Zhang & Goza, 2006). For most older adults, the current pension program is not adequate to pay for institutional care. China does not have programs, such as Medicare or Medicaid in the U.S., that can help to sustain the operation of these formal institutions. When service providers can only serve the most financially privileged, it exacerbates problems of inequality that are already overwhelming in China (Leung, 2010; Olson, 1993). Third, since institutional care is a new industry, the Chinese government still needs to develop policies and regulations to control service quality and to provide minimum standards for professionals engaged in care for the elderly (Chu & Chi, 2008; Han, 2010; Wan, Yu, & Kolanowski, 2008; Wu, et al., 2005; Xu, et al., 2005).

Community-based Services

Community-based service delivery has developed rapidly in China with substantial governmental financial and bureaucratic support. These services include recreational activities, health educational programs, and wellness clinics that help promote healthy longevity, provide home visits for assistance with daily instrumental activities, emergency assistance, meal programs, and daycare programs (Cheng, Zhang, & Wei, 2007; Ho & Ng, 2006; Leung & Wong, 1999; Wu et al., 2005). This wide spectrum of services has developed so that older adults may continue to live at home. Most of these services are organized and funded by the central and local governments, and managed and operated by small private businesses, quasi-governmental local representatives (urban residential neighborhood committees and rural villager committees), and community volunteers (Xu & Chow, 2011).

These community-based services have advantages in a country like China. They provide a variety of timely and flexible services to the elderly and their families. Nevertheless, it is

important to understand that the Chinese community-based service delivery system is fundamentally different from the community-based services in Western countries. Anderson et al. (2003) stated that the U.S. community-based services are valued for their promotion of independence, quality of care, financial efficiency, and program effectiveness, but the core nature of Chinese community-based services is a supplement to family care. The government does not intend to remove or relieve the family from the obligations of old age support. The family's responsibility, especially among the adult children, of caring for elderly parents is written into Chinese laws and policies (e.g. Elderly Rights and Protection Law and Marriage Law). Overall it is expected that family care will continue to be the basis of long-term care for older adults with some support from community-based services.

Family Old Age Support Crisis in Contemporary China

The influences of socioeconomic reform on family care. Fundamental changes in the Chinese family were caused by the market reform started in 1979 with a focus on modernization and the one-child policy. The economic reform, featuring free-market ideology and decentralization of governmental control, has allowed and encouraged young people, both men and women, to move with their jobs rather than being bound to their parents' families. The incentives that had encouraged reciprocal care were largely removed and more independent relationships between parents and adult children have been gradually forming. In addition, with the process of modernization, women are being liberated in the sense that they have been gradually gaining more equality in educational and employment opportunities. This holds especially true with the young women of the one-child generation. Thus, the influences of the egalitarian modern culture and financial independence may also have changed the feeling of obligation to prioritize husbands' parents and to assume the traditional role as care providers.

Even though many factors that encourage and motivate the young to take on the traditional caregiving obligation to their parents have been removed, the elders still expect care and respect from the young (Fuligni & Zhang, 2004; Liu, 2008; Whyte, 1997; Yue & Ng, 1999; Zhan, 2004). The younger generation's attitudes toward caregiving obligations seem to have been altered. In the early 1990s, young people were satisfied with the benefit of living with parents despite the lack of privacy and independence (Whyte, 1997). However, more recently, studies have repeatedly found that young people express a strong desire to have independent living arrangements. Younger people, both men and women, are not willing to sacrifice career and financial well-being for elder care obligations (Liu, 2008; Yue & Ng, 1999; Zhan, 2004), and the patrilocal norm that women should take care of husbands' parents has significantly declined (Zhang & Montgomery, 2003). These attitudinal changes are not necessarily problems, but they do raise the concern that Chinese families may be unable to continue the tradition of family elder care practice in contemporary China.

Old age support in the context of marriage. Marriage is the particular institution within the family system that is responsible for old age support. The ancient Chinese saying that puts forth that sons are to secure old age support is actually a myth. In fact, it takes at least the married couple, a husband and a wife, to fulfill the financial and instrumental caregiving obligations to the husbands' parents. Although the male-dominated patriarchal family structure was unjust to women, the traditional belief in women's inferiority was supported by an ideological justification of women's lower status in the family and society of imperial times (Lang, 1946; Stacey, 1983; Watson & Ebrey, 1999). Because women were not allowed to work outside of the home, their value and status depended on their contribution inside of the home, including taking care of their husbands' parents. Usually the wife readily accepted her lower

position and did not feel she was mistreated when she saw that her husband favored his parents over hers (Chao, 1983). Her values and status increased in the eyes of her husband and in the community if she acted as a filial daughter-in-law. To some extent, a woman acquired housing, financial, and material support from her husbands' family by providing old age support to her husband's parents in exchange. In this context and previous society, tension and conflict between husband and wife did not seem to develop.

In contemporary China, men and women have greater liberty to choose for whom to provide care. In marital relationships, particularly under the one-child policy, what a spouse brings to a marriage is not only his/her capability to share elder care obligations, but also the obligation to care for another set of parents. With this, many questions and concerns have emerged such as: Will men and women treat parents and parents-in-law equally? Will men assume their traditional role as financial providers, while women are the providers of instrumental care? Will husbands and wives support be focused on their spouses or will husbands and wives exclusively focus on their own parents? In short, can a couple manage to take care of two sets of parents?

These issues may be especially problematic for only children and for each individual in the couple who may both be only children. Before the only-child policy was implemented, the vast majority of Chinese families had more than one adult child. Conflicts between husbands and wives regarding caregiving were often buffered by the support available from multiple siblings. When daughters-in-law became less available to provide support to husbands' parents, daughters have been able to take on these obligations. When male and female siblings shared the burden of caregiving, gender norm changes did not significantly affect the receipt of old age support. In the future, without siblings' to help, only children will face a significant burden of old age support

and potential conflicts within the marital relationship which may be more likely to happen when both the husband's and the wife's parents are in need of this support.

From the feudalist age to the Communist Revolution, the Chinese tradition of family elder care is persistent. Besides the power of cultural tradition, policy restrictions played a significant role in maintaining such a family-based elder care practice. Nevertheless, the incentives and moral motives of caring for the old have been fundamentally altered in contemporary China. A new round of research started to examine new patterns of family care given the inevitable influence of modernization and urbanization in contemporary China. This study is part of the effort to contribute to this pool of knowledge with a focus on understanding old age support norms practice within marriage institution.

CHAPTER TWO

LITERATURE REVIEW

The two main types of old age support found in the caregiving literature are financial and instrumental support. Financial support refers to monetary or in-kind gift transfers (e.g. Sun, 2002; Yang, 1996; Xie & Zhu, 2009), while instrumental support encompasses a wide variety of behaviors, such as personal visits, assistance with activities of daily living and household chores, and personal care (e.g. Bian, Logan, & Bian, 1998; Lee & Xiao, 1998; Logan & Bian, 2003; Zhan & Montgomery, 2003). In China, adult children are the primary sources of financial and instrumental support for their aging parents (Cai, Giles, & Meng, 2006; Sun, 2002). Although intergenerational support exchange could flow in either direction (from children to parents or from parents to children), most studies examined only support from the young to the old.

Factors Related to Old Age Support

Current literature provides considerable information regarding the factors related to old age support in China. In addition to the gendered labor division in old age support, these factors can generally be grouped into three categories: reciprocity, adult children's resources, and parental needs.

Reciprocity

For Chinese families, support exchange between parents and their adult children is the most prominent determinant of support from children to parents. Confucius' teachings repeatedly emphasize that children should support their parents as a reward (in exchange) for raising them and for the assistance that parents continue to provide in daily living. Qualitative studies have indicated that reciprocity is a strong motive for family caregiving (Schwartz, Trommsdorff, Zheng, & Shi, 2010; Hsui & Shyu, 2003). Like parent-child relationships in most cultures,

support between Chinese parents and children is a continuous, life-long process that involves both short- and long-term exchange. Support received from parents takes many forms and lasts for varying time frames.

Support from parents may be a short-term exchange that consists of routine (daily or time-limited) giving and receiving between generations. A series of studies that examined intergenerational exchange in American families (Eggbeen, 1992; Hogan, Eggbeen, & Clogg, 1993) focused on this short-term aspect of exchange and found a positive association between receiving support from parents and providing support *to* parents. A number of studies conducted with Chinese populations found that elderly parents who provided housework or childcare services to their adult children received more financial and/or instrumental support than parents who did not provide such help (Yang, 2003; Lee & Xiao, 1998; Lee, Parish, & Willis, 1994; Whyte, 1997). The model that was used to capture the frequent short-term exchanges between parents and adult children was referred to as a mutual aid model in some studies (Lee & Xiao, 1998).

In fact, support exchange between generations is considered to be the main benefit of co-residence of adult children and their elderly parents in China. Grown, married children who co-reside with their parents were more likely to see their parents as a resource (for both financial and housework/child care assistance) rather than a burden or obligation. This is especially true if the adult children faced housing and financial constraints as was the case for a majority of families in mainland China until recent decades (Davis-Friedmann, 1991; Whyte, 2002). As Whyte (2002) and Davis-Friedmann (1991) found, even in the 1990s, the maintenance of the frequent mutual support between parents and adult children in mainland China was not only culturally-preferred, but also necessary due to the lack of other sources of support. In general,

short-term support from parents fosters adult children's provision of reciprocal immediate support.

Long-term support from parents can enhance adult children's reciprocal old age support behaviors as well. This process between adult children and their parents may occur across decades and is known as long-term exchange. Long-term reciprocity refers to transactions that generate a counter obligation with repayment that occurs at later time. Such behaviors are sometimes interpreted as altruism and therefore seldom studied. It is, however, an implicit, life-long understanding (Sussman, 1985). It is hypothesized, according to the general norms of reciprocity, that the recipient in a transaction is obliged to provide the donor with something in the future. In Ekeh's (1974) critical paper on social exchange theory, the importance of studying long-term exchange was noted. He argued that long-term, generalized "gift" relationships are more durable than short-term, restricted "gift" relationships. To reciprocate the support one received in the past is a social obligation that the individual is expected to fulfill. Therefore, the exchange that occurs over the lifespan cannot be ignored or simply considered unconditional and altruistic. In the Chinese family, receiving long-term parental support (such as investment in education, assistance with employment, and property/housing transfer) increased both the likelihood and the amount of financial and instrumental support provided by the adult children (Hsu & Shyu, 2003; Lee, Parish, & Willis, 1994; Lee & Xiao, 1998; Sun, 2002). In these instances, adult children's support behaviors can be interpreted as a repayment for parents' help even though such help may not be given on a regular or frequent basis.

Based on the studies cited above, the support provided by parents, regardless of the form, frequency, time span, and timing, had a positive influence on adult children's old age support

behaviors. The financial and instrumental assistance from adult children to older parents seems to be their repayment for their parents' life-long support, either short- or long-term.

Adult Children's Resources

Old age support often requires adult children's input of money (or in-kind gifts) and/or time. The ability to deliver financial and instrumental support is determined by available resources such as income, employment status, geographic proximity to parents, and availability of time.

Income has clearly been found to be positively predictive of financial support (Xie & Xu, 2006, Zhan & Montgomery, 2003). Higher incomes give adult children greater financial power and ability to provide financial support to parents.

Employment status affects both financial and instrumental support. Employment also ensures a stable source of income that increases the possibility of financial support. Cong and Silverstein (2011) and Guo, Chi, and Silverstein (2009) examined the support exchange between migrant workers and their elderly parents. They found emigrant (within the country) sons provided more financial support to their parents than the sons who did not emigrate and suggested that employment (a major cause of migration away from the family home) enabled greater ability to provide financial support. Zhan and Montgomery (2003) found employed caregivers provided less assistance with personal care tasks (instrumental support) than their unemployed counterparts. However, Lin et al. (2003) reported that being employed and longer working hours did not negatively affect instrumental support. Clearly, the findings of these two studies are contradictory.

Family size is also an important determinant of financial and instrumental support (Guo, Chi, & Silverstein, 2009; Sun, 2002; Zhan & Montgomery, 2003; Zimmer & Kwong, 2003),

which suggests that adult children may use each other to divide old age support responsibilities. However, the effect of number of siblings on financial support is different from that on instrumental support. Number of siblings was positively correlated with financial support, but negatively correlated with instrumental support (Zimmer & Kwong, 2003). This difference may be because the provision of financial support is not constrained by geographic locations or employment, whereas providing instrumental support for elderly parents requires close proximity and may be able to be fulfilled by one or two adult children, rather than by all siblings together.

Age, education, and health status of adult children are often included as demographic characteristics in analysis. It has been assumed that older, more educated, and healthier adult children are able to provide more support to parents than younger, less educated, less healthy cohorts. However, findings related to this assumption have not been consistent across studies (e.g. Lee, Parish, & Willis, 1994; Lin, et al, 2003; Silverstein, M., & Giarrusso, R., 2010, Zhan, 2004).

Parents' Needs

Parents' health, age, income, employment, pension status, level of functioning, and widowhood are often used in analyses of old age support. These variables provide measures of both needs and resources. A consistent finding has been that adult children's support depends on the needs of their parents. Financial support is provided if parents lack sufficient income or other monetary resources (Cai, Giles, & Meng, 2006; Guo, Chi, & Silverstein, 2009; Lee, Parish, & Willis, 1994; Logan, Bian, & Bian, 1998), while difficulties with daily activities are associated with more instrumental support provided by adult children (Sun, 2002; Zhan & Montgomery, 2003; Zhan, 2004). Widowhood is another factor that may influence the level of support. Overall, adult children provide financial support to parents who have financial needs, but it is more likely to be directed to widowed mothers than to widowed fathers (Logan & Bian, 2003; Zhan, 2004).

Gender

Many researchers have characterized the culture of Chinese old age support as “gendered.” Gender differences can be seen in both levels and types of support provided (e.g. Zhan & Montgomery, 2003; Stacy, 1983). Not surprisingly, men have been found to be more likely to provide financial support, whereas women are more likely provide instrumental support (Sun, 2002; Zhan & Montgomeary, 2003; Zhan, 2004). Daughters’ participation in financial support was observed, but not nearly to the extent of their male counterparts (Lee, Parish & Willis, 1994; Lin et al, 2003). Adult daughters are not only more likely than adult sons to provide instrumental support, such as helping older parents with housework and aiding them in daily activities, they also spend more time doing these activities. In a typical, patrilineal marriage relationship, old age care is collaborative, with sons providing financial support and daughters-in-law assisting husbands’ parents with daily-living activities (Lin et al, 2003).

Gender norms of labor division. Lee, Parish, and Willis (1994) reported that while parental investment in children, such as providing education and bequeathing property, fostered old age support from sons (reciprocity), it had much less effect on daughters. According to Chinese tradition, women do not have to honor such “debt” to their parents, because under a patriarchal family tradition, there are no such expectations for a woman/a daughter. Similarly, Guo, Chi, and Silverstein (2009), in a study involving families from rural China who had children that emigrated to seek employment, found that financial old age support from sons was directly related to the sons’ level of income, but there was no such relationship among daughters. Even in adversity, fulfilling the obligation of financial support to parents is almost non-negotiable for men (Lin et al., 2003, Campbell, L., & Martin-Mathew, W. A., 2003). Men with low incomes were nevertheless expected to satisfy their traditional obligation of financial support.

In traditional times, while women's financial contribution to parents was highly praised by their parents, their neighbors, and their community, women were not expected to do so and could be excused from contributing financial support even when their parents faced financial difficulties. Even today when most Chinese women work, poor financial situations such as low income, unemployment, and medical or pension cost, are legitimate reasons for women not to contribute financial support to their elderly parents (Zhan, 2004).

The gender norm of support is reversed when the old age support is instrumental. Men are often exempt from many instrumental support responsibilities such as providing physical care to older parents and day-to-day maintenance of the home if these responsibilities conflict with men's employment. Women are expected to act more consistently as instrumental support providers even when faced with time constraints caused by their own employment. Sometimes, women were even expected to sacrifice their careers in order to fulfill obligations of old age instrumental support (Silverstein, Gans, & Yang, 2006).

Patrilineal family norm. The gendered expectations for old age care and support are a direct result of the Chinese patrilineal family tradition and have played an important role in assuring the "proper" functioning of China's family-based old age support system. Patrilineal norms prescribe the obligations of married men and married women to provide old age support for husbands' parents. In China, traditional norms for old age support are very specific about a man's obligation to his parents and a woman's obligation to her parents-in-law. However these old age support expectations are less clear about a man's obligation to his parents-in-law and a woman's obligation to her own parents. Up until the most recent decades, due to housing shortages, most Chinese couples, including urban couples, had to share housing with their parents, and most wives had moved in with their husbands' families. Even when women were

employed, this living arrangement after marriage led to a continuation of this patrilineal tradition of old age support and care pattern. So despite the equal importance of old age support needs of both sets of parents, previous studies on old age support in China have not explored such issues as married daughters' support patterns to their own parents nor sons-in-law's responsibility to their parents-in-law. For married men and women in contemporary China, it is virtually unknown whether old age support practices follow the same patrilineal norms for parents as well as for parents-in-law.

Support Provision for Parents-in-law

Despite abundant research concerning the provision of support to parents in both China and other countries, support provided to parents-in-law has not been given sufficient attention. Few Chinese studies have investigated the issue of support for parents-in-law and have focused primarily on the phenomenon of women caring for their parents-in-law (e.g. Cooney & Di, 1999; Cong & Silverstein, 2008; Zhan & Montgomery, 2003). However, patterns of support provision for parents and parents-in-law are likely to be substantially different. Over the last few decades, researchers (e.g. Neal, Ingersoll-Dayton, & Starrels, 1997; Pinquart & Sorensen, 2011; Young & Kahana, 1989) have illustrated the importance of considering "blood" versus "marital" relationships in elder care. Studies that describe and examine patterns of old age support to both parents and parents-in-law have been accumulating since the 90s.

The factors that seem to influence support to parents-in-law are very similar to those that influence support provision to parents, including reciprocity, adult children's own resources, and parents-in-law's needs. Reciprocal help patterns between the elderly and their adult children and children-in-law have been found (Brody, 1986; Kivett, 1984), but no recent studies have examined the support exchange between in-laws. Among studies conducted in Taiwan, Britain

and Mexico, the needs of the elderly have been positively correlated with the levels of support from children-in-law (Chao & Roth, 2009; Henz, 2009; Noel-Miller & Tfaily, 2009). At the same time, support for parents-in-law is constrained by adult children's resources: employment status, number of siblings, income, and health status of the adult children (Henz, 2009; Rosenthal, Martin-Matthews, & Denton, 2004; Chesley & Poppie, 2009). Employment, the most studied factor, increases adult children's ability to provide financial support, but likely due to time constraints, was found to negatively correlate with instrumental support (Henz, 2009; Chesley & Poppie, 2009; Rosenthal, Hayward, Rosenthal, Martin-Matthews, & Denton, 2004). Other associations between resources and support are reported in individual studies, but conclusions are either weak or contradictory. For example, Spitze, and Logan (1990) found a negative correlation between the income of adult children and the frequency of their contacts with parents-in-law. Peters-Davis, Moss, and Pruchno (1999) found no correlation between health status of adult children and the instrumental support for parents-in-law. A study by Noel-Miller and Tfaily (2009) showed no correlation between support for parents-in-law and number of adult siblings. Currently, there is no evidence to conclude that the variables related to support for parents are relevant to support for parents-in-law in China.

In everyday life, adult children are likely to be faced with the need to support parents and parents-in-law simultaneously; few studies have compared adult children's support patterns for parents and parents-in-law. In their profile of caregivers to frail elders in the United States, Wolff and Kasper (2006) reported that parents received care from both their own children and children-in-law. In the 1960s, Sweetser (1963) showed an asymmetry in intergenerational family support. She observed that in the United States, adult children are less involved in supporting parents-in-law and more involved in supporting for their own parents, and argued that it should be

evaluated in different cultures. So far, due to the fact that different studies have looked at different types of support (financial or instrumental) and the level of support has been measured differently, it is not conclusive that a blood relationship always trumps a relationship formed by marriage. Several studies conducted in the U.S. have found that in terms of instrumental support, the contribution of children and children-in-law are almost indistinguishable (Spitze, & Logan, 1990; Peters-Davis, Moss, & Pruchno, 1999). But in his U.S. study, Merrill (1993) reported that elderly are less likely to receive instrumental support from daughters-in-law than from their own daughters. When they did receive support from their daughters-in-law, the amount of support from daughters-in-law was less than that from daughters. In terms of financial support, a Mexican study found that couples were more likely to provide financial support for their husbands' parents than for wives' parents (Noel-Miller & Tfamily, 2009).

In studies specifically comparing the variables related to support for parents and parents-in-law, types of relationship (blood versus marriage) seem to matter (Chesley & Poppie, 2009; Shuey & Hardy 2003; Yang, 1996). In the only Chinese study that examined support to parents and parents-in-law, Yang (1996) found that adult children provided financial support to their parents based either on their parents' needs or on their own sense of filial obligation (regardless of parents' needs). Their financial support to parents-in-law however was in the form of repayment; based on assistance they had received from parents-in-law. In the U.S., even though income and employment affected support patterns, the degree of support varied by relationship. For instance, Chesley and Poppie (2009) reported that the employment status of adult children had less of an effect on providing instrumental assistance to one's own parents than to one's parents-in-law. Shuey and Hardy (2003) found that, when facing demands from both parents and parents-in-law, U.S. married couples are more responsive to the needs of wives' parents.

Although both parents and parents-in-law seem to be integral in adult children's lives, when it comes to old age support, adult children's relationships with and responsibility for parents-in-law are complicated (Willson, Shuey, & Elder, 2003). In the social science literature, studies on this issue are lacking in both the U.S. and China.

Gender and Relationship

Studies in other cultures have provided some insight into complex intergenerational support practices created by the interaction of gender and relationship, but the findings are often contradictory (Chesley & Poppie, 2009; Henz, 2009). In a British study, Henz (2009) found that sons-in-law were more likely than daughters-in-law to report instrumental support provided to parents-in-law. However, when daughters-in-law did get involved in instrumental support, they provided more hours of care to parents-in-law than did sons-in-law. In the U.S., Ingersoll-Dayton, Starrels, and Dowler (1996) and Chesley and Poppie (2009) reported no gender differences in the level of instrumental assistance or financial assistance to parents or parents-in-law. These findings suggested that more studies are needed to uncover gender differences in old age support for parents-in-law.

Because of gendered expectations in the Chinese family, the factors related to men's support for parents are different than those of women's support for parents. Therefore, the factors related to old age support for parents-in-law would also be expected to differ by gender. Several studies (both qualitative and quantitative) carried out in Western countries have found some gender differences in motivation and factors related to old age support for parents-in-law. Using in-depth interviews, Globerman (1996) found that in the U.S., men did not proactively provide support to parents-in-law. They only got involved when they believed their wives needed their help. Meanwhile, in the U.S., daughters-in-law initiated the caregiving role and became their

parents-in-law's primary care provider if they felt a sense of obligation to them (Globerman, 1996). Analyzing British national data, Henz (2009) found that British sons-in-law's caregiving was more motivated by wives, 'if these wives give more direct care, but not by parents-in-law's needs, whereas daughters-in-law's caregiving was influenced both by their husbands' participation in direct care and husbands' parents' needs.

Another approach to examining the interaction between gender and relationship in old age support is to study differences between support for parents and parents-in-law with samples of males and females separately. Studies in Western cultures have repeatedly found that in terms of instrumental support, women keep close contact with their own parents but do not extend this practice to parents-in-law (Merrill, 1993; Sweester, 1963;). Using more recent data, Spitze, and Logan (1993) found a similar pattern, but also found that men treated parents and parents-in-law more equally than did women. Married women's roles in intergenerational relations seemed to be restricted to their own blood relatives while men seemed to accept the responsibility of caring for both sets of parents. Although Yang (1996) found that in China men provided more financial support to their own parents than parents-in-law, he did not include a female sample to examine the pattern for women. Irrespective of gender, the variables and motivations related to old age support for parents usually differ from those for parents-in-law as discussed earlier in Merrill (1993) and Yang (1996).

These cross-gender and same-gender comparisons have revealed complex norms related to old age support for parents and parents-in-law and showed that these support patterns are influenced by the gender of the providers and the type of interaction. There is a lack of data relative to gender norms and old age support in the Chinese family when considering two sets of parents. The focus of most Chinese literature examining gender differences has been cross-

gender elder-care comparisons with parents as the care recipients. Although a considerable amount of evidence has illustrated men's primary role as financial support providers to older parents and women's role as the primary instrumental support providers in China, it is not known whether there are similar gender divisions of labor when the care recipients are parents-in-law. For a society like China, with clear gender norms for the provision of old age support (men providing financial support, women instrumental support) and a patrilineal-centered old age support system (wife moves into husband's family after marriage and is responsible for taking care of his parents), it would be interesting to understand whether the gender norms are for old age support in contemporary Chinese family have remained.

Theoretical Framework

Role theory has long been used as a theoretical framework to understand old age support (e.g. Serovich & Price, 1994). In his early exploration of role theory itself, Mead (1934, 2009) defined a "role" as "the ability to put oneself in the place of the other person and know the rules that the person is supposed to abide by." Further development of role theory emphasizes that the essence of role theory is to understand a "role" with reference to expectation in a social situation. The formation of roles' is determined by relationships with other individuals in given situations. Often described as "role clusters," these obligations are associated with certain relationships or the behaviors expected of a person in a particular social relationship. The literature review in support of this current study indicated that both blood relationships and gender of the care providers heavily influences old age support behavior. Using the definition of "role," including its extended discussions of gender roles, allows researchers to understand old age support in various contexts formed by "relationship" and "gender." Using role theory may contribute to the theoretical and knowledge void in understanding old age support to parents-in-law.

Application of Role Theory in Old Age Support

In terms of old age support, parent-child relationships inherently include a cluster of caregiving obligations. In Chinese society, there is a clear set of expectations that prescribe how adult children should provide support to aging parents. By carrying out the old age, support-provider role for their parents, adult children fulfill these expectations. More specifically, financial support and instrumental support are the two primary types of support expected from adult children. If an individual provides only financial or only instrumental support to the parents, his/her role can be further defined as financial or instrumental support provider to parents. Theoretically, an individual can be either a provider of financial or instrumental support to his/her aging parents, or both.

Individuals usually have more than one lasting relationship in their lives. Married individuals form relationships with parents-in-law through the spouse. Although the existence of children-in-law is obvious, what is expected from children-in-law is often unclear. According to role theory, if an individual provides support to his/her parents-in-law, he or she can be said to take on a provider role of a daughter- or son- in-law. This role can be a financial support provider, an instrumental support provider, or a provider for both types of support.

People who are involved in multiple relationships are sometimes expected to enact multiple roles at the same time. When there are multiple roles, the expectations may be so great as to create a role overload or role strain. Moreover, the expectations of one role may be contradictory and conflict with the expectations of another role. As a result, people with multiple roles must prioritize different sets of obligations. For example, caregivers who are expected to provide old age support to both parents and parents-in-law may have to exclusively focus on one

set of parents or provide more support to one set of parents than to the other in order to reduce role strain.

Gender Role

Certain role obligations are typically seen as gender specific. Although specific obligations vary by culture, behaviors and attitudes are often prescribed and assigned solely on the basis of gender and are referred to as gender roles (Udry, 1974; Rossi & Rossi, 1990). As a result, some roles are perceived as more a “woman’s” rather than a “man’s” role and vice versa.

The definition of roles is a result of social prescription and responses to normative cultural patterns. To gradually acknowledge and accept expected gender roles is part of the process of socialization. A “gendered” behavior results from learning, through family and society, what roles are expected to be enacted throughout life (Udry, 1974, p.50). Rossi and Rossi (1992) suggested that there would be a lack of meaning if the only intention was to interpret empirical differences between men and women purely in terms of gender (Rossi & Rossi, 1992). The extent to which individuals fulfill their expected obligations, reflects the level of acceptance of their gender roles.

Role Socialization

Although enacting or following through with certain old age support roles is an individual decision, it seems that the expectation for gender roles that is cast upon the decision-making process holds considerable power. When a person accepts his/her role, he/she plans old age support behaviors accordingly. Roles assigned by gender across relationships may influence individuals’ old age support behaviors. A number of studies conducted in both East Asian and Western countries have indicated that the instrumental support provided to parents and parents-in-law was driven by gender norms (Chao & Roth, 2000; Guberman, 1999). Many studies

reported that caregivers performed according to expected gender roles. In other words, the concept of gender role provides a foundation for understanding gender differences in terms of the underlying mechanism of old age support. It helps to understand what accounts for differences in old age support behaviors among men and women. Accepted roles were fulfilled, regardless of obstacles encountered in daily life. However, support provision is influenced more by external factors when the role is less expected and accepted by social norms.

Research Questions

The review of literature and role theory helped to identify major gaps in current knowledge of family old age support in contemporary China. These include a limited understanding of support provision to parents-in-law and insufficient knowledge of how gender norms are carried out in different types of relationships. Research examining factors that influence support provision to parents-in-law and comparing the similarities and differences across these two types of relationships are needed.

The concern that Chinese families may be unable to continue the tradition of family elder care practice in contemporary China, a society in transition in many aspects, is an embedded assumption of many studies regarding Chinese elderly and their families. Adding parents-in-law into the picture of old age support, providing support to parents and parents-in-law simultaneously may likely create role strain for adult children. The question is whether and how adult children manage to provide support to both sets of parents. The few old age support studies that focused on Chinese families did not clearly distinguish factors pertaining to support to parents compared with support to parents-in-law. Support provision to parents-in-law was often only discussed in research implications (e.g. Lin et al., 2003) and not studied directly. Are women still expected to take care of their old parents-in-law while men have no obligation to

support their wife's elder parents? Even less is known about how men and women manage to take care of two sets of parents in the Chinese family respectively. Without studying the interaction of gender and family kinship and its effects on old age support behaviors, knowledge regarding the Chinese family and Chinese old age support is incomplete. More systematic data must be collected to examine the interplay between gender and relationship and the mechanism that drives old age support to parents and parents-in-law in China. Moreover, role theory, along with gender role and patrilineal norms, assists in understanding the differences in provision of old age support across relationships and gender.

Therefore, the primary aims of the present study are to 1) examine patterns and factors of old age support provision to parents-in-law and compare with that of old age to parents; 2) examine support to two sets of parents simultaneously. To address these aims, the following research questions will be studied:

1. How do adult children enact the four potential old age support roles (financial support provider to parents, instrumental support provider to parents, financial support provider to parents-in-law, and instrumental support provider to parents-in-law)?

Hypothesis 1: For their own parents, adult children are more likely to provide one type of support rather than providing both types of support.

Hypothesis 2: For parents-in-law, adult children are more likely to provide one type of support rather than providing both types of support.

Hypothesis 3: When taking two sets of parents into consideration, regarding both financial and instrumental support, adult children are more likely to provide support to one set of parents rather than to both sets of parents.

Hypothesis 4: When taking two sets of parents into consideration, regarding both financial and instrumental support, adult children are more likely to provide for their own parents rather than parents-in-law.

1a. What are the gender patterns in support provision?

Hypothesis 5: For parents, men are more likely than women to only provide financial support provision.

Hypothesis 6: For parents-in-law, women are more likely than men to only provide instrumental support.

Hypothesis 7: Men are more likely than women to provide financial support to their parents rather than to parents-in-law.

Hypothesis 8: Women are more likely than men to provide instrumental support to both sets of parents.

1b. How do adult 'only-children' enact these roles?

Hypothesis 9: For their own parents, there are no differences between adult only-children and adult children who have siblings in terms of provision of two types of support.

Hypothesis 10: For parents-in-law, there are no differences between adult only-children and adult children who have siblings in terms of provision of two types of support.

Hypothesis 11: Adult only-children are more likely than their counterparts with siblings to provide financial support to both sets of parents.

Hypothesis 12: Adult only-children are less likely than their counterparts with siblings to provide instrumental support to both sets of parents.

2. Among the four potential old age support roles, what factors account for taking each role?

Hypothesis 13: Adult children who have received short- and long-term support from their parents are more likely to provide financial and instrumental support to their own parents.

Hypothesis 14: Adult children who have received short- and long-term support from their parents-in-law are more likely to provide financial and instrumental support to their parents-in-law.

Hypothesis 15: Adult children who have higher incomes or are employed are more likely to provide financial support.

Hypothesis 16: Adult children who are unemployed, have more work schedule flexibility, and are healthier are more likely to provide instrumental support.

2a. Do the factors differ by gender?

Hypothesis 17: Men are more likely to provide financial support to parents from whom they have received long-term support and who have greater needs for care; and men's financial support to parents is negatively affected by time availability and not affected by income.

Hypothesis 18: Women's financial support provision to parents is less likely to be motivated by previously received long-term financial support from parents, and their financial support provision to parents varies with income.

Hypothesis 19: Men's financial support provision to parents-in-law is the result of immediate short-term support exchange and varies with income.

Hypothesis 20: Women's financial support to parents-in-law is affected by income.

Hypothesis 21: Men's instrumental support provision to parents depends on their parents' needs, and is negatively affected by their own time availability.

Hypothesis 22: Women's instrumental support provision to parents is affected by parents' needs but is not subject to their own income and time availability.

Hypothesis 23: Men's instrumental support provision to parents-in-law depends on whether they have received any type of support from parents-in-law and is subject to men's income and time availability.

Hypothesis 24: Women who received any type of support from parents-in-law are more likely to provide instrumental support, but support provision also varies with their income and time availability.

3. How do husbands and wives influence each other in the provision of old age support?

Hypothesis 25: Wives are more likely to provide instrumental support to husbands' parents when husbands are less available.

Hypothesis 26: Husbands are more likely to provide more financial support to wives' parents when wives' financial resources are limited.

Also, an emerging area of concern in contemporary China that needs research attention is old age support patterns among only-children after marriage. In 2009, the first cohort of the only-child generation started turning 30 and will face increasingly challenging life responsibilities, including caring for their aging parents. Among all the different family types that face the issue of old age support, only-children will be the segment of population most likely to experience the conflicts related to this issue. Moreover, because the one-child policy is a unique historical experiment and probably will not be repeated in other countries, it is the first, and perhaps only, time that family old age support in such a family structure can be observed. Studying old age support in the context of marriage may have implications for planning and sustainability of family based old age support for every Chinese family and for the only-child family in particular.

CHAPTER THREE

METHODS

In order to address the research questions in the proposed study, data were examined from an existing dataset utilizing secondary data analysis. The 2006 panel of the China General Social Survey (CGSS) was selected because of its analytic potential to address the purpose of this exploratory study. The survey contained the key variables that could address the research area of old age support provision to parents and parents-in-law.

China General Social Survey

The China GSS has been an annual or biannual survey administered among China's rural-urban households to systematically monitor changing relationships between social structures and quality of life in rural and urban China. In 2003, the China Social Science Foundation first sponsored the CGSS. Administration of the survey was carried out by the Department of Sociology, Remin University of China, and the Social Science Division, Hong Kong Science and Technology University. The CGSS used a multi-stage stratified random sampling strategy and collected data through face-to-face interviews with over 10,000 Chinese-speaking individuals from 28 provinces and municipalities. The CGSS 2003, 2005, 2006 and 2008 are currently available to the public. The respondents of each panel are different from those in other panels. All panels responded to specific rural and urban surveys that collected comprehensive information about family and individual demographics; economic, social and employment activities; and attitudes on social issues.

The 2006 panel data were used for this study because this panel included a unique family survey in addition to the rural and urban surveys. In the family survey, parents-in-law were distinguished from the participants' biological parents. Several items specifically addressed the

intergenerational exchange between adult children and their biological parents, as well as exchange between adult children and their parents-in-law if applicable. In addition, data contain detailed information about all family members. Although only one person per household was interviewed, the questionnaire collected extensive information about all family members, including spouses, parents, and parents-in-law through the respondents.

Sample

Among the 10,150 respondents of the 2006 panel of CGSS, 3,208 respondents were randomly selected to respond to the family survey. For the analysis in this proposed study, respondents were selected if they were interviewed in both the general and the family survey. Further, married adults having at least one surviving parent on both sides (at least one parent and one parent-in-law) were selected. A total of 1,486 respondents met these criteria and comprised the sample in this study.

Measures

Dependent Variables

This study focused on two types of old age support, instrumental and financial, provided to parents and parents-in-law. The analysis first examined role-taking in terms of support for parents and parents-in-law, individually, and then support provision to two sets of parents simultaneously. Specifically of interest were the circumstances in which adult children were able to provide support to both sets of parents and whether adult children provided support exclusively to one set of parents. A total of four dependent variables were created accordingly.

In the original survey, respondents were asked “In the last year, have you often provided the following assistance to your own parents?” Items included with this question were: a.) given money (HC1a) and b.) household chores (such as cleaning, preparing dinner, grocery shopping,

running errands) or taking care of children or other family members? (HC1b). Respondents could choose their response according to a five-level Likert scale: not at all, seldom, sometimes, often, and very often. Respondents were also asked “In the last year, have you often provided the following assistance to your spouse’s parents?” a.) given money (HC2a) and b.) household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members? (HC2b). Respondents could also choose their response according to a five-level Likert scale, ranging from not at all to very often. These four items were all dichotomized and were used to create the dependent variables of this study. The original responses to these variables were not used because responses were not evenly distributed across all five levels and some cells had too few cases to conduct multinomial logistic regressions.

Support provision to parents. A variable was created to measure whether respondents provided financial support, instrumental support, or both types of support to parents. This variable has four categories (0=neither type of support, 1=financial support only, 2=instrumental support only, 3=both types of support).

Support provision to parents-in-law. This variable with four categories was created to measure what type(s) of support an adult child provided to parents-in-law (0=neither type of support, 1=financial support only, 2=instrumental support only, 3=both types of support).

Financial support provision to two sets of parents. In light of the discussion of role theory, an individual could be the financial support provider to parents, or parents-in-law, or both. A variable with four categories was created to exhaustively present all possibilities of role-taking in terms of providing financial support. The four categories are 0=neither set of parents, 1=parents only, 2=parents-in-law only, and 3=both sets of parents.

Instrumental support provision to two sets of parents. Similar to the construct of financial support, another variable was created to represent the possibilities of role-taking in terms of instrumental support provision. Each category represents a possibility: 0=neither set of parents, 1=parents only, 2=parents-in-law only, and 3=both sets of parents.

Independent Variables

A total of five sets of independent variables were included in this study. Because of the study's intended focus on gender differences, the variable of gender is separately listed. The other sets of variables are support received from parents/parents-in-law, respondents' resources, and spouses' resources. The characteristics of respondents' parents and parents-in-law were also included in analysis.

Gender. The key variable gender was measured by a single item with two categories "What is your gender?" (1=male, 2=female).

Support received from parent and parents-in-law.

Support received from parents. Three items measured short- and long-term support that adult children received from parents. Among these three items, two items assessed short-term support: In the last year, have your own parents often provided the following assistance to you?-a. given money (HC3a); and In the last year, have your own parents often provided the following assistance to you?-b. household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members? (HC3b). One item assessed the long-term support from parents: Since you got married, have your parents helped you financially, such as to pay for housing rental/mortgage, or for business. For this study, all three variables, "short-term support financial support from parents," "short-term instrumental support

from parents,” and “long-term financial support from parents,” were dichotomized to 0=no, 1=yes.

Support received from parents-in-law. Three items measured short- and long-term support adult children received from parents-in-law. Among these three items, two items assessed the short-term support: In the last year, have your own parents-in-law often provided the following assistance to you?-a. give money (HC4a); In the last year, have your parents-in-law often provided the following assistance to you?-b. household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members? (HC4b). One item assessed the long-term support from parents: Since you got married, have your parents helped you financially, such as with housing rental/mortgage, or for business. (HH7). For the analyses conducted in this study, all three variables, “short-term support financial support from parents-in-law,” “short-term instrumental support from parents-in-law,” and “long-term financial support from parents-in-law” were dichotomized (0=no, 1=yes).

Respondents’ characteristics and resources.

Respondents’ age. One item asked the age of respondent’s: “In what year were you born?” Respondents’ age in years was calculated by subtracting the given year from 2005. This continuous variable indicated the respondent’s age in the year that the survey was conducted. Although age was not discussed in literature, as a resource it does often positively relate to higher socioeconomic status and is often included in studies of old age support, so this variable was included in the analysis to reflect respondents’ characteristics.

Respondents’ income. Respondents’ income is a continuous variable measured in yuan. This construct was measured in a single item: “In 2005, what was your own total income?”

Respondents' education level. A single item was used to measure education level: “What is your highest education degree (including degrees in progress)?” This item with 14 categories (from no education to postgraduate education) was treated as a continuous variable. Higher scores indicated more years of education; this variable is ordinal not interval.

Respondents' availability. Providing instrumental support requires time commitment. Two items regarding employment reflect the availability of adult children. One item asked if the respondents were employed at the time of the survey, and one's employment status was presented in a dichotomous variable (0=no, 1=yes). Another item asked if respondents had control of their work hours (Which statement best described your work time arrangement?). This item was transformed into a variable with three categories (1=no fixed work time, depend on myself, 2=there is a fixed time, but I can be flexible, 3=fixed time).

Respondents' health status. Respondents' health (How is your health?) is measured by a single item with five categories, from 1=very poor to 5=very good, and was treated as a continuous variable. Higher scores indicate better health.

Only-child status of respondents. Four items asked respondents' about their number of siblings (how many living older brothers, older sisters, younger brothers, and younger sisters). A continuous variable was created to measure respondents' number of siblings in each category. The respondents who have zero siblings are only-children.

Spouses' resources and characteristics.

Spousal age. One item asked the age of respondent's spouse, “What year was your spouse born?” Spouses' age in years was calculated by subtracting the given year from 2005. This continuous variable indicated the age of respondent's spouse in the year that the survey was

conducted. This variable of spouses' age was included in the analysis to reflect respondents' spouses' characteristics

Spousal income. Spouses' income is a continuous variable measured in yuan. This construct was measured in a single item "In 2005, what was your spouse's total income?"

Spousal education level. Respondents were asked about the education level of their spouses' (from no education to postgraduate education) in an item with 12 categories. This variable was treated as a continuous variable; with higher scores indicating more years of education, and again this variable is ordinal not interval.

Spousal availability. Spouses' availability was measured by their number of work days per week. The item was "On average, how many days does your spouse work in a year?" If spouses had to work more hours they were less available in terms of time and vice versa.

Spousal health status. Spouses' health (How is your health?) was measured by a single item with five categories. This item was treated as a continuous variable. Higher scores indicated better health.

Only-child status of spouse. Four items asked respondents' spouses' number of siblings (How many living older brothers/older sisters and younger brothers/younger sisters does your spouse have?). A continuous variable was created to measure spouses' number of siblings.

Parents' characteristics.

Fathers' proximity. This variable was created to indicate whether respondents' fathers were alive, and if alive, the fathers' living arrangements. Two items were used to create this single variable "Is your father alive?" and "How far does your father live from you?" This variable was categorical with four categories (0=deceased, 1=living together or in walking distance, 3=living in short-driving distance, and 4=living in long-driving distance). This variable

is ordinal in nature. A deceased father can be seen as in “least distance” with their adult children. As the distance between adult children and father increase there is greater difficulties to keep in touch.

Mothers’ proximity. Similar to the fathers’ proximity, mothers’ proximity was also a created variable with four categories (0=deceased, 1=living together or in walking distance, 2=living in short-driving distance, and 3=living in long-driving distance). Two items were used to create this variable. “Is your mother alive?” and “How far does your mother live from you?”. This variable was also an ordinal categorical variable.

Parents’ health care needs. Parents’ health status was obtained through the questions “How do you evaluate your father’s health?” and “How do you evaluate your mother’s health?”. Responses were measured according to a five-category scale (1= very poor, 2=poor, 3=not poor not good, 4=good, 5 good). The health scores of fathers and mothers were reversed and added up. As a result, lower scores indicated that fathers and mothers were in better health and therefore interpreted as having fewer health care needs. A higher score indicated that fathers and mothers were in poorer health and therefore had greater health care needs. This variable was used in analysis as a continuous variable.

Parents’ income. Parents’ financial status was measured by a single item, “In 2005, what was your father’s total income?” This is a continuous variable measured in yuan.

Parents-in-law’s characteristics.

Fathers-in-law’s proximity. This ordinal categorical variable was created to indicate whether respondents’ fathers-in-law were alive, and if alive, the living arrangement of the fathers-in-law. Two items were used to create this single variable “Is your father-in-law alive?” and “How far does your father-in-law live from you?” This created variable is categorical

(0=deceased, 1=living together or in walking distance, 3=living in short-driving distance, and 4=living in long-driving distance).

Mothers-in-law's proximity. Similar to the fathers-in-law's proximity, mothers-in-law's proximity is a created variable with four categories (0=deceased, 1=living together or in walking distance, 2=living in short-driving distance, and 3=living in long-driving distance). Two items were used to create this variable. "Is your mother-in-law alive?" and "How far does your mother-in-law live from you?"

Parents-in-law's health care needs. Parents-in-law's health statuses were obtained through the questions "How do you evaluate your father-in-law's health?" and "How do you evaluate your mother-in-law's health"? Responses were measured according to a five-category scale (1= very poor; 2=poor; 3=not poor not good; 4=good; 5 good). The health scores of fathers-in-law and mothers-in-law were reversed and then added up. As a result, lower scores indicated parents-in-law were in better health and therefore had fewer health care needs and higher scores indicated that parents-in-law were in poorer health and therefore had greater health care needs. This variable was used as a continuous variable.

Data Analysis

Descriptive analysis was conducted on all independent variables. Mean, median and standard deviation, and range of continuous variables and frequencies of categorical variables were calculated. The descriptive information created a profile of the sample, including respondents, their spouses, parents, and parents-in-law. Since gender is the focus of this study, the sample was divided into male and female subsamples; a profile of male respondents and a profile of female respondents were created respectively.

The analyses conducted to answer each research question are described below.

1. How do adult children enact the four potential old age support roles: financial support provider to parents, instrumental support provider to parents, financial support provider to parents-in-law, and instrumental support provider to parents-in-law?

The first step to address this research question was to run frequencies for the four dependent variables: support to parents, support to parents-in-law, financial support to both sets of parents, and instrumental support to two sets of parents. The frequency of these first variables revealed the percentages of people who, for their parents, only provided financial support, only providing instrumental support, both types of support, and neither type of support. The frequencies of the second variable, for parents-in-law, revealed the percentages of people who only provided financial support, only provided instrumental support, both types of support, and neither type of support. The frequencies of the third variable revealed the percentages of people who provided financial support exclusively to parents, exclusively to parents-in-law, to both sets of parents, and to neither set of parents. The frequencies of the fourth variable revealed the percentages of people who provided financial support exclusively to parents, exclusively to parents-in-law, to both sets of parents, and to neither set of parents.

1a. What is the gender pattern of role-taking?

To address this question, the appropriate analysis to conduct was a chi-square test using gender as the independent variable on the four dependent variables in the sample (inclusive of both males and females). The goal in using this test was to reveal whether the percentage in each category of the dependent variables, was statistically equivalent between men and women.

1b. How do only-children enact the four potential old age support roles?

The sample of only-children was extracted by using the variable of only-child status. Respondents who responded “yes” to this variable were included in this analysis. The results of

these frequencies illustrated the general pattern of old age support provision within this sub-sample. A chi-square test was conducted on the four dependent variables with the only-child status of respondent used as the independent variable. This test revealed if the percentage of each category of the dependent variables was statistically equivalent between only children and those who had siblings.

2. Among the four potential old age support roles, what factors account for role-taking?

Two multinomial logistic regressions were conducted for two dependent variables: support to parents and support to parents-in-law. Independent variables entered for the first variable included support received from parents (short-term financial and instrumental support and long-term financial support), respondents' resources (age, income, education, availability, health status, and only-child status), spouses resources (age, income, education, availability, health status, and only-child status), and characteristics of parents (fathers' and mothers' proximity, parents' health care needs, and parents' income). Independent variables entered for the dependent variable, support to parents-in-law, were support received from parents-in-law (short-term financial and instrumental support and long-term financial support), respondents' resources (age, income, education, availability, health status, and only-child status), spouses resources (age, income, education, availability, health status, and only-child status), and characteristics of parents-in-law (fathers-in-law and mothers-in-law's proximity and parents-in-laws' health care needs). The variables that had statistically significant effects on the dependent variables were identified and the predictive effect of each variable was reported.

Multinomial logistic regression analyses were conducted on an additional two dependent variables: financial support to both sets of parents and instrumental support to both sets of parents. The independent variables entered for these two regressions analyses were gender,

support received from parents (short-term financial and instrumental support, and long-term financial support), support received from parents-in-law, respondents' resources and characteristics (age, income, education, availability, health status, and only-child status), and spouses resources and characteristics (age, income, education, availability, health status, and only-child status). The characteristics of parents and parents-in-law (fathers' and mothers' proximity, parents' health care needs, parents' income, fathers-in-law and mothers-in-law's proximity, and parents-in-laws' health care needs) were also included in analysis. The variables that had statistically significant effects on the dependent variables were identified and the predictive power of each of these variables was reported.

Before conducting the multinomial logistic regression analyses, potential multicollinearity problems were detected among the independent variables. Respondents' and spouses' ages were highly correlated; therefore the variance inflation factor (VIF) value of spouses' age was greater than 10. As a result, respondents' age was eliminated from analysis.

2a. Do the factors differ by gender?

The full sample was divided by gender to create a male sub-sample and a female sub-sample. The four multinomial logistic regressions calculated for research question 2 were repeated in each gender sub-sample. A comparison was conducted to see if the variable(s) that were statistically significant for the likelihood of financial support provision to parents for women were predictive for men in all four pairs of multinomial logistic regressions.

3. How do husband and wives in the married couple influence each other in the provision of old age support?

To address this question, the four multinomial logistic regressions calculated for research question 2 were repeated. The dependent variable examined in each regression remained the

same. Three groups of independent variables were entered in a specific order: first respondents' resources (age, income, education, availability, health status, and only-child status); spouses' resources (age, income, education, availability, health status, and only-child status); and characteristics of parents/parents-in-law (proximity of surviving parents, health status, income, and proximity). This analysis demonstrated how the presence and amount of spouses' resources may change the old age support behavior of their partner. Changes in odds-ratios of independent variables after entering each variable group were calculated.

Again, the sample was divided by gender to create a male subsample and a female subsample. The four logistic were repeated in each of these subsamples similar to the procedure described in the last paragraph. The differences between the male and female subsamples will be compared to see if differences exist between male respondents helping their spouses and female respondents helping their spouses in the provision of old age support.

Institutional Review Board Information

These study methods were approved by to the University of Alabama's Institutional Review Board (IRB) for approval. Per IRB's request, data use agreement and correspondence with the data provider were also submitted for review in October 2012. The IRB approval date for this study was October, 26, 2012.

CHAPTER FOUR

RESULTS

Descriptive Results

Respondents and Spouses' Resources and Characteristics

Table 1 presents the resources and characteristics of respondents and spouses of the overall sample (n=1486). The respondents had an average age of 37 years with average education level of high school (12-year education). Approximately 40% of respondents lived in rural areas and most were employed. A wide range of incomes were reported; with an average annual income of 18516.50 yuan; approximately equivalent to \$3000 USD (1yuan≈0.16 USD). In China, in 2005, Gross National Income (GNI)³ per capita was \$1740. The average reported income level was much higher than the national income indicators which is likely because the percentage of urban respondents in this sample is disproportionately higher the normal national distribution and urban residents generally have much higher income than their rural counterparts. When asked about their work schedule, about a quarter of respondents said they had a flexible work schedule, more than one third had “very fixed” work schedule, and the rest reported a fixed work schedule but that they also had some control. Most respondents reported that they were in good or very good health. The vast majority of the respondents had siblings and the average number of siblings was three. The respondents also reported the information for their spouses. On average, age of spouses was also 37; and the average education level was close middle school. Respondents reported that their spouses worked approximately 45 hours per week and earned an average of

³ GNI per capita is the gross national income, converted to U.S. dollars using the World Bank Atlas method, divided by the midyear population. GNI is the sum of value added by all resident producers plus any product taxes (less subsidies) not included in the valuation of output plus net receipts of primary income (compensation of employees and property income) from abroad.

10893.38 yuan a year. The majority of spouses were reported to be in good or very good health. Spouses' average number of siblings was two.

Among the 119 respondents who reported they had no siblings, 62 of them also reported that their spouses were also only-children; indicating there were 62 couples out of 1,486 households in which one only-child had married another only-child. Since the survey was conducted in 2005, the earliest cohort of only-children (born in 1979) had just turned 26 years of age. The number of only-children couples is likely to increase dramatically over time because of the strict adherence in Chinese society to the national one-child policy. The average age of only-children respondents in the study was 35 years of age. Independent sample t-test indicated that only-children were significantly younger than the average age of entire sample by 2 years.

Table 1

Respondents and Spouses Characteristics

Respondents' resources and characteristics	Respondents (n=1486)			Spouses (n=1486)		
	Mean (SD)	Range	Percentage	Mean (SD)	Percentage	Range
Gender						
Male			44.6		55.4	
Female			55.4		44.6	
Age (in year)	37.37(9.14)	18-68		37.59(9.25)		
Income (yearly)	18516.50 (84527.96)	0- 3211912		10894.38 (14612.39)		0- 300000
Education level	5.13 (2.39)	0-14		3.91 (2.15)		0-12
Household registration						
Rural			39.7			
Urban			60.3			
Employment						
Employed			73.4			
Unemployed			26.6			
Working hours(weekly)					44.62(18.58)	
Time availability flexibility						
Flexible			23.1			
Fixed with some flexibility			41.4			
Fixed			35.5			
Health	3.96(0.87)			4.06(0.80)		
Very good			23.8		26.6	
Good			58.5		59.6	
Not poor not good			8.8		7.7	
Poor			7.5		5.0	
Very poor			1.3		1.1	
Siblings	2.76(1.74)			2.58(1.66)		
No siblings (only child)			8.0		9.2	
Had siblings			92.0		90.8	

Descriptive statistics are also presented in male sample and female sample separately (see Tables 2 & 3). The average age of male respondents was 38; about 2 years older than their wives. Close to 40% of male respondents were from rural area. Both levels of education and income were higher for men. Men had at least an average of a vocational high school level of education while their wives had less than middle school education. Men earned three times the amount of money compared to their wives. Most men reported that they were employed. Many men had a flexible or somewhat flexible work schedule. Male respondents reported that their wives worked an average of about 40 hours per week. Most men reported that both they and their wives were in very good or good health and they each had two or three siblings.

Table 2

Male Respondents and Spouses Characteristics

Respondents' resources and characteristics	Male respondents (n=663)		Wives (n=663)	
	Mean (SD)	Percentage	Mean (SD)	Percentage
Age (in year)	38.21(9.16)		36.10(9.03)	
Income (yearly)	23066.83 (125097.42)		7596.87 (7969.32)	
Education level	5.44(2.39)		3.90(2.11)	
Household registration				
Rural		37.4		
Urban		62.6		
Employment				
Employed		85.4		
Unemployed		14.6		
Working hours(weekly)				40.61 (19.61)
Time availability				
Flexible		26.8		
Scheduled but flexible some		37.9		
Fixed		35.3		
Health	4.05(0.81)		4.02(0.79)	
Very good		27.0		23.5
Good		58.4		62.7
Not poor not good		8.1		7.2
Poor		5.4		5.1
Very poor		1.1		1.4
Siblings	2.63(1.75)		2.58(1.66)	
Only child		9.2		8.6
Had siblings		80.8		81.4

On average, female respondents had an average age of 37 years and their spouses were an average of 39 years. In this sample, over 40% lived in rural areas. Women also reported that they were educated for more years and earned more money than their husbands. Women had close to vocational high school education while their husbands had less than middle school. Women earned an average of 14850.81 yuan in 2005 while their husbands earned 13550.82 yuan in that same year. A majority (over 63%) of female respondents reported that they were employed;

which was about 20% less than the male respondents/ In terms of work schedule, almost two-thirds reported they had flexible or somewhat flexible work schedule. Women reported that their husbands worked about 50 hours per week. Most women reported that both they and their husbands were in very good or good health. The average number of siblings was two or three female respondents and their husbands.

Table 3

Female Respondents and Spouses Characteristics

Respondents' resources and characteristics	Female respondents (n=823)		Husbands (n=823)	
	Mean (SD)	Percentage	Mean (SD)	Percentage
Age (in year)	36.69 (9.07)		38.79 (9.25)	
Income (yearly)	14850.81 (13861.90)		13550.82 (17853.82)	
Education level	4.87(2.35)		3.90(2.19)	
Household registration				
Rural		41.6		
Urban		58.4		
Employment				
Employed		63.8		
Unemployed		36.2		
Working hours(weekly)				47.85 (17.05)
Time availability				
Flexible		20.0		
Scheduled but flexible some		44.2		
Fixed		35.7		
Health	3.89 (0.89)		4.09 (0.80)	
Very good		21.3		29.2
Good		58.6		57.0
Not poor not good		9.4		8.0
Poor		9.2		5.0
Very poor		1.6		0.9
Siblings	2.85 (1.72)		2.61 (1.69)	
Only child		7.0		9.6
Had siblings		93.0		80.4

Support Provided and Received

Tables 4 and 5 present the support that adult children provided to their parents and parents-in-law and the support adult children had received from parents and parents-in-law. Table 4 reveals that most respondents in the sample provided varying levels of financial support in last year, while a minority of respondents reported that they had not provided financial support to their parents. Similarly, a majority of the respondents had provided instrumental support to their own parents. Regarding financial support provision to parents-in-law, 83.6% of the respondents reported that they had provided financial support and 77.9% of the respondents had provided instrumental support.

Table 4

Support Provided to Parents and Parents-in-law

	Financial support to parents		Instrumental support to Parents		Financial support to parents-in-law		Instrumental support to parents-in-law	
	n	%	n	%	n	%	n	%
Yes								
Very often	56	3.8	60	4.0	31	2.1	59	4.0
Often	318	21.4	282	19.0	197	13.3	213	14.4
Sometimes	569	38.3	511	34.4	600	40.4	436	29.3
Seldom	351	23.6	423	28.5	414	27.9	449	30.2
No	192	12.9	210	14.1	244	16.4	329	22.1
Total	1486	100	1486	100	1486	100	1486	100

More than one-half of the respondents reported that they had received short-term financial support from their own parents last year; almost two-thirds had received short-term instrumental support from parents; and more than one-half had received long-term financial support from parents. Less than one-half of respondents reported that they had received short-term financial support from parents-in-law; over 60% had received short-term instrumental support from

parents-in-law, and about 44% had received long-term financial support from parents-in-law (see table 5).

Table 5

Support Received from Parents and Parents-in-law

Variables (n=1486)	Percentage
Short-term financial support from parents	
Yes	52.6
No	47.4
Short-term instrumental support from parents	
Yes	65.3
No	34.7
Long-term financial support from parents	
Yes	54.0
No	46.0
Short-term financial support from parents-in-law	
Yes	47.0
No	53.0
Short-term instrumental support from parents-in-law	
Yes	60.9
No	39.1
Long-term financial support from parents-in-law	
Yes	44.2
No	55.8

Characteristics of Parents and Parents-in-law

Data were collected from the respondents regarding parents and parents-in-law in order to identify their potential needs for support. Specific data collected was fathers’ income, the proximity of living arrangement and health status of parents (fathers and mothers) and parents-in-law (fathers-in-law and mothers-in-law). The results are presented in table 6.

Among the 1486 respondents, more than twice as many fathers compared to mothers were deceased. This same pattern was seen among fathers- and mothers-in-law. Many fathers lived in walking distance or less than one hour driving distance away from the respondents, but quite a

few still lived farther than one hour driving from respondents. The percentages were higher among mothers; with more living within walking distance or short driving distance, but just as many lived farther than one hour driving distance from the respondents. Overall, respondents' fathers had an income of 7300 yuan in 2005 (approximately 1170 U.S. dollars). Almost one-half of the respondents reported that their fathers were in very good or good health; while about 21% reported varying health concerns. More than one-half of the mothers were reported in good or very good health but about one-third also had less than good health. As a result parents' need for health care scored less than 4 on a scale of 0 to 10 with higher scores indicating higher health care need.

Among the fathers-in-law who were alive, respondents reported that many of them lived within a short driving distance. Further, 18.2% of fathers-in-law lived in walking distance and 19.9% of fathers-in-law lived farther than one hour driving distance from respondents. Fewer mothers-in-law lived within walking distance but more within a short driving distance than the fathers-in-law. More than one-half of surviving fathers-in-law were reported to be in very good or good health. More mothers-in-law were reported in good health and also had more had some reported health concerns than fathers-in-law.

Table 6

Parents and Parents-in-law Characteristics

Parents' characteristic n=1486	Mean (S.D.)	Percentage
Fathers' Income(yearly)	7300	
Fathers' proximity		
Deceased		29.3
Walking distance		20.3
Short driving distance		32.7
Long-driving distance		17.7
Mothers' proximity		
Deceased		11.8
Walking distance		26.4
Short driving distance		41.0
Long-driving distance		20.7
Fathers' health		
Deceased		29.3
Very poor		0.8
Poor		12.4
Not poor not good		7.9
Good		39.6
Very good		10.0
Mothers' health		
Deceased		11.8
Very poor		1.2
Poor		19.1
Not poor not good		13.7
Good		13.7
Very good		42.9
Parents' health care need	3.87(1.97)	
Fathers-in-law' proximity		
Deceased		25.4
Walking distance		18.2
Short driving distance		36.5
Long-driving distance		19.9
Mothers-in-law' proximity		
Deceased		12.9
Walking distance		21.4
Short driving distance		42.7
Long-driving distance		23.1
Fathers-in-law's health		
Deceased		25.4
Very poor		1.1
Poor		10.4

Not poor not good		11.4
Good		42.2
Very good		9.6
Mothers-in-law' health		
Deceased		12.9
Very poor		1.7
Poor		15.0
Not poor not good		13.9
Good		46.6
Very good		9.8
Parents-in-law's health care needs	3.89(2.02)	

Results of Research Question 1

Support Provision to Parents/Parents-in-law

Statistical tests for frequencies revealed how often the two types of support, financial support and instrumental support were provided to parents and parents-in-law, respectively. Close to 80% of the respondents in this sample had provided both financial support and instrumental support to their own parents, while 8.7% reported that they had only provided financial support and 7.5 reported that they had only provided instrumental support. Only about 5% of respondents had not provided either types of support for their own parents. Meanwhile, a majority of the sample had provided both financial support and instrumental support to parents-in-law. People who had only provided either financial support or instrumental support consist of 12.2% and 6.5% of the sample, respectively. Twice as many of the sample reported they did not provide either type of support to their parents-in-law compared to parents (see Table 7). Hypothesis 1 and 2 were rejected. Regardless of care recipients, the most common practice is to provide both financial and instrumental support, rather than providing one type of support. All hypotheses results are listed in Appendix B.

Table 7

Support Provided to Parents/Parents-in-law

	Support provide to parents		Support provide to parents-in-law	
	n	%	n	%
Neither type of support	80	5.4	148	10.0
Financial support only	130	8.7	181	12.2
Instrumental support only	112	7.5	96	6.5
Both types of support	1164	78.3	1061	71.4
Total	1486	100	1486	100

When taking two sets of parents into consideration, frequency tests further explored how respondents had provided financial/instrumental support to two sets of parents. The results shown in Table 8 indicate that more than three-quarters of the sample had provided financial support to both sets of parents. Further less than 10% of respondents had provided financial support to their own parents only; even fewer had provided their parents-in-law only; and about 8% of the respondents had not provided financial support to either set of parents. Regarding instrumental support, more than 71% of respondents reported that they had provided instrumental support to both sets of parents; about 15% to their own parents only; and about 7% to their parents-in-law only. An additional 7% of respondents had provided instrumental support to neither set of parents. Therefore, hypotheses 3 and 4 were also rejected. Adult children were more likely to provide support to both sets of parents simultaneously rather than to one set of parents; adult children's own parents' were not favored in terms of support provided. This finding held true across financial support and instrumental support.

Table 8

Simultaneous Financial/Instrumental Support Provision to Two Sets of Parents

	Financial support provided to parents and parents-in-law		Instrumental support provided to parents and parents-in-law	
	n	%	n	%
Neither set of parents	111	7.5	109	7.3
Parents only	133	9.0	220	14.8
Parents-in-law only	81	5.5	101	6.8
Both sets of parents	1161	78.1	1056	71.1
Total	1486	100	1486	100

Gender Difference of Support Provision

Four chi-square tests of independence were run to examine the gender differences and support provision. Post-hoc tests identified which cell or cells were major contributors to the significant chi-square by examining the pattern of column percentages.

Chi-square test (see table 9) explored the gender differences regarding the two types of support provided to parents and parents-in-law, respectively. For parents, most male respondents reported they had provide both types of support to parents, 10% had only provided financial support, 5% had only provided instrumental support, and less that 5% had not provided either type of support to parents. Of the 823 women, more than three-quarters reported they had provided both types of support to parents, 7.7% had only provided financial support, 9.2% had only provided instrumental support, and 6.1% reported they had not provide either type of support to parents. Although the percentages are significantly different by gender, the gender differences were only attributed to one category. Women were more likely than men to have only provided instrumental support. Hypothesis 5 was rejected since men and women are equally likely to only provide financial support to their own parents.

Table 9

Gender and Support Provision to Parents

Two Types of Support Provided to Parents	Gender		χ^2	p
	Male	Female		
Neither	4.5%	6.1%	11.61**	0.009
	(-1.0)	(0.9)		
Financial Support Only	10.1%	7.7%		
	(1.2)	(-1.1)		
Instrumental Support Only	5.4%	9.2%		
	(-2.0)	(1.8)		
Both	79.9%	77.0%		
	(0.5)	(-0.4)		

Note. **= $p < 0.01$. Adjusted standardized residuals appear in parentheses below group frequencies

More than two-thirds of male respondents reported they had provided both types of support to parents-in-law, less than 20% had only provided financial support, very few had only provided instrumental support, and about 10% had not provided either type of support. Of female respondents, more than three-quarters reported they had provided both types to parents-in-law, respondents who had only provided financial support, who had only provided instrumental support, and who reported they had not provide either types of support, were all minorities. The gender difference was significant overall, but it is also caused by significant gender difference from one category. Men were more likely than their female counterparts to have only provided financial support to parents-in-law. Hypothesis 6 that speculated women are more likely than men to only provide instrumental support was not supported.

Table 10

Gender and Support Provision to Parents-in-law

Two Types of Support Provided to Parents-in-law	Gender		χ^2	p
	Male	Female		
Neither	10.7%	9.4%	45.74**	0.00
	(0.6)	(-0.5)		
Financial Support Only	18.3%	7.3%		
	(4.5)	(-4.0)		
Instrumental Support Only	5.0%	7.7%		
	(-1.5)	(1.3)		
Both	66.1%	75.7%		
	(-1.6)	(-1.5)		

Note. **= $p < 0.01$. Adjusted standardized residuals appear in parentheses below group frequencies

When taking two sets of parents into consideration simultaneously, most male respondents reported they had provided financial support to both sets of parents. A little more than 10% had provided to parents only. Respondents who had provided to parents-in-law only and who had not provided financial support to either set of parents are about 5%, respectively. Similarly, of the 823 women in the sample, close to 80% reported they had provided financial support to both sets of parents; 7.8% to parents only; 6.1% to parents-in-law only and 9.2% reported they had not provided financial support to either set of parents. The patterns of preferential financial support provision look similar but chi-square tests indicated significant gender differences on financial support provision to two sets of parents. Only very small proportion of respondents had not provided financial support to either set of parents; with women rather than men more likely to provide financial support to neither set of parent (See Table 11). Thus hypothesis 7 was rejected. Among those who provided financial support to their parents exclusively, the proportion of men who did so was equal to that of women.

Table 11

Gender and Financial Support Provision to Two Sets of Parents

Financial Support Provided	Gender		χ^2	p
	Male	Female		
Neither	5.3%	9.2%	12.20**	0.007
	(-2.1)	(1.9)		
Parents Only	10.4%	7.8%		
	(1.3)	(-1.1)		
Parents-in-law Only	4.7	6.1%		
	(-0.9)	(0.8)		
Both	79.6%	76.9%		
	(0.4)	(-0.4)		

Note. **= $p < 0.01$. Adjusted standardized residuals appear in parentheses below percentage within gender group.

The percentages of instrumental support provided to two sets of parents also differed significantly by gender (see table 12). About two-thirds of male respondents reported provision of instrumental support to both sets of parents; less than 20% had provided instrumental support to parents only; less than 5% had provided instrumental support to parents-in-law only and less than 10% reported they had not provided instrumental support to either set of parents. Of 823 female respondents, three-quarters reported they had provided instrumental support to both sets of parents; about 10% to parents only; few to parents-in-law only and even fewer reported they had not provided instrumental support to either set of parents. Post-hoc test indicated that men were more likely than women to not provide instrumental support to either set of parents. If they did provide instrumental support, they were more likely than women to have provided instrumental support only to their own parents. However, there was no evidence to support the hypothesis 8 which stated women are more likely than men to provide instrumental support to two sets of parents.

Table 12

Gender and Instrumental Support Provision to Two Sets of Parents

Instrumental Support Provided	Gender		χ^2	p
	Male	Female		
Neither	9.8%	5.3%	36.05**	0.00
	(2.3)	(-2.1)		
Parents Only	19.2%	11.3%		
	(2.9)	(-2.6)		
Parents-in-law Only	4.8%	8.4%		
	(-1.9)	(1.7)		
Both	66.2%	75.0%		
	(-1.5)	(1.3)		

Note. **= $p < 0.01$. Adjusted standardized residuals appear in parentheses below group frequencies

Influence of Only-Child Status on Support Provision

Of the 1486 total respondents, 119 were only-children. Chi-square tests of independence did not reveal any statistically significant differences between people who were only-children and people who had siblings on support provision when recipients were parents (see table 13). About 80% of only-children reported that they had provided both financial and instrumental support to their parents. Only-children who had provided financial or instrumental support only to their parents each comprised about 6% of the sample. Less than 10% of only-children reported that they had provided neither financial support nor instrumental support to their own parents. Chi-square tests did not yield significant results; indicating that only-children had provided support to their parents in a similar pattern as people who had siblings. Thus hypothesis 9 was supported. For their own parents, no differences were found between adult only-children and adult children who have siblings in terms of provision of two types of support.

Table 13

Only-child Status and Support Provision to Parents

Two Types of Support Provided to Parents	Only-child Status		χ^2	p
	Only-children	Other Respondents		
Neither	8.4% (1.4)	5.1% (-0.4)	3.91	0.27
Financial Support Only	5.9% (-1.1)	9.0% (0.3)		
Instrumental Support Only	5.9% (-0.7)	7.7% (0.2)		
Both	79.8% (0.2)	78.2% (-0.1)		

Regarding support provision to parents-in-law, more than three-quarters of only-children reported that they had provided both types of support for parents-in-law, about 8% reported they had only provided financial support, 5% had only provided instrumental support, and about 8% provided neither type of support (see table 14). No significant difference was found between only-children and people who have siblings. Thus Hypothesis 10 was supported. For parents-in-law, no differences were found between adult only-children and adult children who had siblings in terms of provision of two types of support.

Table 14

Only-child Status and Support Provision to Parents-in-law

Two Types of Support Provided to Parents-in-law	Only-child Status		χ^2	p
	Only-children	Other Respondents		
Neither	8.4% (-0.5)	10.1% (0.2)	3.06	0.38
Financial Support Only	8.4% (-1.2)	12.5% (0.3)		
Instrumental Support Only	5.0% (-0.6)	6.6% (0.2)		
Both	78.2% (0.9)	70.8% (-0.3)		

As can be seen in Table 15, more than three-quarters of only-children reported that they had provided financial support to both sets of parents, 7.5% had provided financial support only to parents. 9.2% had provided financial support only to parents-in-law, and 5% had not provided financial support to either set of parents. No statistically significant relationship between respondents' only-child status and exhibition of preferential financial support behaviors were found. Hypothesis 11 was rejected; stating that only-children are less likely than their counterparts with siblings to provide financial support to both sets of parents.

Table 15

Only-child Status and Financial Support Provided to Two Sets of Parents

Financial Support Provided	Only-child Status		χ^2	p
	Only-children	Other respondents		
Neither	5.0% (-1.0)	7.7% (0.3)	4.49	0.21
Parents Only	8.4% (-0.2)	9.0% (0.1)		
Parents-in-law Only	9.2 (1.8)	5.1% (-0.5)		
Both	77.3% (-0.1)	78.2% (0.0)		

Regarding instrumental support, more than three-quarters of respondents who were only-children were able to provide such support to both sets of parents. Small percentages of only-child exhibited exclusive instrumental support provision to parents or parents-in-law. Even smaller percentages of only-children had not provided instrumental support to either set of parents. Chi-square tests indicated that only-children's instrumental support provision behaviors were not significantly different from respondents who were not only-children. Hypothesis 12 stated only-children are less likely than their counterpart with siblings to provide instrumental support to both sets of parents, and therefore this hypothesis was rejected.

Table 16

Only-child Status and Instrumental Support Provided to Two Sets of Parents

Instrumental Support Provided	Only-child Status		χ^2	p
	Only-children	Other respondents		
Neither	6.7% (-0.2)	7.4% (0.1)	2.51	0.48
Parents Only	10.1% (-1.3)	15.2% (0.4)		
Parents-in-law Only	7.6% (0.3)	6.7% (-0.1)		
Both	75.6% (0.6)	70.7% (-0.2)		

Results of Research Question 2

Four multinomial logistic regressions were run for four dependent variables: financial/instrumental support provided to two sets of parent and two types of support provided to parents/parents-in-law. These four tests revealed factors that accounted for support provision. Three groups of factors were examined in the analysis, including support received from parents/parents-in-law, respondents' and spouses' resources and characteristics and characteristics of parents/parents-in-law.

Factors of Support Provision

Factors of support provision to parents (see Table 17). Between respondents and their parents, respondents were almost five times more likely to only provide instrumental support and more than five times more likely to provide both financial and instrumental support if they had received short-term instrumental support. For parents, male respondents were more likely than their female counterparts to provide only financial support, while older respondents were more likely to provide both types of support. High work schedule flexibility is associated with lower

likelihood of providing only instrumental support. One characteristic of the spouses' also had an influence on respondents' support provision to parents. Respondents were more likely to only provide instrumental support to parents if their spouses worked longer hours or spouses' had more siblings.

Respondents were less likely to only provide financial support to parents if they lived together or lived in short-driving distance with their fathers. Fathers' and mothers' proximity had opposite effects on respondents' likelihood of only providing instrumental support. Respondents were less likely to provide only instrumental support to parents if their fathers' had died, or fathers lived together with respondents or fathers lived within a short-driving distance with respondent. They were more likely to provide only instrumental support to parents if their mothers' had died, or mothers lived together with respondents or mothers lived within short-driving distance with respondents.

Table 17

Factors of Support Provision to Parents

	Financial support only Exp(B)	Instrumental support only Exp(B)	Both types of support Exp(B)
Gender			
Male	2.40*	0.56	1.00
Female			
Short-term financial support from parents			
Yes	0.90	0.59	1.40
No			
Short-term instrumental support from parents			
Yes	0.94	4.75**	5.01**
No			
Long-term financial support from parents			
Yes	1.06	1.67	1.08
No			
Respondents' age	0.99	1.01	1.03*
Respondents' education	1.10	0.95	1.08
Respondents' house registration			
Rural	0.81	0.87	0.97
Urban			
Respondents' employment			
Employed	1.86	1.73	1.69
Unemployed			
Respondents' income	1.00	1.00	1.00
Respondents' time availability			
Flexible	1.22	0.41*	0.82
Scheduled but flexible	0.88	0.56	0.96
Fixed			
Respondents' health	1.09	1.74	1.24
Respondents' siblings	1.09	1.08	1.02
Spouses' income	1.00	1.00	1.00
Spouses' education	0.99	0.97	1.04
Spouses' working hours(weekly)	1.02	1.02*	1.01
Spouses' health	1.44	0.83	1.04
Spouses' siblings	1.12	1.25	1.09
Fathers' income	1.00	1.00	1.00
Fathers' proximity			

Deceased	0.56	0.29	1.34
Walking distance	0.28	0.19*	0.83
Short driving distance	0.33	0.20*	0.89
Long-driving distance			
Mothers' proximity			
Deceased	1.21	6.40*	1.66
Walking distance	1.07	9.09**	1.62
Short driving distance	1.21	9.51**	1.59
Long-driving distance			
Parents' health care need	1.09	1.10	1.08

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Provision of support to parents-in-law (see Table 18). Between respondents and their parents-in-law, respondents were less likely to only provide financial support if they had received long-term financial support. Respondents were highly likely to only provide instrumental support if they had received instrumental support. Moreover, respondents were twice as likely to provide both types of support if they had received short-term financial support; and were twenty times more likely provide both types of support if they had received instrumental support. In addition, Male respondents were more likely to only provide financial support than their female counterparts. Respondents who had higher levels of education were more likely to only provide financial support. Parents-in-law's health needs were the only characteristic of parents-in-law that was associated with respondents' support provision to parents-in-law. Respondents were more likely to only provide instrumental support if their parents-in-law had greater health care needs. The four hypotheses related to research question 2 were discussed. See appendix B for results.

Table 18

Factors of Support Provision to Parents-in-law

	Financial support only Exp(B)	Instrumental support only Exp(B)	Both types of support Exp(B)
Gender			
Male	1.92*	0.59	0.73
Female			
Short-term financial support from parents-in-law			
Yes	1.69	0.89	2.11*
No			
Short-term instrumental support from parents-in-law			
Yes	2.57*	19.11**	20.24**
No			
Long-term financial support from parents-in-law			
Yes	0.59*	1.42	0.82
No			
Respondents' age	1.02	1.01	1.02
Respondents' education	1.13*	0.96	1.06
Respondents' house registration			
Rural	1.45	1.01	1.52
Urban			
Respondents' employment			
Employed	1.53	0.85	1.09
Unemployed			
Respondents' income	1.00	1.00	1.00
Respondents' time availability			
Flexible	1.76	0.88	1.35
Scheduled but flexible	1.06	1.23	1.31
Fixed			
Respondents' health	1.18	1.25	1.27
Respondents' siblings	1.04	1.01	0.97
Spouses' income	1.00	1.00	1.00
Spouses' education	1.04	1.12	1.11
Spouses' working hours(weekly)	1.01	1.01	1.00
Spouses' health	1.27	0.85	0.94
Spouses' siblings	1.02	1.04	0.98
Fathers-in-law' proximity			
Deceased	1.97	0.97	1.79

Walking distance	0.61	0.90	0.79
Short driving distance	1.40	1.79	1.58
Long-driving distance			
Mothers-in-law' proximity			
Deceased	0.42	1.88	1.54
Walking distance	0.73	2.28	2.12
Short driving distance	0.44	1.03	1.17
Long-driving distance			
Parents-in-law' health care need	1.15	1.23*	1.16

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Factors of financial support provision to two sets of parents (see Table 19). Results revealed that respondents were less likely to provide financial support only to parents if they had received long-term financial support. Respondents were more likely to provide financial support only to parents-in-law if they had received short-term financial support or short-term instrumental support. Respondents were more likely to provide financial support to both sets of parents if they had received short-term financial support from parents, had received short-term financial support from parents-in-law or had received instrumental support from parents-in-law.

Male respondents were more likely than female respondents to provide financial support only to parents; and to both sets of parents. Respondents' Education level, employment status, , time availability and health status also had influence on financial support provision to parents. Respondents' education level was associated with higher likelihood of providing financial support only to parents, only to parents-in-law and to both sets of parents. These associations were all positive. While respondents' own income was not a significant factor, respondents were more likely to provide financial support to both sets of parents if their spouses had higher incomes although the effect of each yuan increase seemed very weak.

Meanwhile, respondents were more likely to provide financial support only to parents-in-law if their own parents had more health care needs. Also, if the respondents' fathers had higher incomes, there was a higher likelihood of providing financial support to both sets of parents.

Table 19

Factors of Financial Support Provision to Two Sets of Parents

	Parents only	Parents-in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)
Gender			
Male	2.59*	1.52	1.94*
Female			
Short-term financial support from parents			
Yes	1.47	1.89	2.19*
No			
Short-term instrumental support from parents			
Yes	0.89	0.27*	1.02
No			
Long-term financial support from parents			
Yes	0.51*	1.37	0.86
No			
Short-term financial support from parents-in-law			
Yes	1.56	2.76*	2.37*
No			
Short-term instrumental support from parents-in-law			
Yes	0.415*	3.51*	2.14*
No			
Long-term financial support from parents-in-law			
Yes	2.19*	0.67	0.87
No			
Respondents' age	1.00	1.02	1.03
Respondents' education	1.25*	1.26*	1.26*
Respondents' house registration	0.69	1.69	1.41
Respondents' employment			
Employed	1.28	1.32	1.51
Unemployed			
Respondents' income	1.00	1.00	1.00
Respondents' time availability			
Flexible	1.38	1.37	1.81
Scheduled but flexible	1.50	1.07	1.49
Fixed			
Respondents' health	1.20	1.42	1.22

Respondents' siblings	1.02	1.05	0.99
Spouses' income	1.00	1.00	1.00*
Spouses' education	1.08	1.03	1.09
Spouses' working hours(weekly)	1.00	0.99	1.00
Spouses' health	1.22	0.97	1.21
Spouses' siblings	0.91	0.89	0.918
Fathers' income	1.00	1.00	1.00*
Fathers' proximity			
Deceased	2.84	1.04	1.50
Walking distance	2.28	0.72	1.45
Short driving distance	2.12	0.42	1.00
Long-driving distance			
Mothers' proximity			
Deceased	1.11	2.99	0.81
Walking distance	0.37	1.94	0.73
Short driving distance	0.44	3.02	0.92
Long-driving distance			
Parents' health care need	1.17	1.34*	1.08
Fathers-in-law's proximity			
Deceased	0.77	1.86	1.52
Walking distance	0.84	0.99	0.59
Short driving distance	0.54	3.16	0.72
Long-driving distance			
Mothers-in-law's proximity			
Deceased	3.91	0.67	2.20
Walking distance	1.35	1.32	1.59
Short driving distance	1.82	0.30	1.47
Long-driving distance			
Parents-in-law health care needs	0.95	0.89	1.04

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Factors of instrumental support provision to two sets of parents (see Table 20). If respondents had received short-term instrumental support from their own parents they were more likely to return financial support only to parents. Meanwhile, respondents were more likely to provide instrumental support only to parents-in-law if they had received instrumental support or long-term financial support from their parents-in-law. The influence of instrumental support received from parents-in-law was especially strong. The respondents who had provided instrumental support to both sets parents were those respondents who had received short-term

financial support from parents, instrumental support from parents, and instrumental support from parents-in-law.

Males were less likely than females to provide instrumental support to parents only, to parents-in-law only or both set of parents. Both respondents and their spouses' health hampered respondents' likelihood to provide instrumental support to either or both sets of parents simultaneously indicating although health is an important factor by does not differentiate respondents' behaviors. Healthier respondents were more likely to provide instrumental support to both sets of parents. However, if respondents' spouses' were in better health respondents were less likely to provide instrumental support to both sets of parents.

Table 20

Factors of Instrumental Support Provision to Two Sets of Parents

	Parents only	Parents-in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)
Gender			
Male	0.53*	0.28*	0.29*
Female			
Short-term financial support from parents			
Yes	1.55	1.72	2.14*
No			
Short-term instrumental support from parents			
Yes	2.58*	0.35*	2.91*
No			
Long-term financial support from parents			
Yes	0.86	0.64	0.83
No			
Short-term financial support from parents-in-law			
Yes	0.67	1.31	0.90
No			
Short-term instrumental support from parents-in-law			
Yes	0.96	13.38*	10.62*
No			
Long-term financial support from parents-in-law			
Yes	1.28	1.88	1.40
No			
Respondents' age	1.01	0.98	1.02
Respondents' education	1.06	1.06	1.02
Respondents' house registration			
Rural	0.44	0.82	1.11
Urban			
Respondents' employment			
Employed	1.44	1.10	1.11
Unemployed			
Respondents' income	1.00	1.00	1.00
Respondents' time availability			
Flexible	0.82	1.30	0.76
Scheduled but flexible	0.91	1.28	1.18

Fixed			
Respondents' health	1.34	1.44	1.45*
Respondents' siblings	0.94	0.91	0.94
Spouses' income	1.00	1.00	1.00
Spouses' education	0.93	0.93	1.04
Spouses' working hours(weekly)	1.00	0.99	1.00
Spouses' health	0.69	0.63	0.65*
Spouses' siblings	1.16	1.11	1.06
Fathers' income	1.00	1.00	1.00
Fathers' proximity			
Deceased	1.67	1.19	1.81
Walking distance	1.41	0.48	0.94
Short driving distance	1.04	0.39	0.82
Long-driving distance			
Mothers' proximity			
Deceased	2.79	3.61	3.54
Walking distance	2.00	3.47	3.51
Short driving distance	1.89	2.25	2.64
Long-driving distance			
Parents' health care need	1.17	1.33*	1.19
Fathers-in-law's proximity			
Deceased	1.40	1.66	1.18
Walking distance	1.69	0.97	1.30
Short driving distance	1.33	3.94	1.33
Long-driving distance			
Mothers-in-law's proximity			
Deceased	0.51	0.35	1.61
Walking distance	0.81	3.33	2.39
Short driving distance	0.82	0.68	1.79
Long-driving distance			
Parents-in-law health care needs	0.91	0.94	1.00

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Gender Differences in Factors that Influence Support Provision

Multinomial logistic regressions for the four dependent variables were repeated in male subsample and female subsamples, respectively. Gender differences in factors were revealed in the results from Table 21 to Table 24.

Gender differences for support provision to parents (see Table 21). Men and women were very similar in terms of the way they returned parents' support. Only short-term instrumental support from parents was associated with a higher likelihood to return support to

parents in the form of either instrumental support only or instrumental and financial support together.

The factors associated with only providing instrumental support to parents also differ by gender. Male respondents who were in better health were more likely to provide only instrumental support to their parents. Female respondents were more likely to provide instrumental support only if they were employed but less likely to provide instrumental support only if they had full control over work schedule. Female respondents' with husbands who had longer work hours and more of siblings were associated with a higher likelihood of providing instrumental support only. Lastly, men were more likely to provide both types of support to their parents if these male respondents were in better health. Meanwhile women were more likely to provide both types of support if they employed.

Regarding providing instrumental support only, men were affected by parents' health care needs and whether their fathers had died. Women were less likely to only provide instrumental support if their fathers' were deceased, if fathers lived together with them, or if fathers lived within a short-driving distance of them. However, females were more likely to provide instrumental support only if their mothers lived with them, or lived within short-driving distances. Further, men were more likely to provide both types of support to parents if their fathers were deceased; father had higher incomes. Parents' greater health care needs were also associated with men's likelihood of providing both types of support. None of parents' characteristics affected women's decisions to provide both types of support to parents.

The four hypotheses related to research question 2a speculated that some factors that could be influential to support provision to parents by gender. Overall the factors that had influence on men were very different from those that had influence on female respondents.

Table 21

Gender differences in Factors of Support Provision to Parents

	Male Respondents			Female Respondents		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	1.44	1.32	2.69	0.86	0.42	1.03
No						
Short-term instrumental support from parents						
Yes	1.14	4.17*	6.02*	0.88	5.81*	5.72*
No						
Long-term financial support from parents						
Yes	1.26	1.44	0.92	0.89	2.03	1.26
No						
Respondents' age	1.03	0.98	1.03	0.97	1.03	1.04
Respondents' education	1.24	1.01	1.17	1.01	0.94	1.03
Respondents' house registration						
Rural	0.49	1.06	0.94	0.95	0.67	0.74
Urban						
Respondents' employment						
Employed	2.44	0.59	1.23	1.83	2.49*	2.07*
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.69	0.59	0.80	0.76	0.28*	0.67

Scheduled but flexible	1.69	0.92	1.59	0.56	0.43	0.79
Fixed Respondents' health	1.82	2.06*	2.48*	0.86	1.07	0.93
Respondents' siblings	1.23	1.07	1.00	1.01	1.12	1.05
Spouses' income	1.00	1.00	1.00	1.00	1.00	1.00
Spouses' education	1.19	1.28	1.28	0.96	0.88	0.98
Spouses' working hours(weekly)	1.00	1.01	1.00	1.02	1.03*	1.02
Spouses' health	0.97	0.88	0.66	1.82	0.79	1.30
Spouses' siblings	0.94	0.96	1.05	1.25	1.47*	1.10
Fathers' income	1.00	1.00	1.00*	1.00	1.00	1.00
Fathers' proximity						
Deceased	2.67	70.13*	11.54*	0.33	0.03*	0.57
Walking	0.43	2.33	1.89	0.29	0.09*	0.58
distance						
Short	0.29	3.52	0.77	0.31	0.08*	1.12
driving distance						
Long-						
driving distance						
Mothers' proximity						
Deceased	0.49	6.29	2.09	2.73	5.33	1.27
Walking	0.50	3.01	1.25	1.84	17.15*	1.58
distance						
Short	0.68	1.83	1.08	1.56	23.79*	1.71
driving distance						
Long-						
driving distance						
Parents' health care need	1.56*	2.05*	1.64*	0.99	0.85	0.94

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Gender differences in support provision to parents-in-law (see Table 22). A greater likelihood of male respondents' provision of financial support only was associated instrumental support received from parents-in-law and a greater likelihood among female respondents was

negatively associated with received long-term financial support from parents-in-law. Between parents-in-law and respondents, both men and women were more likely to provide instrumental support only if they had received instrumental support. Instrumental support from parents-in-law was also associated with a higher likelihood among both male and female respondents to provide both types of support to parents-in-law. In addition, women were more likely to provide both types of support if they had received short-term financial support.

Men were more likely to provide financial support only if they were older, had higher levels of education, or were from rural areas, while higher income was associated with women's higher likelihood of only providing financial support. Rural male respondents were more likely than their urban counterparts to provide instrumental support only. Women were more likely to provide instrumental support only if they had higher incomes. Men were more likely to provide both types of support if they were older, in better health, and from rural area; but were less likely to provide both types of support if they had more siblings. None of these factors were associated with women's likelihood of providing both types of support.

Male respondents were less likely to provide financial support if their mothers-in-law were deceased or if mothers-in-law lived within short-driving distances. These factors were not significant among female respondents. In both male and female samples, no characteristics of parents-in-law were found to be significantly associated with likelihood of providing instrumental support only to parents-in-law. Men were more likely to provide both types of support if their fathers-in-law were deceased but were less likely to do so if their mothers-in-law were deceased. Meanwhile, women were more likely to provide both types of support to parents-in-law if their mothers-in-law were deceased or lived together with them.

The four hypotheses related to research question 2a speculated the factors that could be influential to support provision to parents-in-law by gender. Overall the factors that had influence on men were very different from those that had influence on female respondents.

Table 22

Gender Differences in Factors of Support Provision to Parents-in-law

	Male Respondents			Female Respondents		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents-in-law						
Yes	1.29	0.93	1.62	2.59	1.00	2.97*
No						
Short-term instrumental support from parents-in-law						
Yes	6.35*	71.07*	46.872*	1.39	11.11*	15.52*
No						
Long-term financial support from parents-in-law						
Yes	0.82	0.90	0.95	0.34*	1.76	0.73
No						
Respondents' age	1.06*	1.06	1.07*	0.99	0.99	1.00
Respondents' education	1.17	1.17	1.14	1.15	0.81	1.02
Respondents' house registration						
Rural	3.59*	3.77*	5.46*	1.02	0.52	0.79
Urban						
Respondents' employment						
Employed	2.05	1.23	1.54	1.39	0.74	0.99
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00*	1.00*	1.00
Respondents' time availability						
Flexible	2.02	1.55	1.38	1.59	0.57	1.28

Scheduled but flexible	1.06	1.75	1.34	1.33	0.88	1.34
Fixed Respondents' health	1.25	1.27	1.54*	1.26	1.31	1.19
Respondents' siblings	1.08	1.16	0.99	1.06	0.92	0.95
Spouses' income	1.00	1.00	1.00	1.00	1.00	1.00
Spouses' education	1.03	1.22	1.09	1.07	1.04	1.10
Spouses' working hours(weekly)	1.01	0.99	0.99	0.99	1.01	1.00
Spouses' health	1.23	1.59	0.87	1.51	0.69	1.09
Spouses' siblings	0.82	0.85	0.79	1.14	1.17	1.12
Fathers-in-law' proximity						
Deceased	4.79	2.41	5.79*	2.32	1.32	1.42
Walking distance	0.87	1.04	0.99	0.61	1.37	0.59
Short driving distance	3.91	4.16	5.86	1.57	2.76	1.19
Long-driving distance						
Mothers-in-law' proximity						
Deceased	0.44*	0.15	0.12*	1.02	3.64	4.59*
Walking distance	0.27	0.39	0.81	1.22	4.54	4.67*
Short driving distance	0.16	0.28	0.34	0.44	1.25	
Long-driving distance						
Parents-in-law' health care need	1.15	1.29	1.08	1.06	1.20	1.22

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Gender differences in financial support provision to two sets of parents. As presented in table 23, No factors regarding support exchange were associated with a greater likelihood of providing financial support exclusively to parents across male and female samples. For women, a higher likelihood of providing financial support exclusively to parents-in-law was positively associated with short-term instrumental support from parents-in-law. Men were more likely to provide financial support to both sets of parents when they had received short-term financial support from parents or had received instrumental support from parents-in-law. Short-term financial support from either set of parents also increased women's likelihood of providing financial support to both sets of parents.

Men in better health were more likely to provide financial support exclusively to parents. In the male subsample, it was found that older and rural respondents were more likely to provide financial support to parents-in-law only; while higher likelihood of favoring parents-in-law was only associated with higher level of education in female subsample. Among male respondents, provision of financial support to both sets of parents was more likely if respondents were older, had higher levels of education, and were from rural areas. Female respondents were more likely to provide financial support to both sets of parents if they had higher levels of education. In addition, it seems that women's decision to provide financial support to both sets of parents depended on their husbands' income and health. Husbands' higher income and better health status are associated the women's higher likelihood of providing financial support to both sets of parents. However, no spousal factors were related to men's financial support provision.

None of parents/parents-in-law's characteristics were significant in male sample. Finally, female respondents whose fathers had higher incomes and whose mothers-in-law had died were more likely to provide financial support to both sets of parents.

Table 23

Gender Differences in Financial Support Provision to Two Sets of Parents

	Male Respondents			Female Respondents		
	Parents only	Parents- in-law only	Both sets of parents	Parents only	Parents- in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	3.23	1.42	3.56*	0.97	2.40	2.11*
No						
Short-term instrumental support from parents						
Yes	0.85	0.65	1.46	1.09	0.14*	0.82
No						
Long-term financial support from parents						
Yes	0.45	0.88	0.91	0.66	2.35	0.94
No						
Short-term financial support from parents-in-law						
Yes	0.84	4.49	2.31	1.80	2.71	3.34*
No						
Short-term instrumental support from parents-in-law						
Yes	0.74	2.53	3.50*	0.23	5.48*	1.93
No						
Long-term financial support from parents-in-law						
Yes	1.74	2.11	1.01	3.22	0.32*	0.76
No						
Respondents' age	1.06	1.11*	1.11*	1.00	0.99	1.01
Respondents' education	1.29	1.24	1.34*	1.22	1.37*	1.26*
Respondents' house registration						
Rural	1.00	6.29*	2.82	0.57	0.96	1.01
Urban						
Respondents' employment						

Employed	2.11	2.09	2.35	1.08	0.99	1.42
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.26	1.56	1.76	1.07	1.40	1.86
Scheduled but flexible	0.96	0.38	1.23	1.83	1.78	1.79
Fixed						
Respondents' health	1.96*	1.92	2.01*	0.94	1.34	0.98
Respondents' siblings	0.92	0.92	0.92	1.14	1.23	1.05
Spouses' income	1.00	1.00	1.00	1.00	1.00	1.00*
Spouses' education	1.32	1.36	1.24	0.94	0.93	1.08
Spouses' working hours(weekly)	0.99	1.01	1.00	0.99	0.98	0.99
Spouses' health	0.76	0.69	0.66	1.35	0.99	1.61*
Spouses' siblings	1.09	0.75	0.90	0.76	0.95	0.88
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00*
Fathers' proximity						
Deceased	2.29	4.54	1.58	4.20	0.55	1.74
Walking distance	2.03	1.69	2.34	3.42	0.42	1.08
Short driving distance	0.57	1.61	0.50	7.21*	0.18	1.44
Long-driving distance						
Mothers' proximity						
Deceased	0.93	0.73	0.30	0.79	4.48	1.18
Walking distance	0.17	0.22	0.20	0.32	4.22	1.01
Short driving distance	0.42	0.54	0.49	0.28	7.09*	1.06
Long-driving distance						
Parents' health care need	1.49	1.65*	1.21	1.05	1.24	1.09
Fathers-in-law's proximity						
Deceased	0.81	2.69	3.08	0.54	1.85	0.93
Walking distance	1.73	5.73	1.36	0.67	1.08	0.37
Short driving distance	0.63	23.86	1.54	0.35	2.78	0.45
Long-driving distance						
Mothers-in-law's proximity						
Deceased	2.09	0.48	0.42	4.32	1.55	4.59*
Walking distance	0.51	0.68	0.51	1.35	2.19	2.52

Short driving distance	2.88	0.64	1.12	1.53	0.33	1.59
Long-driving distance						
Parents-in-law health care needs	0.86	0.73	0.97	0.94	0.96	1.05

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Gender differences in instrumental support provision to two sets of parents (see table 24). For male respondents, if instrumental support was received from parents they were more likely to provide instrumental support only to their own parents. For female respondents, provision of instrumental support only to their own parents was not associated with any type of received support. For instrumental support provision to parents-in-law only, both men and women were highly likely to provide such support only to parents-in-law if they had received instrumental support from their parents-in-law. Both men and women were more likely to provide instrumental support to both sets of parents if they had received instrumental support from parents or from parents-in-law. In addition, men were more likely to provide instrumental support to both sets of parents if they had received short-term financial support from parents or from parents-in-law.

For male respondents, a higher likelihood of instrumental support provision was positively associated better health, negatively associated with a higher number of siblings and their spouses' better health. Women who were employed were more likely than their unemployed counterparts to provide instrumental support only to parents and women from rural areas were less likely than their urban counterparts to provide instrumental support only to parents. Women's likelihood of providing instrumental support to parents-in-law only was negatively affected by older age and living in rural areas. Additionally, male respondents who were from rural areas, in better health, had fewer siblings, and whose wives had lower levels of education were more likely to provide

instrumental support to both sets of parents. The only factor that was negatively associated with a higher likelihood for women of providing instrumental support to either set or both sets of parents simultaneously was living in a rural area.

Men were more likely to provide instrumental support to parents only if their mothers were deceased, parents were living together with respondents, or were living within short-driving distances of respondents. None of these factors were significant among female respondents. No factors were found to be associated with the provision instrumental support only to parents-in-law across both male and female subsamples.

The likelihood of men providing instrumental support to both sets of parents increased if either their mother or father were deceased. In addition, men were more likely to provide instrumental support to both sets of parents if their mothers lived with them. Mothers' death or other living arrangements also influenced the male respondents' decisions to provide instrumental support only to parents. None of parents/parents' characteristics were found to significantly influence instrumental support provision among female respondents.

Table 24

Gender differences in Factors of Instrumental Support Provision to Two Sets of Parents

	Male Respondents			Female Respondents		
	Parents only	Parents-in- law only	Both sets of parents	Parents only	Parents-in- law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	2.21	1.33	3.62*	1.92	2.87	2.08
No						
Short-term instrumental support from parents						
Yes	2.52*	0.21*	2.47*	2.30	0.34	3.06*
No						
Long-term financial support from parents						
Yes	0.53	0.69	0.64	1.63	0.96	1.33
No						
Short-term financial support from parents-in- law						
Yes	0.39	1.79	0.45	0.89	1.46	1.47
No						
Short-term instrumental support from parents-in-law						
Yes	1.13	18.09*	15.53*	1.71	19.74*	18.06*
No						
Long-term financial support from parents-in- law						
Yes	1.46	1.81	1.32	1.36	2.11	1.59
No						
Respondents' age	1.02	1.07	1.04	0.99	0.93*	1.01
Respondents' education	1.07	1.25	1.08	1.00	0.88	0.93

Respondents' house registration							
Rural	1.88	2.62	3.68*	0.25*	0.24*	0.29*	
Urban							
Respondents' employment							
Employed	0.52	0.97	0.58	3.00*	1.74	1.85	
Unemployed							
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00	
Respondents' time availability							
Flexible	0.72	1.64	0.68	0.65	0.90	0.64	
Scheduled but flexible	0.89	1.24	1.36	0.69	0.71	0.85	
Fixed							
Respondents' health	1.81*	2.03	2.17*	1.12	1.15	1.16	
Respondents' siblings	0.76*	0.81	0.78*	1.12	0.95	0.99	
Spouses' income	1.00	1.00	1.00	1.00	1.00	1.00	
Spouses' education	0.97	0.67	1.07	0.91	0.98	0.99	
Spouses' working hours(weekly)	1.00	0.99	0.99	0.99	0.99	1.00	
Spouses' health	0.53*	0.62	0.49*	0.62	0.56	0.65	
Spouses' siblings	1.24	1.19	1.06	1.19	1.21	1.17	
Fathers' income	1.00	1.00	1.00	1.00	1.00*	1.00	
Fathers' proximity							
Deceased	2.43	0.19	5.18*	0.74	1.07	0.57	
Walking	1.26	0.16	1.44	0.93	0.47	0.41	
distance							
Short driving	1.04	0.22	1.28	0.62	0.21	0.39	
Long-driving							
distance							
Mothers' proximity							
Deceased	10.49*	6.97	9.14*	0.67	1.89	1.26	
Walking	6.15*	20.68	7.01*	1.07	1.29	2.06	
distance							
Short driving	4.50*	14.13	3.50	1.41	1.58	3.11	
Long-driving							
distance							

Parents' health care need	1.30	1.15	1.39*	1.09	1.35	1.08
Fathers-in-law's proximity						
Deceased	0.47	0.86	0.76	2.55	1.76	1.66
Walking	0.13	0.58	0.18	5.79	2.49	2.68
distance						
Short driving	0.42	2.47	0.95	3.46	4.66	2.01
Long-driving						
distance						
Mothers-in-law's proximity						
Deceased	0.53	0.15	0.58	0.56	0.79	3.59
Walking	5.43	0.57	8.78	0.92	6.18	4.13
distance						
Short driving	1.81	0.47	1.95	0.69	1.02	1.98
Long-driving						
distance						
Parents-in-law health care needs	0.83	0.97	0.84	0.89	0.96	1.12

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Results of Research Question 3

From the results of research questions two, it was seen that that some spousal variables affect the support provision behaviors of both partners. In order to further explore support provision in the context of marriage, a two-model comparison analysis was conducted to provide insight as to the influence that husbands' characteristics have on wives' behaviors, and vice versa. The variables in first model include support received from parents/parents-in-law, respondents' characteristics and characteristics of parents/parents-in-law. Spouses' characteristics and resources were added to model two. This two-model analysis was repeated separately for male and female samples for all four dependent variables.

Spouses' Influence on Support Provision to Parents

The results in Table 25 show that higher incomes of respondents' spouses significantly increased respondents' likelihood of providing financial support only. Increased working hours of spouses was positively associated with a higher likelihood of respondents' provision of instrumental support only. The results of model one analysis revealed that male respondents were less likely to provide instrumental support only than female counterparts but this gender difference disappeared after spouses' variables were added in model two. Gender did not have significant influence on providing financial support only in model one, but the results of model two indicated that male respondents were more likely to provide financial support only compared with female counterparts.

In Table 26, results showed that none of wives' variables had a significant influence on husbands' support provision to parents. Moreover, when variables regarding spouses were added in model two, none of the significant levels remained unchanged.

The influence of husbands' variables on their wives' support provision to parents is presented in Table 27. Female respondents' whose husbands worked more hours every week were more likely to provide instrumental support only. When husbands' were in better health female respondents' likelihood of providing financial support only increased. Also, a greater number of husbands' siblings, the higher the likelihood of providing instrumental support only.

The effect of received instrumental support on the practice of instrumental support provision was still significant from model one to model two but the direction changed from negative to positive. Female respondents' employment status on provision of both types of support changed from not significant in model one to being significant in model two.

Table 25

Spouses' Influence of Support Provision to Parents

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Gender						
Male	1.68	0.52	0.81	2.40*	0.56	1.00
Female						
Short-term financial support from parents						
Yes	0.88	0.60	1.36	0.90	0.59	1.40
No						
Short-term instrumental support from parents						
Yes	0.99	4.59*	5.23*	0.94	4.75*	5.01*
No						
Long-term financial support from parents						
Yes	0.96	1.56	1.01	1.06	1.67	1.08
No						
Respondents' age	0.99	1.01	1.03	0.99	1.01	1.03
Respondents' education	1.16	0.96	1.11	1.10	0.95	1.08
Respondents' house registration						
Rural	0.86	0.93	0.99	0.81	0.87	0.97
Urban						
Respondents' employment						
Employed	1.64	1.61	1.59	1.86	1.73	1.69
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.26	0.46	0.83	1.22	0.41*	0.82
Scheduled but flexible	0.88	0.58	0.97	0.88	0.56	0.96
Fixed						

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 26

Wives' Influence on Male Respondents' Support Provision to Parents

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	1.45	1.32	2.01	1.44	1.32	2.69
No						
Short-term instrumental support from parents						
Yes	1.19	4.11*	5.69*	1.14	4.17*	6.02*
No						
Long-term financial support from parents						
Yes	1.17	1.34	0.89	1.26	1.44	0.92
No						
Respondents' age	1.04	0.98	1.04	1.03	0.98	1.03
Respondents' education	1.26*	1.02	1.17	1.24	1.01	1.17
Respondents' house registration						
Rural	0.57	1.18	1.09	0.49	1.06	0.94
Urban						
Respondents' employment						
Employed	2.03	0.60	1.17	2.44	0.59	1.23
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.66	0.59	0.82	1.69	0.59	0.80
Scheduled but flexible	1.58	0.89	1.57	1.69	0.92	1.59
Fixed						
Respondents' health	1.82	1.93	2.07*	1.82	2.06*	2.48*
Respondents' siblings	1.25	1.10	1.08	1.23	1.07	1.00
Fathers' income	1.00	1.00	1.00*	1.00	1.00	1.00*
Fathers' proximity						

Deceased	2.27	56.92*	9.61*	2.67	70.13*	11.54*
Walking distance	0.36	2.09	1.67	0.43	2.33	1.89
Short driving distance	0.28	3.11	0.69	0.29	3.52	0.77
Long-driving distance						
Mothers' proximity						
Deceased	0.50	5.44	2.17	0.49	6.29	2.09
Walking distance	0.59	2.84	1.38	0.50	3.01	1.25
Short driving distance	0.70	1.81	1.19	0.68	1.83	1.08
Long-driving distance						
Parents' health care need	1.61*	2.09*	1.72*	1.56*	2.05*	1.64*
Spouses' income				1.00	1.00	1.00
Spouses' education				1.19	1.28	1.28
Spouses' working hours(weekly)				1.00	1.01	1.00
Spouses' health				0.97	0.88	0.66
Spouses' siblings				0.94	0.96	1.05

Note: reference group of each categorical variable the last group. *p<0.05 *p<0.01

Table 27

Husbands' Influence on Female Respondents' Support Provision to Parents

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	8.53	0.45	1.01	0.86	0.42	1.03
No						
Short-term instrumental support from parents						
Yes	0.94	0.52*	5.89*	0.88	5.81*	5.72*
No						
Long-term financial support from parents						
Yes	0.80	1.79	1.17	0.89	2.03	1.26
No						
Respondents' age	0.97	1.02	1.03	0.97	1.03	1.04
Respondents' education	1.04	0.91	1.04	1.01	0.94	1.03
Respondents' house registration						
Rural	1.02	0.69	0.71	0.95	0.67	0.74
Urban						
Respondents' employment						
Employed	1.56	2.29*	1.88	1.83	2.49*	2.07*
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	0.80	0.33	0.66	0.76	0.28*	0.67
Scheduled but flexible	0.51	0.45	0.73	0.56	0.43	0.79
Fixed						
Respondents' health	1.01	0.95	1.02	0.86	1.07	0.93
Respondents' siblings	1.05	1.23	1.06	1.01	1.12	1.05
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00
Fathers' proximity						
Deceased	0.31	0.57*	0.51	0.33	0.03*	0.57
Walking distance	0.26	0.12*	0.49	0.29	0.09*	0.58

Short driving distance	0.36	0.11*	1.08	0.31	0.08*	1.12
Long-driving distance						
Mothers' proximity						
Deceased	2.18	5.09	1.28	2.73	5.33	1.27
Walking distance	1.68	11.86*	1.67	1.84	17.15*	1.58
Short driving distance	1.41	18.44*	1.82	1.56	23.79*	1.71
Long-driving distance						
Parents' health care need	0.96	0.90	0.92	0.99	0.85	0.94
Spouses' income				1.00	1.00	1.00
Spouses' education				0.96	0.88	0.98
Spouses' working hours(weekly)				1.02	1.03*	1.02
Spouses' health				1.82*	0.79	1.30
Spouses' siblings				1.25	1.47*	1.10

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Spouses' Influence on Support Provision to Parents-in-law

Table 28 shows the influence of spouses' variables on respondents' support provision to parents-in-law. There were only two variables' that had changed significant levels across two models. Gender also changed from nonsignificant to significant. Men became more likely provide only financial support to parents-in-law with wives' variables added in model two. Parents-in-law's health care needs changed from significant to not significant from model one to model two.

The results of the influence of wives' variables on male respondents' support provision to parents-in-law are presented in Table 29. None of wives' variables were significant in model two, indicating wives had very little influence on their husbands' support provision to parents-in-law. Moreover, none of the variables' significant levels had changed across two models

Table 30 presents the results of husbands' influence on wives' support provision to parents-in-law. None of the husbands' variables were significantly influenced husbands' support

provision. If mothers-in-law were deceased or lived nearby, female respondents were more likely to provide both types of support, but these associations were not significant in model one.

Table 28

Spouses' Influence on Support Provision to Parents-in-law

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Gender						
Male	1.64	0.55	0.66	1.92*	0.59	0.73
Female						
Short-term financial support from parents-in-law						
Yes	1.65	0.86	2.05*	1.69	0.89	2.11*
No						
Short-term instrumental support from parents-in-law						
Yes	2.58*	18.46*	19.85*	2.57*	19.11*	20.24*
No						
Long-term financial support from parents-in-law						
Yes	0.59*	1.42	0.82	0.59*	1.42	0.82
No						
Respondents' age	1.02	1.02	1.02	1.02	1.01	1.02
Respondents' education	1.15*	0.97	1.07	1.13*	0.96	1.06
Respondents' house registration						
Rural	1.46	1.09	1.58	1.45	1.01	1.52
Urban						
Respondents' employment						
Employed	1.44	0.81	1.06	1.53	0.85	1.09
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.75	0.91	1.34	1.76	0.88	1.35

Scheduled but flexible	1.06	1.26	1.33	1.06	1.23	1.31
Fixed Respondents' health	1.28	1.16	1.23	1.18	1.25	1.27
Respondents' siblings	1.05	1.05	0.99	1.04	1.01	0.97
Fathers-in-law' proximity						
Deceased	1.71	1.05	1.84	1.97	0.97	1.79
Walking distance	0.59	1.04	0.87	0.61	0.90	0.79
Short driving distance	1.36	1.87	1.67	1.40	1.79	1.58
Long-driving distance						
Mothers-in-law' proximity						
Deceased	0.37	1.77	1.37	0.42	1.88	1.54
Walking distance	0.69	1.96	1.88	0.73	2.28	2.12
Short driving distance	0.44	0.94	1.07	0.44	1.03	1.17
Long-driving distance						
Parents-in-law' health care need	1.11	1.25*	1.17*	1.15	1.23*	1.16
Spouses' income				1.00	1.00	1.00
Spouses' education				1.04	1.12	1.11
Spouses' working hours(weekly)				1.01	1.01	1.00
Spouses' health				1.27	0.85	0.94
Spouses' siblings				1.02	1.04	0.98

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 29

Wives' Influence on Male respondents' Support provision to Parents-in-law

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents-in-law						
Yes	1.19	0.89	1.58	1.29	0.93	1.62
No						
Short-term instrumental support from parents-in-law						
Yes	6.45*	69.07*	45.07*	6.35*	71.07*	46.87*
No						
Long-term financial support from parents-in-law						
Yes	0.81	0.89	0.94	0.82	0.90	0.95
No						
Respondents' age	1.06*	1.06	1.06*	1.06*	1.06	1.07*
Respondents' education	1.17*	1.18	1.13	1.17	1.17	1.14
Respondents' house registration						
Rural	3.47*	3.89*	5.49*	3.59*	3.77*	5.46*
Urban						
Respondents' employment						
Employed	1.94	1.43	1.58	2.05	1.23	1.54
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	2.04	1.53	1.39	2.02	1.55	1.38
Scheduled but flexible	0.99	1.75	1.28	1.06	1.75	1.34
Fixed						

Respondents' health	1.36	1.59	1.47*	1.25	1.27	1.54*
Respondents' siblings	1.01	1.13	0.95	1.08	1.16	0.99
Fathers-in-law' proximity						
Deceased	3.87	1.84	6.16*	4.79*	2.41	5.79*
Walking	0.72	0.91	1.12	0.87	1.04	0.99
distance						
Short driving	3.40	3.65	6.12*	3.91	4.16	5.86
Long-driving						
distance						
Mothers-in-law' proximity						
Deceased	0.06*	0.15	0.14*	0.04*	0.15	0.12*
Walking	0.33	0.52	0.82	0.27	0.39	0.81
distance						
Short driving	0.18	0.29	0.32	0.16	0.28	0.34
Long-driving						
distance						
Parents-in-law' health care need	1.12	1.23	1.11	1.15	1.29	1.08
Spouses' income				1.00	1.00	1.00
Spouses' education				1.03	1.22	1.09
Spouses' working hours(weekly)				1.01	0.99	0.99
Spouses' health				1.23	1.59	0.87
Spouses' siblings				0.82	0.85	0.79

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 30

Husbands' influence on Female Respondents' Support Provision to Parents-in-law

	Model 1			Model 2		
	Financial support only	Instrumental support only	Both types of support	Financial support only	Instrumental support only	Both types of support
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents-in-law						
Yes	2.53	0.97	2.77*	2.59	1.00	2.97*
No						
Short-term instrumental support from parents-in-law						
Yes	1.30	10.14*	14.29*	1.39	11.11*	15.52*
No						
Long-term financial support from parents-in-law						
Yes	0.33*	1.74	0.71	0.34*	1.76	0.73
No						
Respondents' age	0.99	1.00	1.01	0.99	0.99	1.00
Respondents' education	1.17	0.81	1.03	1.15	0.81	1.02
Respondents' house registration						
Rural	1.04	0.55	0.81	1.02	0.52	0.79
Urban						
Respondents' employment						
Employed	1.34	0.68	0.92	1.39	0.74	0.99
Unemployed						
Respondents' income	1.00*	1.00*	1.00	1.00*	1.00*	1.00
Respondents' time availability						
Flexible	1.48	0.58	1.24	1.59	0.57	1.28
Scheduled but flexible	1.25	0.86	1.27	1.33	0.88	1.34
Fixed						

Respondents' health	1.47	1.11	1.23	1.26	1.31	1.19
Respondents' siblings	1.13	1.00	1.02	1.06	0.92	0.95
Fathers-in-law' proximity						
Deceased	1.99	1.32	1.29	2.32	1.32	1.42
Walking	0.63	1.46	0.61	0.61	1.37	0.59
distance						
Short driving	1.62	2.55	1.25	1.57	2.76	1.19
distance						
Long-driving						
distance						
Mothers-in-law' proximity						
Deceased	0.73	3.67	3.58	1.02	3.64	4.59*
Walking	1.29	3.81	4.05	1.22	4.54	4.67*
distance						
Short driving	0.44	1.23	1.36	0.44	1.25	1.46
distance						
Long-driving						
distance						
Parents-in-law' health care need	1.01	1.24	1.19	1.06	1.20	1.22
Spouses' income				1.00	1.00	1.00
Spouses' education				1.07	1.04	1.10
Spouses' working hours(weekly)				0.99	1.01	1.00
Spouses' health				1.51	0.69	1.09
Spouses' siblings				1.14	1.17	1.12

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Influence of Spouses' Characteristics on Financial Support Provision to Two Sets of Parents

As seen in table 31, spouses' income increased adult children's likelihood of providing financial support to both sets of parents. However, only one variable's significance level was changed after spouses' variables were added in the second model analysis. In model one,

healthier respondents were more likely to provide financial support to both sets of parents.

However, this variable was not significant with the addition of spousal variables in model two.

Table 32 shows the influence of wives' variables on husbands financial support provision. None of the variables concerning wives' resources and characteristics were found to be significant, however some changes in significance levels were observed. In model one, older male respondents were more likely to provide financial support to parents only, but age was not significant relative to providing financial support to parents-in-law in model two.

Table 33 shows the effect of husbands' variables on wives' financial support provision. Again, husbands' income and health were positively related to higher likelihood of providing financial support provision to both sets of parents. The significance level of some variables changed from insignificant to significant from one model to the other. Also, female respondents' with higher fathers' incomes were more likely to provide financial support to both sets of parents. If female respondents' mothers-in-laws were deceased, female respondents were more likely to provide financial support to both sets of parents. This significant effect was not observed in model one (before their husbands' variables were added).

Table 31

Spouses' Influence on Financial Support to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents-in-law only	Both sets of parents	Parents only	Parents-in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Gender						
Male	2.16*	1.51	1.55	2.59*	1.52	1.94*
Female						
Short-term financial support from parents						
Yes	1.39	1.86	2.08*	1.47	1.89	2.19*
No						
Short-term instrumental support from parents						
Yes	0.95	0.27*	1.09	0.89	0.27*	1.02
No						
Long-term financial support from parents						
Yes	0.50*	1.34	0.84	0.51*	1.37	0.86
No						
Short-term financial support from parents-in-law						
Yes	1.57	2.85*	2.36*	1.56	2.76*	2.37*
No						
Short-term instrumental support from parents-in-law						
Yes	0.42*	3.54*	2.13*	0.415*	3.51*	2.14*
No						
Long-term financial support from parents-in-law						
Yes	2.23*	0.69	0.89	2.19*	0.67	0.87
No						
Respondents' age	1.00	1.02	1.03*	1.00	1.02	1.03
Respondents' education	1.26*	1.26*	1.29*	1.25*	1.26*	1.26*
Respondents' house registration						
Rural	0.67	1.64	1.38	0.69	1.69	1.41
Urban						

Respondents' employment						
Employed	1.21	1.28	1.42	1.28	1.32	1.51
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.31	1.31	1.72	1.38	1.37	1.81
Scheduled but flexible	1.45	1.03	1.44	1.50	1.07	1.49
Fixed						
Respondents' health	1.29	1.37	1.31*	1.20	1.42	1.22
Respondents' siblings	1.00	1.02	0.98	1.02	1.05	0.99
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00*
Fathers' proximity						
Deceased	2.46	0.99	1.31	2.84	1.04	1.50
Walking distance	1.94	0.66	1.22	2.28	0.72	1.45
Short driving distance	1.89	0.39	0.89	2.12	0.42	1.00
Long-driving distance						
Mothers' proximity						
Deceased	1.16	3.09	0.83	1.11	2.99	0.81
Walking distance	0.42	2.10	0.84	0.37	1.94	0.73
Short driving distance	0.47	3.14	0.98	0.44	3.02	0.92
Long-driving distance						
Parents' health care need	1.17	1.34*	1.08	1.17	1.34*	1.08
Fathers-in-law's proximity						
Deceased	0.69	1.77	1.36	0.77	1.86	1.52
Walking distance	0.83	0.98	0.59	0.84	0.99	0.59
Short driving distance	0.56	3.02	0.74	0.54	3.16	0.72
Long-driving distance						
Mothers-in-law's proximity						
Deceased	3.36	0.71	1.85	3.91	0.67	2.20
Walking distance	1.32	1.39	1.55	1.35	1.32	1.59
Short driving distance	1.74	0.31	1.39	1.82	0.30	1.47
Long-driving distance						

Parents-in-law health care needs	0.93	0.89	1.01	0.95	0.89	1.04
Spouses' income				1.00	1.00	1.00*
Spouses' education				1.08	1.03	1.09
Spouses' working hours(weekly)				1.00	0.99	1.00
Spouses' health				1.22	0.97	1.21
Spouses' siblings				0.91	0.89	0.918

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 32

Wives Influence on Husbands' Financial Support Provision to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents- in-law only	Both sets of parents	Parents only	Parents- in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	3.39*	1.54	3.78*	3.23	1.42	3.56*
No						
Short-term instrumental support from parents						
Yes	0.89	0.62	1.47	0.85	0.65	1.46
No						
Long-term financial support from parents						
Yes	0.44	0.79	0.87	0.45	0.88	0.91
No						
Short-term financial support from parents- in-law						
Yes	0.79	3.98	1.21	0.84	4.49	2.31
No						
Short-term instrumental support from parents- in-law						
Yes	0.81	2.76	3.19*	0.74	2.53	3.50*
No						
Long-term financial support from parents- in-law						
Yes	1.79	2.76	1.06	1.74	2.11	1.01
No						
Respondents' age	1.08*	1.12*	1.12*	1.06	1.11*	1.11*
Respondents' education	1.29*	1.22	1.31*	1.29	1.24	1.34*
Respondents' house registration						
Rural	1.15	7.09*	3.06	1.00	6.29*	2.82
Urban						
Respondents' employment						
Employed	2.15	2.05	2.34	2.11	2.09	2.35
Unemployed						

Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	1.35	1.63	1.79	1.26	1.56	1.76
Scheduled but flexible	1.04	0.37	1.17	0.96	0.38	1.23
Fixed						
Respondents' health	1.88*	1.77	1.84*	1.96*	1.92	2.01*
Respondents' siblings	1.00	0.89	0.93	0.92	0.92	0.92
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00
Fathers' proximity						
Deceased	1.52	3.21	1.13	2.29	4.54	1.58
Walking distance	1.37	1.24	1.66	2.03	1.69	2.34
Short driving distance	0.42	0.88	0.39	0.57	1.61	0.50
Long-driving distance						
Mothers' proximity						
Deceased	1.09	0.87	0.37	0.93	0.73	0.30
Walking distance	0.27	0.31	0.29	0.17	0.22	0.20
Short driving distance	0.53	0.73	0.64	0.42	0.54	0.49
Long-driving distance						
Parents' health care need	1.48	1.64*	1.21	1.49	1.65*	1.21
Fathers-in-law's proximity						
Deceased	0.90	2.69	3.55	0.81	2.69	3.08
Walking distance	2.31	6.75	1.68	1.73	5.73	1.36
Short driving distance	0.67	22.96	1.57	0.63	23.86	1.54
Long-driving distance						
Mothers-in-law's proximity						
Deceased	1.88	0.55	0.45	2.09	0.48	0.42
Walking distance	0.39	0.06	0.43	0.51	0.68	0.51
Short driving distance	2.63	0.06	1.08	2.88	0.64	1.12
Long-driving distance						
Parents-in-law health care needs	0.92	0.78	1.04	0.86	0.73	0.97
Spouses' income				1.00	1.00	1.00
Spouses' education				1.32	1.36	1.24

Spouses' working hours(weekly)	0.99	1.01	1.00
Spouses' health	0.76	0.69	0.66
Spouses' siblings	1.09	0.75	0.90

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 33

Husbands' Influence on Wives Financial Support Provision to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents- in-law only	Both sets of parents	Parents only	Parents- in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	1.01	2.28	2.01	0.97	2.40	2.11*
No						
Short-term instrumental support from parents						
Yes	1.12	0.15*	0.87	1.09	0.14*	0.82
No						
Long-term financial support from parents						
Yes	0.65	2.18	0.94	0.66	2.35	0.94
No						
Short-term financial support from parents-in- law						
Yes	1.89	2.69	3.23*	1.80	2.71	3.34*
No						
Short-term instrumental support from parents-in- law						
Yes	0.26*	5.75*	2.02*	0.23	5.48*	1.93
No						
Long-term financial support from parents-in- law						
Yes	3.13*	0.34*	0.75	3.22	0.32*	0.76
No						
Respondents' age	0.99	0.99	1.00	1.00	0.99	1.01
Respondents' education	1.23	1.37*	1.28*	1.22	1.37*	1.26*
Respondents' house registration						
Rural	0.49	0.86	0.92	0.57	0.96	1.01
Urban						
Respondents' employment						
Employed	1.01	0.99	1.27	1.08	0.99	1.42
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00

Respondents' time availability						
Flexible	0.95	1.33	1.69	1.07	1.40	1.86
Scheduled but flexible	1.65	1.71	1.59	1.83	1.78	1.79
Fixed						
Respondents' health	1.05	1.28	1.18	0.94	1.34	0.98
Respondents' siblings	0.99	1.16	1.01	1.14	1.23	1.05
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00*
Fathers' proximity						
Deceased	2.77	0.56	1.35	4.21	0.55	1.74
Walking distance	2.81	0.43	0.85	3.42	0.42	1.08
Short driving distance	5.95*	0.18	1.21	7.21*	0.18	1.44
Long-driving distance						
Mothers' proximity						
Deceased	0.77	4.35	1.19	0.79	4.48	1.18
Walking distance	0.34	4.17	1.22	0.32	4.22	1.01
Short driving distance	0.27	6.65*	1.15	0.28	7.09*	1.06
Long-driving distance						
Parents' health care need	0.99	1.25	1.06	1.05	1.24	1.09
Fathers-in-law's proximity						
Deceased	0.52	1.81	0.77	0.54	1.85	0.93
Walking distance	0.67	0.99	0.34	0.67	1.08	0.37
Short driving distance	0.38	2.73	0.50	0.35	2.78	0.45
Long-driving distance						
Mothers-in-law's proximity						
Deceased	3.72	1.59	3.26	4.32	1.55	4.59*
Walking distance	1.34	2.43	2.58	1.35	2.19	2.52
Short driving distance	1.40	0.37	1.51	1.53	0.33	1.59
Long-driving distance						
Parents-in-law health care needs	0.94	0.93	0.99	0.94	0.96	1.05
Spouses' income				1.00	1.00	1.00*
Spouses' education				0.94	0.93	1.08
Spouses' working				0.99	0.98	0.99

hours(weekly)			
Spouses' health	1.35	0.99	1.61*
Spouses' siblings	0.76	0.95	0.88

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Spouses influence on instrumental support provision to two sets of parents

Table 34 presents the influence of spouses on instrumental support provision to two sets of parents simultaneously. Only spouses' health was significantly negatively associated with higher likelihood of providing instrumental support to parents only, to parents-in-law only, and to both sets of parents. In model two, healthier respondents were more likely to provide instrumental support exclusively to parents or exclusively to parents-in-law. Respondents were more likely to provide instrumental support to parents-in-law if their own mothers lived nearby or their fathers-in-law lived within short-driving distances. These associations were not significant in model one. The influence of fathers' income's on provision of instrumental support to parents-in-law changed from significant to not significant across two models.

The influences of wives' variables on husbands' support provision are presented in Table 35. Spouses' health was negatively associated with likelihood of providing instrumental support only to parents and to both sets of parents. From model one to model two, two associations changed from significant to not significant. Older respondents were more likely to provide instrumental support exclusively to parents-in-law, and respondents were more likely to focus on parents-in-law if their own mothers lived nearby. Parents' overall health care needs were also positively associated with higher likelihood of providing instrumental support to parents only in model two but was not significant in model one when wives' variables were left out of analysis.

Table 36 shows the very limited influence that husbands' variables have on their wives' instrumental support provision. None of the husbands' variables were significant when added to

model two and there was only one change in significance level from model one to model two.

The change was that employed respondents were more likely to provide instrumental support to both sets of parents. However, this association disappeared in model two.

Table 34

Spouses' Influence on Instrumental Support to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents- in-law only	Both sets of parents	Parents only	Parents- in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Gender						
Male	0.57*	0.29*	0.30*	0.53*	0.28*	0.29*
Female						
Short-term financial support from parents						
Yes	1.59	1.79	2.18*	1.55	1.72	2.14*
No						
Short-term instrumental support from parents						
Yes	2.51*	0.35*	2.93*	2.58*	0.35*	2.91*
No						
Long-term financial support from parents						
Yes	0.93	0.64	0.86	0.86	0.64	0.83
No						
Short-term financial support from parents- in-law						
Yes	0.62	1.24	0.84	0.67	1.31	0.90
No						
Short-term instrumental support from parents- in-law						
Yes	0.96	13.11*	10.50*	0.96	13.38*	10.62 *
No						
Long-term financial support from parents- in-law						
Yes	1.23	1.83	1.38	1.28	1.88	1.40
No						
Respondents' age	1.01	0.98	1.03	1.01	0.98	1.02
Respondents' education	1.04	1.05	1.00	1.06	1.06	1.02
Respondents' house registration						
Rural	0.76	0.81	1.12	0.44	0.82	1.11
Urban						

Respondents' employment						
Employed	1.54	1.19	1.17	1.44	1.10	1.11
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	0.84	1.32	0.77	0.82	1.30	0.76
Scheduled but flexible	0.93	1.32	1.21	0.91	1.28	1.18
Fixed						
Respondents' health	1.19	1.25	1.27	1.34	1.44	1.45*
Respondents' siblings	0.98	0.92	0.94	0.94	0.91	0.94
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00
Fathers' proximity						
Deceased	1.73	1.30	1.89	1.67	1.19	1.81
Walking distance	1.53	0.53	0.98	1.41	0.48	0.94
Short driving distance	1.09	0.43	0.85	1.04	0.39	0.82
Long-driving distance						
Mothers' proximity						
Deceased	2.58	3.36	3.35*	2.79	3.61	3.54
Walking distance	1.86	3.06	3.91*	2.00	3.47	3.51
Short driving distance	1.86	2.03	2.59*	1.89	2.25	2.64
Long-driving distance						
Parents' health care need	1.15	1.34*	1.19	1.17	1.33*	1.19
Fathers-in-law's proximity						
Deceased	1.75	1.91	1.49	1.40	1.66	1.18
Walking distance	1.80	0.99	1.48	1.69	0.97	1.30
Short driving distance	1.44	3.97	1.51	1.33	3.94	1.33
Long-driving distance						
Mothers-in-law's proximity						
Deceased	0.55	0.37	1.60	0.51	0.35	1.61
Walking distance	0.76	3.18	2.12	0.81	3.33	2.39
Short driving distance	0.78	0.67	1.57	0.82	0.68	1.79
Long-driving distance						

Parents-in-law health care needs	0.95	0.97	1.05	0.91	0.94	1.00
Spouses' income				1.00	1.00	1.00
Spouses' education				0.93	0.93	1.04
Spouses' working hours(weekly)				1.00	0.99	1.00
Spouses' health				0.69	0.63	0.65*
Spouses' siblings				1.16	1.11	1.06

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 35

Wives' Influence on Husbands' Instrumental Support Provision to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents- in-law only	Both sets of parents	Parents only	Parents- in-law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	2.19	1.38	3.71*	2.21	1.33	3.62*
No						
Short-term instrumental support from parents						
Yes	2.58*	0.36*	2.52*	2.52*	0.21*	2.47*
No						
Long-term financial support from parents						
Yes	0.62	0.66	0.69	0.53	0.69	0.64
No						
Short-term financial support from parents- in-law						
Yes	0.38	1.79	0.46	0.39	1.79	0.45
No						
Short-term instrumental support from parents-in-law						
Yes	1.16	17.66*	14.90*	1.13	18.09*	15.53*
No						
Long-term financial support from parents- in-law						
Yes	1.34	1.95	1.26	1.46	1.81	1.32
No						
Respondents' age	1.02	1.07	1.04	1.02	1.07	1.04
Respondents' education	1.07	1.21	1.06	1.07	1.25	1.08
Respondents' house registration						
Rural	1.84	2.48	3.75*	1.88	2.62	3.68*
Urban						
Respondents'						

employment						
Employed	0.56	1.02	0.66	0.52	0.97	0.58
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	0.76	1.73	0.72	0.72	1.64	0.68
Scheduled but flexible	0.96	1.49	1.45	0.89	1.24	1.36
Fixed						
Respondents' health	1.47	1.92	1.71*	1.81*	2.03	2.17*
Respondents' siblings	0.83	0.79	0.83*	0.76*	0.81	0.78*
Fathers' income	1.00	1.00	1.00	1.00	1.00	1.00
Fathers' proximity						
Deceased	2.53	0.31	5.24*	2.43	0.19	5.18*
Walking distance	1.61	0.19	1.73	1.26	0.16	1.44
Short driving distance	1.17	0.37	1.39	1.04	0.22	1.28
Long-driving distance						
Mothers' proximity						
Deceased	7.85*	4.57	7.37*	10.49*	6.97	9.14*
Walking distance	4.53	13.41*	5.24*	6.15*	20.68	7.01*
Short driving distance	3.98	7.52	3.17	4.50*	14.13	3.50
Long-driving distance						
Parents' health care need	1.26	1.14	1.37*	1.30	1.15	1.39*
Fathers-in-law's proximity						
Deceased	0.83	1.44	1.32	0.47	0.86	0.76
Walking distance	0.23	0.79	0.35	0.13	0.58	0.18
Short driving distance	0.59	3.61	1.33	0.42	2.47	0.95
Long-driving distance						
Mothers-in-law's proximity						
Deceased	0.42	0.12	0.49	0.53	0.15	0.58
Walking distance	3.29	0.52	5.49	5.43	0.57	8.78
Short driving distance	1.33	0.36	1.43	1.81	0.47	1.95
Long-driving distance						
Parents-in-law health	0.91	1.03	0.93	0.83	0.97	0.84

care needs			
Spouses' income	1.00	1.00	1.00
Spouses' education	0.97	0.67	1.07
Spouses' working hours(weekly)	1.00	0.99	0.99
Spouses' health	0.53*	0.62	0.49*
Spouses' siblings	1.24	1.19	1.06

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

Table 36

Husbands' Influence on Wives' Instrumental Support Provision to Two Sets of Parents

	Model 1			Model 2		
	Parents only	Parents-in- law only	Both sets of parents	Parents only	Parents-in- law only	Both sets of parents
	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)	Exp(B)
Short-term financial support from parents						
Yes	1.87	2.76	1.99	1.92	2.87	2.08
No						
Short-term instrumental support from parents						
Yes	2.23	0.36	3.09*	2.30	0.34	3.06*
No						
Long-term financial support from parents						
Yes	1.74	0.98	1.39	1.63	0.96	1.33
No						
Short-term financial support from parents-in- law						
Yes	0.77	1.24	1.25	0.89	1.46	1.47
No						
Short-term instrumental support from parents-in-law						
Yes	1.63	17.09*	16.11*	1.71	19.74*	18.06*
No						
Long-term financial support from parents-in- law						
Yes	1.32	2.06	1.57	1.36	2.11	1.59
No						
Respondents' age	0.99	0.94*	1.01	0.99	0.93*	1.01
Respondents' education	0.96	0.87	0.89	1.00	0.88	0.93

Respondents' house registration						
Rural	0.25*	0.24*	0.29*	0.25*	0.24*	0.29*
Urban						
Respondents' employment						
Employed	3.48*	1.97	1.99	3.00*	1.74	1.85
Unemployed						
Respondents' income	1.00	1.00	1.00	1.00	1.00	1.00
Respondents' time availability						
Flexible	0.69	0.98	0.70	0.65	0.90	0.64
Scheduled but flexible	0.72	0.75	0.86	0.69	0.71	0.85
Fixed						
Respondents' health	0.94	0.94	0.99	1.12	1.15	1.16
Respondents' siblings	1.17	1.02	1.06	1.12	0.95	0.99
Fathers' income	1.00	1.00*	1.00	1.00	1.00*	1.00
Fathers' proximity						
Deceased	0.88	1.28	0.66	0.74	1.07	0.57
Walking	1.17	0.56	0.45	0.93	0.47	0.41
distance						
Short driving distance	0.67	0.24	0.41	0.62	0.21	0.39
Long-driving distance						
Mothers' proximity						
Deceased	0.68	1.89	1.28	0.67	1.89	1.26
Walking	0.94	1.14	1.98	1.07	1.29	2.06
distance						
Short driving distance	1.42	1.54	3.21	1.41	1.58	3.11
Long-driving distance						
Parents' health care need	1.06	1.34	1.06	1.09	1.35	1.08
Fathers-in-law's proximity						
Deceased	3.45	2.19	2.07	2.55	1.76	1.66
Walking	5.17	2.23	2.55	5.79	2.49	2.68
distance						

Short driving distance	3.51	4.38	2.08	3.46	4.66	2.01
Long-driving distance						
Mothers-in-law's proximity						
Deceased	0.75	0.89	3.98	0.56	0.79	3.59
Walking distance	0.95	5.81	3.79	0.92	6.18	4.13
Short driving distance	0.64	0.92	1.71	0.69	1.02	1.98
Long-driving distance						
Parents-in-law health care needs	0.98	1.02	1.19	0.89	0.96	1.12
Spouses' income				1.00	1.00	1.00
Spouses' education				0.91	0.98	0.99
Spouses' working hours(weekly)				0.99	0.99	1.00
Spouses' health				0.62	0.56	0.65
Spouses' siblings				1.19	1.21	1.17

Note: reference group of each categorical variable the last group. *p<0.05 **p<0.01

CHAPTER FIVE

DISCUSSION

This chapter provides a discussion of the results presented in the previous chapter. Through analyses of a Chinese national survey dataset, this study explored old age support provision to parents and parents-in-law. The present study began to address a major research gap by including and focusing on parents-in-law in the examination of old age support. The previous focus of most studies was primarily on old age support to parents only. Several interesting features of family old age support phenomena in contemporary China were identified, including the blurring of relationship boundaries and gender roles in old age support norms. As a result, a more collaborative relationship of married couples formed when there were two sets of parents in need of support. In addition, a surprising sustainability of the traditional norms related to family-based old age support was found among only-children. Social work practice, policy, and research implications are suggested based on these findings.

Old Age Support to Parents

Adult children's support to their own parents was found to be strong and pervasive. This finding confirmed those of previous studies about support provision along traditional norms. Provision of support to parents was not only reciprocal, but also largely dependent on children's capacity to provide financial and instrumental support and on the parents' needs (e.g. Lee & Xiao, 1998; Sun, 2002). For instance, parents were more likely to have received adult children's support if they provided short-term instrumental support to their children. Longer working hours decreased adult children's ability to provide instrumental support; greater geographical distance from parents was an obstacle to provision of instrumental support.

The normative gendered labor division did not seem to hold true. When the support recipients were parents, the most common old age support practice was to provide both financial and instrumental support. Both men and women were found to be equally involved in this type of old age support provision (see Table 9). However, a lack of evidence in support of a gendered labor division may be attributed to limitations in the collection of the data. Parents in the survey were specifically defined and operationalized as biological parents and were not grouped together with parents-in-law. To some extent, this study is more accurate in terms of describing support patterns to biological parents. Another possibility is that gender differences are gradually diminishing in contemporary Chinese families given that data used in the present study was more recent than most previous studies that found pervasive gender differences.

Old Age Support to Parents-in-law

The most significant and interesting finding of the present study was the strong evidence of the inclusiveness of parents-in-law in the couples' family lives (see Table 7). A majority of the respondents in the study provided both financial and instrumental support to their parents-in-law. Few respondents engaged in only one type of support. This seems to be different, compared with their counterparts in other cultures in which adult children often focus on only one type of support (Shuey & Hardy, 2003). Support of parents-in-law was reported in several studies that used regional data in China (e.g. Cong, & Silverstein, 2008; Cooney & Di, 1999; Zhan & Montgomery, 2003), and this study, using national data, revealed that adult children's support for parents-in-law was not an isolated phenomenon. Moreover adult children's support to their parents-in-law is pervasive and comprehensive.

Factors that Influence Support Provision

The present study explored three main sets of variables that have been linked to old age support provision: reciprocity, adult children's resources, and parents-in-law's needs. Findings suggested that these factors were related to support provided to parents and were also relevant to support for parents-in-law in the modern Chinese family (see Table 18).

Reciprocity. Provision of old age instrumental support to parents-in-law was found to be highly reciprocal in nature with instrumental support received from parents-in-law. Consistent with mutual aid relationships found between adult children and parents in families in China and other cultures (e.g. Brody, 1986; Kivett, 1984; Lee, & Xiao, 1998; Whyte, 2002), the results of the present study suggest that reciprocity is a strong motive for intergenerational caregiving including exchange between adult children and parents-in-law. When adult children are engaged in exchanging support with parents-in-law, instrumental support seems to be more influential than financial support. If adult children received instrumental support from their parents-in-law, they were likely to return financial or instrumental support, or both. Adult children also returned financial support received from parents-in-law by providing financial or instrumental support simultaneously, but the likelihood was much smaller. In other words, mutual aid with everyday activities, such as child-rearing and housework, rather than tangible financial exchange, kept older adults and their children-in-law more interdependent.

This finding suggests that a high level of intergenerational dependency among these respondents and their families held true even between adult children and their parents-in-law. Social exchange theory provides a further understanding of this phenomenon, particularly the short-term exchange model. According to social exchange theory, a balance of giving and receiving, in general, exists. However the two models, short-term and long-term, based on this

theory reflect the distinct nature of relationships. In caregiving relationships, a long-term support exchange states that adult children provide support to aging parents as a repayment for being born and raised to adulthood, indicating adult children's long-term commitment to their aging parents. In the short-term model, adult children provide support to aging parents because they benefited from elders' simultaneous support. The strong short-term exchange relationship indicates a more reasonable calculation based on short-term benefits and less long-term family commitment between adult children and their aging parents-in-law. The context of family relationships provides a background to understanding the nature of exchange between givers and receivers. Children-in-law usually do not have life-long continuous relationships with parents-in-law; the in-law relationship starts when the young begin to enter the stage of life when many significant life events are happening along with the new marriage, such as building careers and having children. At the same time, older parents may have increasing care needs. At this point, in-laws must only rely on short-term exchange as they may both need increasing family support. Although this study does not establish any causality and cannot predict definitively, adult children seem to be more likely to provide support to parents-in-law only in exchange for assistance that these older adults give to them (such as help in child-rearing). According to the theory, support provided by adult children-in-law could discontinue if parents-in-law are not capable of providing assistance to them at some point. When considering old age support policies, both policy makers and social workers should take intergenerational interdependency into consideration in the development of family-based old age care systems.

Adult children's resources. Respondents with higher levels of education were more likely to provide financial support to parents-in-law. No other resources, such as income and employment, were associated with higher likelihood of providing financial support only to

parents-in-law. Higher levels of education often are translated into higher incomes in general, therefore these respondents may have felt a greater ease in providing financial support to parents-in-law as well as to parents. Overall, financial support provision to parents-in-law seems to be an accepted obligation that is not necessarily restricted by the amount of tangible resources.

Parents-in-law's needs. Support provided to parents-in-law in this study was also found to be based on need. Specifically, adult children were likely to respond to parents-in-law's health care needs with instrumental support. Because chronic health conditions are inherent in aging, assistance with instrumental needs by adult children may be important in helping parents-in-law manage daily difficulties and in increasing their quality of life as they age.

Gender Differences in Factors

Although the study results revealed that men and women followed the same patterns of reciprocity in support exchange with parents-in-law, there are gender differences (see Table 22). Men responded to instrumental support from wives' parents by providing either financial or instrumental support, or both types of support. Meanwhile, women responded to both financial and instrumental support received from their husbands' parents by supporting them with either instrumental support or both types of support.

Male respondents' support provision to parents-in-law was affected by age, residence (rural or urban), and overall health status. Older age and better health seemed to increase male adult children's ability to provide both financial and instrumental support to parents-in-law. Rural males were more likely than urban males to assume old age support responsibility for their parents-in-law across all support possibilities. Males were also less likely than females to provide both types of support to their parents-in-law if their wives had more siblings. Female respondents' support provision to parents-in-law was influenced only by income. Women with

higher incomes were more likely to provide either financial or instrumental support for husbands' parents, rather than committing to both types of support.

Given these gender differences, it seems that among the respondents, male respondents' support for parents-in-law was influenced by their personal characteristics such as good health and younger age. For women, education and financial independence seems to have given them a choice about support provision. They no longer must exclusively play the traditional role of caring for their parents-in-law only through the provision of instrumental support. They are able to provide either instrumental or financial support for their parents and parents-in-law as long as they have available time and the financial capability to do so.

Men and women responded to different indicators of parents-in-law's needs. Men were more attentive to mothers-in-law's needs and provided financial or both types of support to help their mothers-in-law, particularly when they were widowed. However, no such increase of support was seen in the case of widowed fathers-in-law. Similar to findings of Henz (2009), in this study, women also seemed to pay more attention to the overall needs of their widowed fathers-in-law. It is possible that the differences between the views of men and women regarding who needs more support may cause conflict when making decisions about support provision when the couple has limited resources.

Changes in Support Roles

Notable from this study were the striking similarities between the support patterns of old age support provision to parents and to parents-in-law. While most respondents provided both financial support and instrumental support (78.3% to parents, 71.4% to parents-in-law), a minority provided only financial support (8.7% to parents, 12.2% to parents-in-law) or only

instrumental support (7.5% to parents, 6.5% to parents-in-law), and even fewer provided neither type of support to parents (5.4% and 6.5% to parents and parents-in-law respectively).

This may signal that in today's China, relationships with care recipients may no longer be as important as they once were in the traditional sense. Based on the findings of this study, in the contemporary Chinese family, marital ties seem as important as blood relationships because adult children give very similar care to parents-in-law and parents. This change is equally significant, but with different implications, for men and for women. Although Chinese men face no traditional cultural pressure to support their wives' parents, a majority of the men in the sample did start to bear support responsibility for their parents-in-law. At the same time, women's support provider role is not only applicable to their husbands' parents, but also extended to their own parents.

The gender patterns of support to parents-in-law seen in this study were similar to that of support to parents (see Tables 9 and 10). Neither men nor women exclusively provided one particular type of support. Instead, the most common practice of both men and women was to provide financial and instrumental support simultaneously. This indicates departure from traditional gender-prescribed old age support roles. Traditional old age support norms assign adult children specific roles based on their gender and their relationships with recipients. Specifically, men should be financial providers to their parents and women should be instrumental support providers to their parents-in-law. However, the role boundaries for both men and women seem to be blurring. Regardless of the relationship with recipients, the contributions of men and women to old age support have become similar in type of support involvement.

Yang (1998) found that intergenerational support exchange worked somewhat differently for parents and parents-in-law. Among his all-male sample, it was concluded that respondents did not have to return the financial help provided by their own parents, but they did have to repay the financial help from their parents-in-law. He argued that for parents and children, the give-and-take is viewed as “unconditional,” while with parents-in-law, the financial relationship is based more on intentions. For these sons-in-law, because their relationship with wives’ parents is not a “blood” relationship, support would not be expected as it is with parents. In the present study, some support for Yang’s argument was found. The adult children’s interpretation of when the older generation needed support differed by kinship. Adult children seemed to rationally evaluate their parents-in-law’s needs based on their health status and provide financial or instrumental support accordingly. For parents however, it was life events, such as widowhood, that triggered support. Within this phenomenon, the effects of mothers’ and fathers’ widowhood were different. If mothers had died, adult children were more likely to provide instrumental support to the surviving fathers as a replacement for mothers’ absence. These adult children may not perceive as strong a need to provide instrumental to their widowed mothers. Adult children may believe fathers (older men) lack an ability to take care of daily household activities, such as cooking, cleaning, and grocery shopping, while mothers (older women) may have the ability to handle these daily errands and activities independently. On the basis of these findings, it could be argued that in today’s China, caring for parents is still seen as more of an obligation than caring for parents-in-law, although this may be starting to change. These two figures may demonstrate the changes of old age support roles.

Figure 1

Changes of Gender Roles for Parents

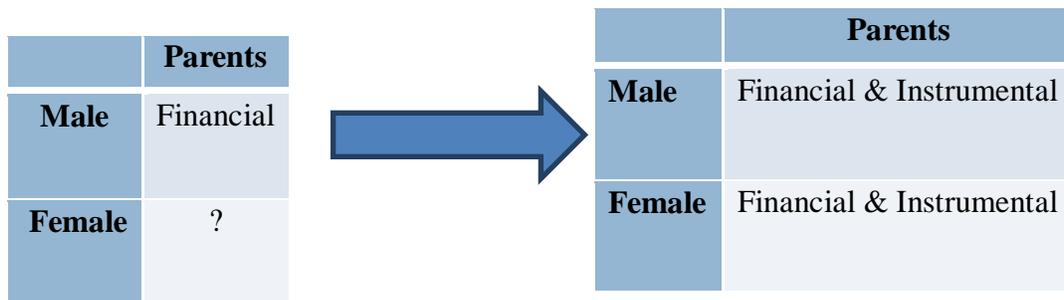
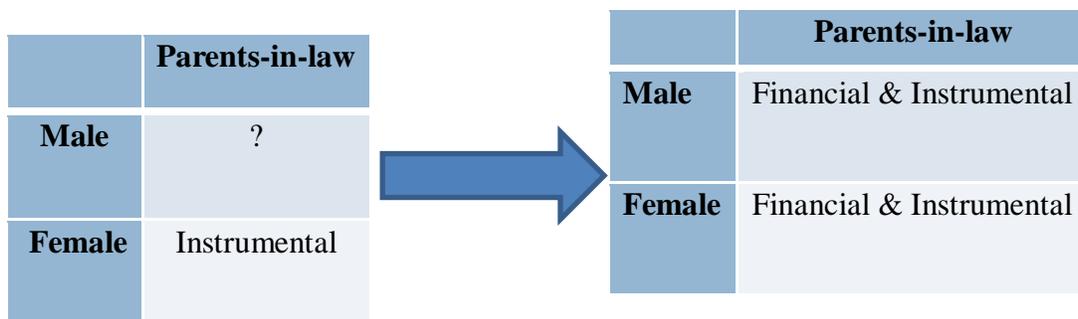


Figure 2

Changes of Gender Roles for Parents-in-law



Simultaneous Support to Two Sets of Parents

This study also found that most respondents were capable of providing simultaneous and routine support to both sets of parents. Adult children did not discriminate against or favor either set of parents in terms of financial and instrumental support. The majority of respondents provided financial support to two sets of parents, with only a minority providing financial support exclusively to one set of parents. Similarly, three-fourths of the respondents provided instrumental support to both sets of parents, while fewer respondents provided instrumental support only to parents or only to parents-in-law. These findings are important to note because

most Chinese adult children seemed to manage the task of caring for both sets of parents simultaneously, while two studies conducted in North America reported providing simultaneous support to both sets of parents at very low rate (Lee, Spitze, & Logan, 2003; Noel-Miller & Tfaily, 2009).

Previous studies have suggested that pressing needs of one set of parents and lack of resources were the reasons that adult children focused exclusively on one set of parents. Nothing found in this study suggested that adult children provided financial and instrumental support exclusively to one set of parents due to health care needs. In addition, in terms of financial support provision, findings did not suggest that adult children would be forced to choose one set of parents over the other because of limited resources. Providing financial support to both sets of parents seems to have become an accepted obligation for adult children and is given as long as there is stable income. While income was not a significant factor, education, employment, and flexible work hours were all related to financial support provided to both sets of parents. Higher income does not seem to be necessary for financial support provision. It also noteworthy that higher incomes of spouses gave adult children increased financial ability to provide for both sets of parents. A new norm of providing support to both sets of parents simultaneously is more likely to form in a marriage with higher socioeconomic status. Individuals with higher levels of education are likely to have spouses with higher incomes; given this, a “new” norm of old age support provision may be formed in this kind of marriage, one in which both partners are financially capable to care for two sets of parents simultaneously.

The only evidence of competition for support between parents and parents-in-law may be seen through the provision of instrumental support (see Table 20). Instrumental support can be more demanding and difficult to deliver than financial support, which is free from the restriction

of time and location. As a result, when adult children are engaged in instrumental support for one set of parents, they likely have little time or energy to do the same with the other set of parents.

A surprising finding was that support was exchanged between adult children and their parents and parents-in-law. If adult children received financial support from parents, they were more likely to provide for both sets of parents. Similarly, adult children were also more likely to provide financial support to both sets of parents if they had received either instrumental or financial support from parents-in-law. Marriage seems to be a means of extending mutual support networks between the two families who have been joined together. Older adults who are connected through their children's marriages seem to mutually support the couple and vice versa, although it is likely not conscious.

Collaboration between Husbands and Wives

Based on the findings from separate examination of all-male and all-female samples, men and women were equally likely to provide financial support to both sets of parents. The likelihood of providing instrumental support to both sets of parents was equally high. Although these findings suggested possible gender equality in both aspects of old age support, evidence revealed that the collaboration between husbands and wives is, to some extent, based on traditional gendered labor division. Husbands' higher income significantly increased women's likelihood of providing financial support to both sets of parents. So, it seems that if the husband had more financial resources, the wife was able to allocate some of her income for support to her husband's parents and to her parents as well (see Table 23). Also, if their wives were in better health (therefore more capable of providing instrumental support), male respondents were less likely to provide instrumental support to both sets of parents simultaneously; presumably there would be less need because the wives were providing the needed support (see Table 24). While a

more shared norm in old age support seems to be forming, men and women still somehow expect their marital partners to fulfill their prescribed traditional gender roles, and only with spouses' assistance can the provision of support to two sets of parents simultaneously be possible.

Old Age Support Practices of Only-Children

Because of lack of sibling support, the common speculation is that only-children may be less able to provide old age support and therefore be less involved in doing so than earlier generations in which siblings are available. However, findings of the present study indicated that only-children's support provision was comparable to those with siblings in several ways. First, just like their counterparts with siblings, the most common practice was the provision of financial and instrumental support simultaneously (see Tables 13 to 16). Also, only-children are as successful as those respondents with siblings in providing support to both sets of parents.

Previous studies indicated that although older parents received financial support if they had more adult children, there was usually one child among the siblings who was primarily responsible for instrumental support (Zimmer & Kwong, 2003). Perhaps because only-children have no alternative source of help, the responsibilities fall only on them to provide both types of support to their parents and parents-in-law. It is remarkable that adult only-children are able to provide old age support as do their counterparts with siblings. However, the present study only investigated the general pattern of old age support among only-children and not the level of support provided. What is unknown is how they "manage" these situations personally and incorporate them into their lives. For example, do they have higher levels of caregiving stress and burden compared to adult children with siblings? Also in situations in which both partners in a marriage are only-children, how do they work collaboratively to fulfill their support provision roles to both parents and parents-in-law?

Social Work Implications

The findings of this study have numerous implications for social work practice, education, and policy advocacy. Social workers who practice in various settings, such as community centers, hospital geriatric departments, and rehabilitation facilities, are likely to work with families of older adults to assist them in developing a plan for long-term old age support provision that can meet the care recipients' needs as they age. Indeed, social workers in any setting will work with families who may be struggling with fulfilling prescribed multiple family roles that may include child-rearing as well as providing support to aging parents and parents-in-law.

In practice, social workers must be able to differentially assess support provision capabilities of all members of the family, including children-in-law, and develop a plan based on the family needs and strengths. Intervention plans for caregivers must include children-in-law because they are often in an exchange relationship, thus are intimately involved in support provision to both sets of parents.. All sources of support from both sides of the family may be needed to adequately address the stressors and needs of all family members in need of care.

Among the findings of this study, a small proportion of older parents did not receive financial or instrumental support from either their own children or their children-in-law. Social workers should investigate the reasons for this occurrence. Perhaps support was not needed at the time of the survey. However, it may also be possible that the adult children were in extreme poverty situations and were unable to provide support to their parents in any way. This group would likely be at greatest risk for having inadequate means to support and care for themselves also.

For many older adults, old age support from their children is crucial so that they may be able to maintain optimal well-being. Social workers should encourage reciprocal relationships

between aging parents and their married children to maintain this mutually beneficial relationship. Both need to expect and plan for a time when exchange of instrumental support may be limited due to increasing age and health needs of parents-in-law. Alternative means of meeting the needs of both adult children (i.e. child care) and aging parents (i.e. homemaker services) may need to be employed, if available. Social workers can help sustain family-based old age support by specifically addressing the need for collaboration early on in a couple's marital relationship. Young adults should realize that marriage is not only a romantic relationship involving two people, but is also an institution for old age support that affects all family members. Among the respondents of this study, not all adult children were involved in old age support of their spouses' parents. Old age support plans can be discussed in pre-marital counseling to begin the planning process. One aspect of the counseling can include gender differences in perceptions about family and old age support provision. For example, as seen in this study, men and women seem to have differing views about who needs support and when. Counseling could be made widely available to families (through community centers) when conflict in a marital relationship does arise in the provision of support. Helping couples manage multiple roles and understand each other's concerns regarding the provision of support may benefit not only the couple, but the entire family, including the older adults (care recipients). Social workers must be trained to be proficient in utilizing specific techniques and interventions found in marriage and family therapy that can be used to mitigate family and/or marital conflict related to managing multiple roles.

Growing demand for future social work practice with older adults' and their families may pose challenges to current social work education in China. Social work is still considered a fledgling profession; it has only recently been recognized that the need for social workers is

likely to grow dramatically in the coming decades to meet the needs of the rapidly aging population. While many researchers urge the training of gerontological social workers to work in formal care institutions, the family in Chinese society remains the traditional source of old age support, therefore training social workers to work with family systems may be more relevant and beneficial. Social workers who practice in various settings, such as community centers, hospital geriatric departments, and rehabilitation facilities, are likely to work with issues involving the entire family and not specifically with older adults. Knowledge of family and social work techniques about how to work with family should be emphasized in social work education. Currently, there are only a few frontline social work agencies that have specialized gerontological social work services, and these are located in only the most developed urban areas. These agencies usually provide services through contracts with local governments and primarily provide recreational and therapeutic activities (Shanghai Pudong Leqi Social Service, 2008).

In the area of specific family intervention skills, perhaps social work educators in China can learn from their peers in Hong Kong and Taiwan where social work education is well-developed. Evidence-informed interventions have begun to be introduced to address problems related to long-term care of older adults within the family and in formal caregiving settings. Social workers in these regions have been pioneers who have been testing Western social work models, interventions, and skills in the Chinese context (e.g. Chong, 2000; Chu et al., 2011; Hsu, Wang, Chen, Chang, & Wang, 2010).

In terms of policy, the Chinese government has an interest in sustaining family-based old age support in order to address the long-term care needs of a fast-aging population. This stance is no surprise given the findings of the present study suggesting support from adult children is both continuing according to traditional norms and changing to meet the demands of contemporary

society. If the family continues to provide care rather than using government-supported formal care services for older adults, the unspoken/written cost-saving objective of the Chinese government will be easily realized.

In the development of social welfare policies related to safety nets, it may be prudent to emphasize the provision of instrumental support to older adults. This may be needed, as instrumental support may be the type of support that adult children have potential difficulties in managing for two sets of parents. Geographic location was also found to be an obstacle to the provision of old age support, including instrumental. Young adults are more mobile and migration to secure employment is common in a developing country like China. Since distance was often seen as a factor in the provision of support, adult children could be encouraged to live close to or with parents if housing policies provided subsidies to those who are willing to live close to their parents and/or parents-in-law in order to provide support. To address potentially diminishing instrumental support resources, policies could be developed to provide government stipends to those older adults who are unable to maintain a reciprocal relationship with adult children, allowing these elderly to purchase in-home care services.

At local levels, social workers can also affect the family-based, long-term planning of old age support in communities. However, there currently seems to be little interest toward designing long-term care planning services, and even less understanding of how social workers can assist in these efforts. Social workers should investigate and make policy-makers aware of the gaps between the goals of national policies concerning long-term care and the inadequacies found in current community services and interventions. Moreover, social workers should work with policy makers to develop policies that support additional services that can keep families functioning well together and meet the needs of older adults. Strengths-based and specialized

gerontological community services that can facilitate family-based old age support would be ideal in order to promote optimal health and well-being as people age.

Strengths, Limitations, and Future Research

In the current literature, most studies concerning old age support have used data collected in rural areas of China; most urban datasets were collected in the 1980s and 1990s. The data examined in this study was collected from a national sample of adults in both rural and urban areas of China in 2005. Overall, the data provided a broad and general view of old age support across China, thus this study was unique in its use of this most recent national data collected to systematically examine old age support provided by adults to their parents and parents-in-law.

This study explored and further described several aspects of old age support provision in China that have been previously unstudied or understudied. The inclusion of support to parents-in-law was a unique perspective not previously found in the literature. This study was able to identify patterns of old age support as well as factors that influenced the type and likelihood of support provided when the care recipients were parents-in-law. In addition, gender norms seen in the provision of old age support to both parents and parents-in-law were described as found in the dataset. Although gendered labor division within the family is a well-established feature of old age support in China, other gender differences were found to exist. The study went beyond simple examination of the level of labor division between men and women to examine gender differences in all three influential factors, including reciprocity, adult children's resources, and parents/parents-in-law's needs.

This study took into consideration that the reality of family life in contemporary China is that adult children need to consider how to manage old age support provision to parents and parents-in-law, often simultaneously. Instead of caring for one set of parents at a time, adult

children sometime have to think about which needs are most pressing for each set of parents. The dependent variables, financial support to two sets of parents and instrumental support to two sets of parents, used in the present study more realistically reflected the decisions adult children often realistically need to make. This phenomenon will become increasingly important in Chinese society due to the one-child policy implemented in 1979; married couples may face increasing difficulties providing old age support to both sets of parents (depending on parents' needs for financial and instrumental support).

The primary limitations of this study are related to the research methodology (a secondary analysis) and the use of an existing dataset (that the researcher did not collect). The Chinese General Social Survey was designed to interview and collect data from only one person per household. The respondent was then asked survey questions about others (spouses, parents, and parents-in-law) in the household. Information regarding others could have been inaccurate and only represented the perceptions of those particular respondents. Family old age support often involves multiple family members and relationships. Because of the way data were collected, the data examined were not able to reveal the exact nature of these relationships. Also, the survey study did not include a sample of the parents and parents-in-law who were the recipients (or potential recipients) of the old age support. Future studies that examine older persons' (care recipients) perspectives about old age support provided by their children and children-in-law would enhance understanding of the old age support. Similarly, information for the married dyad was only reported by respondents. Studies that include responses from both in the marital dyad would provide more accurate insight into the dynamics of the couples as they provide old age support.

Also related to the use of this secondary data, some variables that were used were not exactly in the format needed for the analysis. Several new variables had to be constructed from the original survey items. For example, one problematic variable was parents' distance from the respondents/spouses. This variable was created by combining two variables. One measured the distance that parents live from adult children, and the other measured whether parents and parents-in-law were living or deceased. To respond to the survey question that measured parent' geographical distance from respondents, many respondents chose the category of "not applicable" because the parent had died. In order to avoid losing a substantial portion of the sample for the study analysis, the category of "deceased" was included in this measure; recognizing that it was not related to distance at all (but accounted for the "not applicable" responses). Another variable, income, was difficult to use in a meaningful way because the way it was asked in the survey. For example, respondents' income was reported in Yuan. An increase of only one yuan and the corresponding increase in the likelihood of support provision did not represent a meaningful association between income and likelihood of support provision.

Another limitation, related to measurement, is that this study only measured the likelihood, and not the amount, of support provided by the respondents. (The survey data did not capture the amount of support provided to both sets of parents.) Likelihood of support provision also does not distinguish between those who provide routine and continuous support to parents and those who only provide support a few times a year. By measuring likelihood, this study found that the provision of old age support to older parents/parents-in-law is pervasive. However, this should be interpreted with caution as it cannot be concluded that all older adults rely on their adult children for both financial and instrumental support.

Descriptive analyses revealed that this particular sample was rather “young” (respondents average age is 38 years) and their parents’ age is probably in the range of “young-old” (65- 74). Like all cross-sectional studies, the present study was only able to provide a “snapshot” of conditions present at that time. Thus the results of the present study may be best described as old age support patterns among people of this demographic group at that particular point in time. Future longitudinal studies are needed to measure change in old age support patterns over time as the support providers and support recipients age.

A final limitation of the study is its external validity, because the sample contained a larger proportion of urban respondents than rural respondents. Rural and urban areas of China are very different in terms of demographics, economic development, culture, and level of modernization. Since this study did not separate urban respondents from rural respondents, the results and implications cannot be applied exclusively to either urban or rural settings. Future studies should distinguish, through separate samples, the particular challenges faced by adults providing old age support in each type of geographical area.

To build on the strengths and limitations of the present study, future research should study old age support within the family and marital context. More studies are needed to investigate old age support to parents-in-law and to both sets of parents simultaneously. The present study is a preliminary exploration of gender differences in factors underlying old age support. Role theory was useful to explain reasons why men and women socialize into different gender roles but seemed insufficient to explain the findings in this study. Factors that were influential in predicting these old age support patterns differed by gender, but the old age support role boundaries between men and women may be disappearing. In future studies, different factors that influence old age support behaviors could be explored, and possibly will give some insight

to gendered interpretations. Qualitative research methods may be best suited to continue to explore this phenomenon more in depth. Detailed examinations of the experiences of adult children who provide old age support will be needed. These experiences should include adult children's decision to provide support and the type and amount of support they decide to provide to each set of parents, as well as the way in which they manage their multiple care-provider roles.

Particular attention in future research should be paid to adult children who did not provide support and the reasons behind it. Future investigation is also needed that will focus on couples in which both partners are only-children and how they are able to manage the many demands that may be placed on them for old age support provision. Also, exploration of the experiences and perspectives of care recipients' in old age support practices would be particularly useful so that their "voice" can be added to proposals for new programs and policies designed for their care.

Conclusion

By using the 2006 panel of China General Social Survey, the present study systematically examined the patterns and influential factors related to old age support provision for parents and parents-in-law in China. Before this study, little quantitative data and analysis was available to answer the questions regarding old-age support patterns, particularly for parents-in-law. This study found that the provision of old age support to parents-in-law was as important as the provision of old age support to parents; this was indicated by the striking similarities of support patterns. Moreover, support provision to parents and parents-in-law were both affected by reciprocity, adult children's resources, and older parents/parents-in-law's needs.

This study continued the examination of the variations of support provision when two sets of parents were considered. The variations of financial support provision and instrumental support provision were both examined. Primary findings indicated that adult children do not

discriminate against or favor either set of parents in terms of financial support and instrumental support. Providing support (financial and /or instrumental) to two sets of parents simultaneously seems to be a common old-age support practice. Adult children fulfill their roles of financial and instrumental support for both sets of parents if they are able to do so. Two sets of parents may compete for instrumental support when adult children and their spouses are not physically capable of caring for two sets of parents. The exchange history plays a central role in the likelihood that adult children exhibit preferential treatment to either set of parents.

This study built upon previous research in the examination of gender differences in Chinese families. Significant departures from traditional gender roles were found. Regardless of care recipients, men and women were equally involved in financial and instrumental support. This study, however, does not fully explain the gender differences that were seen.

Within the Chinese family, both strengths and challenges regarding provision of old age support need to be considered as Chinese society continues to change. For a society like China, in which family-based caregiving is culturally-preferred, often gendered, and encouraged by the current government, these findings may help social workers, who engage in care practice with older adults, to understand this integral part of family life. Today, the traditional norms of old age support were still evident among the respondents of this survey, indicating a great strength of the contemporary Chinese family. In addition, there are changes in traditional gender and marital roles, which are likely to become a strength for the Chinese family in the future of old age support provision. These changes indicate a more egalitarian relationship within Chinese marriage and family, a shift away from the previous patriarchal family tradition. Fewer gender differences, as found in this study, are likely to especially benefit wives' parents, while in traditional times having only a daughter and no son meant little or no support in one's old age.

Today having a daughter seems to be similar to having a son in terms of old age support. Moreover, support may also come from sons-in-law. Meanwhile, husbands' parents not only continue to receive instrumental and financial support from sons and instrumental support from daughters-in-law but also gain financial support from daughters-in-law. More fluid role boundaries also may translate into flexibility in terms of who may provide what type of support. In small families, and among those adults who are only-children, both sets of parents received support. Even without sibling support, spouses can be counted on to fulfill the tasks of old age support as demands dictate. This is an area that needs more investigation because only a small proportion of only-children were included in this study's sample.

Although there are many strengths that facilitate old age support in contemporary Chinese families, challenges remain. The traditional kinship hierarchy based on sex is disappearing; now neither husbands' nor wives' parents are at risk of not receiving support. What seemed to matter, according to the findings of this study, was whether aging parents/parents-in-law could maintain a short-term mutual support exchange with adult children. The influence of reciprocity was found to be strong and support provided may be in question when, due to poor health, fragility, lack of resources, or geographic distance, parents/parents-in-law are not able to provide instrumental support to their adult children. Data also indicated that men were more likely to provide support to widowed mothers-in-law but less likely to provide support to widowed fathers-in-law. These differential behaviors may be due to the likelihood that mothers-in-law typically provide instrumental support to their adult children and may often be a source of help with childrearing, housework, and cooking. Fathers-in-law who do not participate in these tasks may not be considered as a priority in the provision of support. In this respect, widowed fathers-in-law may be at greater risk of losing support from sons-in-law.

In married couples, gender differences may cause conflicts related to old age support. So far, men and women seem to be making an effort to support both sets of parents if their financial condition and time availability allow. Although caring for spouses' parents is nontraditional for men, they seemed to be responding to this new responsibility. Meanwhile, education and financial independence make women more able to provide financial support in addition to their traditional role of providing instrumental support for husbands' parents. Eventually, men and women do need each other to manage old age support for two sets of parents. With wives' financial contribution, men are more likely to contribute instrumental support to both sets of parents. With husbands' participation, women are more likely to contribute financial support to both sets of parents. Multiple demands to provide old age support may challenge family harmony, but by working together, husband and wife can minimize the conflicts that may arise during parent old age support and care. Collaboration and complementary actions between the couple are necessary for the successful care of both parents and parents-in-law who may have very distinct needs for financial and instrumental support.

To facilitate family-based old age support, employment and housing issues that affect the financial ability and physical presence of the married adult children need to be discussed at the Chinese local and national levels. Social work practice should focus on the family and social workers at all levels should consciously engage all old age care providers, including children-in-law. From assessment to planning to intervention, social work practice should facilitate family interactions between aging parents and adult children and coordinate and encourage the collaboration of married couples in old age support and care. Perhaps most importantly, social work education and training must be enhanced in the area of gerontological practice in order to

address the growing challenges in providing old age support and in order to maintain the close intergenerational relationship within the family in contemporary China.

The findings of the present study have provided information that highlights the importance of family caregiving in an often neglected family relationship: adult children and parents-in-law. This study was inspired by and based on the continuing research of family-based old age support of Chinese people. With all previous research of this area, the accumulating knowledge of family-based old age support is a foundation upon which to maintain this often expected and prescribed Chinese tradition.

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Appendix A

Survey Items and Variables

Variable sets	Survey Item	Responses	Variable Name	Transformed Coding
Independent Variables				
Gender	What is your gender?	1.male 2.female	Gender	1=male 2=female
Support received from parents	In last year, have your own parents often provided the following assistance to you?-given money	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Short-term financial support from parents	1=yes 2=no
	In last year, have your own parents often provided the following assistance to you?-household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members?	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Short-term instrumental support from parents	1=yes 2=no
	Since you got married, have your parents helped you financially, such as to pay for housing rental/mortgage, or for	1.yes, a lot 2.yes, some 3.no 4.both parents had deceased	Long-term financial support from parents	1=yes 2=no

	business			
Support received from parents-in-law	In last year, have your spouse's parents often provided the following assistance to you?-given money	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Short-term financial support from parents-in-law	1=yes 2=no
	In last year, have your spouse's parents often provided the following assistance to you?-household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members?	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Short-term instrumental support from parents-in-law	1=yes 2=no
	Since you got married, have your spouse's parents helped you financially, such as to pay for housing rental/mortgage, or for business	1.yes, a lot 2.yes, some 3.no 4.both parents had deceased	Long-term financial support from parents-in-law	1=yes 2=no
Respondents' characteristics and resources	In what year were you born?	1936-2005	Respondent age	(continuous)
	Where is your household	1. rural 2. urban	Respondent residency	1. rural 2. urban

	registration?			
	In 2005, what was your own total income?	0-999,999,999	Respondent income	(continuous)
	What is your highest education degree (including degrees in progress)	<ol style="list-style-type: none"> 1. no education 2. literacy program 3. elementary school 4. middle school 5. high school 6. vocational high school 7. technical secondary school 8. technical school 9. college (continuing education associate degree) 10. college(associate degree) 11. college(continuing education) 12. college education 13. graduate school 	Respondent education level	(ordinal continuous)
	Are you currently employed?	<ol style="list-style-type: none"> 1. currently employed 2. used to be but not currently employed 3. never being employed 	Respondent availability(employment)	1=yes 2=no
	Which statement best described your work time arrangement?	<ol style="list-style-type: none"> 1. no fixed work schedule, depend on myself. 2. there is a fixed schedule, but I can be flexible. 3. fixed schedule 	Respondent availability (schedule flexibility)	1=very flexible 2=flexible 3=not flexible
	Please evaluate your health?	<ol style="list-style-type: none"> 1. very poor 2. poor 3. not poor not good 4. good 5. very good 	Respondent health status	1=very poor 2=poor 3=not poor not good 4=good 5=very good

				(continuous)
	How many living older brothers do you have?	0-9	Only child status of respondents	(continuous)
	How many living older sisters do you have?	0-9	Number of siblings	
	How many living younger brothers do you have?	0-9		
	How many living younger sisters do you have?	0-9		
Spouses' characteristics and resources	In what year was your spouse born?	1936-2005	Spouse age	(continuous)
	In 2005, what was your spouse's total income?	0-999,999,999	Spouse income	(continuous)
	What is your spouse's highest education degree (including degrees in progress)	<ol style="list-style-type: none"> 1. no education 2. literacy program 3. elementary school 4. middle school 5. high school 6. vocational high school 7. technical secondary school 8. technical school 9. college (continuing education associate degree) 10. college(associate degree) 11. college(continuing education) 	Spouse education	(ordinal continuous)

		12. college education 13. graduate school		
	On average, how hours do your spouse (or cohabitate partner) work?	0-99	Spouse availability	(continuous)
	Please evaluate your spouse's health?	1. very poor 2. poor 3. not poor not good 4. good 5. very good	Spouse health status	1.very poor 2.poor 3.not poor not good 4.good 5.very good (continuous)
	How many living older brothers does your spouse have?		Only child status of spouse	(continuous)
	How many living older sisters does your spouse have?		Number of siblings of spouse	
	How many living younger brothers does your spouse have?			
	How many living younger brothers does your spouse have?			
	How many living younger brothers does your spouse have?			
Parents' characteristics	Is your father alive or deceased?	1.alive 2.deseased	Father's presence	0=deceased 1=live together 2=living in short distance 3=living in long distance
	How far away does your father live from you?	1.living together, same building 2.15-minute walk distance		

		3.30-minute driving distance 4.30-minute to 1-hour driving distance 5.1-hour to 3-hour driving distance 6.more than 3-hour driving distance		
	Is your mother alive or deceased?	1.alive 2.deceased	Mother's presence	0=deceased 1=live together 2=living in short distance 3=living in long distance
	How far away does your mother live from you?	1.living together, same building 2.15-minute walk distance 3.30-minute driving distance 4.30-minute to 1-hour driving distance 5.1-hour to 3-hour driving distance 6.more than 3-hour driving distance		
	Please evaluate your father's health?	1.very poor 2.poor 3.not poor not good 4.good 5.very good	Parents' health care needs	(These two variables are reversely coded and added up. Lower scores indicate overall parents are in better health and need less health care; higher score indicate parents are in poorer health and need more care) (continuous)
	Please evaluate your mother's health?	1.very poor 2.poor 3.not poor not good 4.good 5.very good		
	In 2005, what was your	0-999,999,999	Father income	(continuous variable)

	father's total income?			
Parents-in-law' characteristics	Is your father-in-law alive or deceased?	1.alive 2.deceased	Father-in-law's presence	0=deceased 1=live together 2=living in short distance 3=living in long distance
	How far away does your father-in-law live from you?	1.living together, same building 2.15-minute walk distance 3.30-minute driving distance 4.30-minute to 1-hour driving distance 5.1-hour to 3-hour driving distance 6.more than 3-hour driving distance		
	Is your mother-in-law alive or deceased?	1.alive 2.deceased	Mother-in-law's presence	0=deceased 1=live together 2=living in short distance 3=living in long distance
	How far away does your mother-in-law live from you?	1.living together, same building 2.15-minute walk distance 3.30-minute driving distance 4.30-minute to 1-hour driving distance 5.1-hour to 3-hour driving distance 6.more than 3-hour driving distance		
	Please evaluate your father-in-law's health?	1.very poor 2.poor 3.not poor not good 4.good 5.very good	Parents-in-law' health needs	(These two variables are reversely coded and added up. Lower scores indicate overall parents are in better health and need less
	Please evaluate your mother-in-law's health?	1.very poor 2.poor 3.not poor not good 4.good 5.very good		

				health care; higher score indicate parents are in poorer health and need more care) (continuous)
Dependent Variables				
	In last year, have you often provided the following assistance to your spouse's parents?-give money.	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Support to parents	0=neither type of support 1=financial support only 2=instrumental support only 3=both types of support
	In last year, have you often provided the following assistance to your spouse's parents? - household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members.	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Support to parents-in- law	0=neither type of support 1=financial support only 2=instrumental support only 3=both types of support
	In last year, have you often provided the following assistance to your own parents?-give	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Financial support to two sets of parents	0=neither set of parents 1=parents only 2=parents-in- law only 3=both sets of

	money.			parents
	In last year, have you often provided the following assistance to your own parents?- household chores (such as cleaning, preparing dinner, grocery shopping, running errands) or taking care of children or other family members.	1.very often 2.often 3.sometimes 4.seldom 5.not at all 6.N/A	Instrumental support to two sets of parents	0=neither set of parents 1=parents only 2=parents-in-law only 3=both sets of parents

Appendix B

Results of Hypothesis

Questions and hypotheses	Hypothesis result	Notes
Research questions 1: How do adult children manage the four potential old age support roles (financial support provider to parents, instrumental support provider to parents, financial support provider to parents-in-law, and instrumental support provider to parents-in-law?)		
1 For their own parents, adult children are more likely to provide one type of support rather than providing both types of support.	Rejected	The majority of adult children provided both types of support to parents.
2 For parents-in-law, adult children are more likely to provide one type of support rather than providing both types of support.	Rejected	The majority of adult children provided both types of support to parents-in-law.
3 When taking two sets of parents into consideration, regarding both financial and instrumental support, adult children are more likely to provide support to one set of parents rather than to both sets of parents.	Rejected	Regarding both financial and instrumental support adult children are more likely to provide support to both sets of parents simultaneously.
4 When taking two sets of parents into consideration, regarding both financial and instrumental support, adult children are more likely to provide for their own parents rather than parents-in-law.	Rejected	Regarding both financial and instrumental support, adult children do not favor parents over parents-in-law.
Research questions 1a: What are the gender patterns in support provision?		
5 For parents, men are more likely than women to only provide financial support provision.	Rejected	For parents, men are equally as likely as women to only provide financial support provision.
6 For parents-in-law, women are more likely than men to only provide on instrumental support.	Rejected	For parents-in-law, women are equally as likely as men to only provide on instrumental support.
7 Men are more likely than women to provide financial support to their parents rather than to parents-in-law.	Rejected	Men are equally as likely as women to provide financial support to their parents rather than to parents-in-law.
8 Women are more likely than men to	Rejected	Women are equally as likely as men

	provide instrumental support to both sets of parents.		to provide instrumental support to both sets of parents.
Research question 1b. How do adult 'only-children' enact these roles?			
9	For their own parents, there are no differences between adult only-children and adult children who have siblings in terms of provision of two types of support.	Supported	As stated
10	For parents-in-law, there are no differences between adult only-children and adult children who have siblings in terms of provision of two types of support.	Supported	As stated
11	Adult only-children are less likely than their counterparts with siblings to provide financial support to both sets of parents.	Rejected	Adult only-children are equally as likely as those with siblings to provide financial support to both sets of parents.
12	Adult only-children are less likely than their counterpart with siblings to provide instrumental support to both sets of parents.	Rejected	Adult only-children are equally as likely as those with siblings to provide instrumental support to both sets of parents.
Research question 2. Among the four potential old age support roles, what factors account for taking each role?			
13	Adult children who have received short- and long-term support from their parents are more likely to provide financial and instrumental support to their own parents.	Partially supported	Short-term support from parents is a significant factor, but long-term support is not.
14	Adult children who have received short- and long-term support from their parents-in-law are more likely to provide financial and instrumental support to their parents-in-law.	Partially supported	Short-term support from parents-in-law is a significant factor, but long-term support is not.
15	Adult children who have higher incomes or are employed are more likely to provide financial support.	Rejected	Neither employment nor income was found to have a significant effect on financial support provision to parents-in-law.
16	Adult children who are unemployed, have more work schedule flexibility and are healthier are more likely to provide instrumental support.	Partially supported	For parents, work schedule flexibility is a negative, significant factor. However, instrumental support provision to parents-in-law was not significantly affected by employment, health status or work schedule flexibility.

Research question 2a. Do the factors differ by gender?			
17	Men are more likely to provide financial support to parents from whom they have received long-term support and who have greater needs for care; and men's financial support to parents is negatively affected by time availability and not affected by income.	Rejected in most part	Long-term support received from parents and time availability were not significantly related to men's financial support provision to their parents. Income was not a significant factor as hypothesized.
18	Women's financial support provision to parents is less likely to be motivated by previously received long-term financial support from parents, and their financial support provision to parents varies with income.	Partially supported	Women's financial support provision to parents was affected by income and was not motivated by long-term financial support from parents.
19	Men's financial support provision to parents-in-law is the result of immediate short-term support exchange and varies with income.	Partially support	Men provided financial support to parents-in-law as repayment to their short-term support, but it was not affected by income.
20	Women's financial support to parents-in-law is affected by income.	Supported	Women with higher income were more likely to choose of option of providing only financial support to their parents-in-law
21	Men's instrumental support provision to parents depends on their parents' needs, and is negatively affected by their own time availability.	Partially supported	Men provided more instrumental support (with or without financial support) to parents if these parents had greater health care needs, but men's time availability was not a significant factor.
22	Women's instrumental support provision to parents is affected by parents' needs but is not subject to their own income and time availability.	Supported in most part	Women provided instrumental support to parents when fathers' were widowed and were affected by their own income and time availability.
23	Men's instrumental support provision to parents-in-law depends on whether they have received any type of support from parents-in-law and is subject to men's income and time availability.	Partially supported	Men provided instrumental support (with or without financial support) to parents-in-law if they had received short-term instrumental support from them, but neither income or time availability was a significant factor.
24	Women who received any type of support from parents-in-law are more likely to provide instrumental support, but support provision also	Support in most part	Women provided instrumental support (with or with financial support) to parents-in-law if they had received either financial or

	varies with their income and time availability.		instrumental support from parents-in-law. Instrumental support provision was affected by their income but not by time availability.
Research question 3. How do husbands and wives influence each other in the provision of old age support?			
25	Wives are more likely to provide instrumental support to husbands' parents when husbands are less availability.	Rejected	None of spouses' characteristics was related to female respondents' instrumental support provision to husbands' parents
26	Husbands are more likely to provide more financial support to wives' parents when wives' financial resources are limited.	Rejected	None of spouses' characteristics was related to male respondents' instrumental support provision to husbands' parents