**Family structure and competing demands from aging parents and adult children among middle-aged people in China**

**Abstract**

China has experienced the verticalization of family structure. It has changed the support between aging parents and adult children among middle-aged adults who are often in the position of providing support to older and younger generations (sandwiched situation). Using data from China Health and Retirement Longitudinal Study, we studied the support choice of middle-aged people. Results show that middle-aged people who provided support to older generations were also more likely to provide support to younger generations. Couples of whom neither spouse has a brother were less likely to financially support their parents only and provide instrumental support to their children only than couples of whom both spouses have brothers. Couples of whom one spouse has a brother were more likely to favour their children financially than couples of whom both spouses have brothers. These imply that sandwiched situation is harder to balance through family solidarity.

**Key words:** China, family structure, intergenerational support, middle-aged adult, competing demands.

**Introduction**

Family has long been the primary source of social support for older people in China. However, rapid population aging is accompanied by changes in the structure and size of kin networks. Falling fertility and increasing longevity have resulted in a change in family structures, an increase in the number of living generations, and fewer members within each generation in China (Harper, 2004). From the perspective of filial piety, middle-aged adults (between 45 and 65) are often in the pivotal position of providing support to their older parents; on the other hand, they are also responding to provide support to their descendant generations. This phenomenon is called the “sandwich” generation, which reflects the situation of middle-aged adults (especially women) who are in the position of caring for older parents whilst still having dependent children (Lundholm & Malmberg, 2009; Pierret, 2006). In particular for individuals who are in late middle age, they may often be sandwiched between the needs of their adult children, grandchildren, and parents (Lundholm & Malmberg, 2009; Fingerman et al., 2011). Especially in China, a great number of adult children are still heavily dependent on their middle-aged parents for support due to the underdeveloped social support system. With the absence of state-sponsored old-age assistance, middle-aged adults also face more challenges in relation to family care as they may have fewer siblings to share the responsibility of family-based assistance for aging parents.

As China continues to experience rapid population aging and changes in its family structures, middle-aged Chinese adults are likely to find themselves subject to strong claims from generations above and below. The sandwiched situation for middle-aged only-children who have no brothers to share the responsibility for their older parents may become more demanding and more prevalent (Phillips and Feng, 2015). Using data from a nationally representative sample in China, we try to address the following research questions: 1) What are the support choices that these sandwiched Chinese adults will consider as they confront the reality of having to support both older and younger generations at the same time? 2) What are the associations between upward support and downward support, and between offering and receiving support? 3) How do different family structures influence the distribution of intergenerational support when such support is needed by ascending and descending generations? This study extends intergenerational support studies that have been conducted in China, a less developed country with a traditional culture of filial piety, and provides the first examination of how the support choices of sandwiched middle-aged adults for competing demands from older parents and adult children vary between different family structures.

**Intergenerational support in midlife: theory and reality**

*Motives for intergenerational support and resources*

There are many theoretical perspectives on intergenerational support. In particular, an analysis of motives may help to explain discrepancies in support towards different generations. However, one’s motives for intergenerational support may be limited by their resources (for example, income, energy and time). Resources theories also provide an important perspective for understanding the ability of intergenerational support, especially when facing multiple demands for those resources.

The sociological literature on intergenerational relationships identifies three competing explanations for the motives of providing support: the exchange approach, the altruism approach and the social norm approach. The exchange approach assumes that giving creates an obligation to reciprocate; the transfers are rooted in a reciprocal structure (Cox, 1987). An implicit premise of mutual aid between family members is that both sides of the exchange have the willingness and capacity for reciprocity, which suggests that individuals may provide support based on support they receive or expect to receive (Henretta et al., 1997). In previous studies, adult children in America who received help from their parents in their young adulthood were found to be more likely to provide support to their parents when they were older (Henretta et al., 1997; Silverstein et al., 2002), and middle-aged American couples provided more total support to and received more from their parents (Lee et al. 2012). Parental wealth was also found to be positively correlated with the amount of transfers received from their children in Botswana (Lucas & Stark, 1985). Conversely, the altruism approach suggests that people offer greater assistance to family members in need than to those with more exchangeable resources (Schoeni, 1997). It has been found in the UK and the US that older parents in poor health or offspring experiencing life challenges (for example, being victims of crime or disease) received more support (Fingerman et al. 2011; Grundy, 2005; Pillemer & Suitor, 2006).

Social norms, specifically referring to filial piety norms, emphasise the importance of filial responsibility in explaining intergenerational support behaviour as part of family cohesion. Following the social norm approach, the intergenerational solidarity theory was constructed to reveal what holds family members together as an entity (Bengtson & Robert, 1991). Normative solidarity (norms or expectations of individual obligations to the family) was identified as one of the six components of parent–child solidarity (the six components being associational solidarity, affectual solidarity, consensual solidarity, functional solidarity, normative solidarity, and structural solidarity). Its conceptual connection with functional solidarity (patterns of instrumental support or resource sharing) was also identified. Under the norm of filial piety, adult children are required to take responsibility for supporting their elderly parents in times of need unconditionally. Many studies have confirmed the contribution of filial responsibility to intergenerational support, including financial, instrumental and emotional support, both in Western and Chinese societies. (Lee et al., 1994; Ikkink et al., 1999; Silverstein et al., 2006; Lin &Yi, 2011).

However, these three competing theoretical approaches for motives of intergenerational support are to some extent overlapped. It is hard to identify whether intergenerational transfer is motivated by only one approach (i.e. reciprocal exchange or altruism), because both involve bidirectional support. While the net financial support from offspring to their fragile parent(s) is motivated by care and love, financially dependent parents usually try to provide childcare support to their adult children in order to avoid only being a burden on their children. It is also difficult to distinguish whether the support to older parents in times of need is motivated by altruism or by social norms (i.e. filial responsibility). The norm of filial piety has the same implications as altruism, and its construct also reflects the norm of reciprocity, while taking care of grandchildren can be seen as a bargaining strategy that guarantees older people acquiring old-age support (Croll, 2006). Therefore, the third approach based on solidarity theory may offer a better explanation for the patterns of interaction among parents and children, by integrating the exchange and altruism approaches.

It is still unclear about what motivates middle-aged Chinese adults to provide support to different generations. Most studies in China indicate that the social norm approach has been the most appropriate explanation for intergenerational support between two generations during the period of Chinese social transition and rapid economic growth (e.g. Cai et al., 2006; Sun, 2002). Traditional Chinese filial norms significantly accounted for all aspects of intergenerational support (Chen et al., 2011; Lin & Yi, 2011; Luo & Zhan, 2012). Thus, middle-aged Chinese adults are expected to provide more financial or instrumental support to whichever generation is in more need. However, intergenerational exchange of financial and instrumental support may exist simultaneously among middle-aged Chinese adults to enforce family solidarity. Intergenerational support or exchange is not only adaptive to family demand, but also shaped by structural solidarity including opportunities or resources for solidarity and family or culture-contextual structure (Ikkink et al., 1999; Szydlik, 2008).

Motives for intergenerational support may be limited by one’s resources (for example, income, energy and time). According to the resource scarcity theory, personal resources are limited so that multiple domains or roles tend to induce resource depletion and role overload or strain (Marks, 1977). This implies that the more care time and the greater financial support a middle-aged adult offers to one generation, the less resources are available for a different generation. Some studies of three-generation families suggest that in Western societies, intergenerational support typically flows downwards rather than upwards (Dukhovnov & Zagheni, 2015; Fingerman et al., 2011), which indicates that offspring are more likely to be favoured than parents. Simultaneous support for both older and younger generations turns out to be rare in Germany and America (Künemund, 2006; Wiemers & Bianchi, 2015). In contrast, the resource expansion approach argues that personal resources are abundant and expandable because “some roles may be performed without any net energy loss” and “they may even create energy for use in that role or other role performances” (Marks, 1977, p. 926). Sieber (1974) explained that the beneficial impact of occupying multiple roles usually outweighs the stress, since multiple roles provide access to multiple sources of status enhancement, status security, role privileges and personal enrichment. Fingerman et al. (2011) found that a proportion of midlife adults provided support to both generations and some provided more support to parents, reversing the pattern found in most participants in the US. Hagestad (2006) also concluded that there are middle-aged adults in some families who are “high exchangers” across several intergenerational links, and who provide help both upwards and downwards in Norway.

The association between supports offered to different generations by middle-aged adults is still under debate. Some empirical studies have shown that the sandwiched situation of middle-aged adults in the US is to some extent balanced by transferring money to their children and giving time to their parents (Kohli & Künemund, 2005; Pierret, 2006). A few studies in Europe and America concerning the relationship between intergenerational support and other responsibilities to family members found that the presence of children and other responsibilities had little effect on the level of instrumental support provided to older parents, and middle-aged adults with older parents provided the same or more emotional support to their children or grandchildren than to their parents (Moor & Komter, 2012; Rubin & White-Means, 2009). However, another study in four European countries and Israel argued that the presence of a child aged three or younger was significantly associated with a lower level of instrumental support for parents (Gans et al., 2013). Fingerman et al. (2015) considered emotional and instrumental support in a day-to-day context in the US, and found that whether a participant supported another family member that day was not systematically associated with support given to an adult child or parent. An empirical study that directly investigated the association between support to the younger generation and to the older generation in Britain suggested that offering support to parents was positively correlated with help to adult children (Grundy & Henretta, 2006). However, this study was not able to distinguish between transfers of money and transfers of personal assistance.

The subgroup difference may suggest that relatively low levels of socioeconomic status or economic development could foster intense competition for resources between offspring and parents. Some studies have examined ethnic differences in instrumental support which middle-aged adults offered to younger and older generations, and research has shown a higher level of support for parents of black middle-aged adults in the US (Suitor et al., 2007; White-Means & Rubin, 2008). Another study also revealed country differences in instrumental support by middle-aged adults facing multiple demands in Norway, Spain, the UK, Germany and Israel (Gans et al., 2013). However, few studies have focused on the sandwich generation in China, a country with strong family solidarity. Strong family solidarity across multiple generational links in China may shape the sandwiched position of middle-aged adults differently due to the culture of filial piety, and ties with multiple generations may be a source of help. In some cases, elderly parents (who are in good health) can help their working-age children or even grandchildren with housework and childcare. This implies that middle-aged adults may attempt to expend resources or balance their sandwiched situation to satisfy multiple family members’ needs through intergenerational solidarity. Thus, offering support to parents would be expected to be positively correlated with help to children in China, and middle-aged Chinese adults who receive support from the older/younger generation may have more motivation and ability to support the younger/older generation.

From the motive and resource perspectives discussed before, there are two different rationales for the choices of middle-aged adults sandwiched between demands from the older and younger generations. However, empirical evidence for these theories in previous studies has focused mainly on single-directional support between two generations. It is not clear which theory is more applicable to interpret the multigenerational relationship in China. In addition, most previous studies focusing on the sandwich generation were conducted in Western societies (e.g. Moor & Komter, 2012). The support pattern of middle-aged adults in developing countries may be different to that in Western societies, and we know little about whether the associations between support to different generations offered by middle-aged adults varies in terms of different kinds of support provided.

**Family structure and intergenerational support**

Intergenerational support is usually embedded in a family structure, which shapes the transfer patterns. The ability of middle-aged adults to balance competing demands from multiple generations may ultimately depend on the prevailing family structure and social expectations of how people can depend on family support. Although many studies have considered the potential impact of the family structural circumstances of adult children on intergenerational support in the US (Ikkink et al., 1999; Spitze and Logan, 1990; Szydlik, 2008), and some have even examined the association between sibling numbers and intergenerational support, few studies have distinguished the one-child family from families with multiple children, and at any rate their findings are inconsistent. Some studies showed that in Europe and the US, sharing elder care between siblings leads to reduced instrumental support per child to their older parents (Moor & Komter, 2012; Stoller & Earl, 1983), and that in Europe people with fewer siblings are more likely to engage in emotional exchanges with their parents (Moor & Komter, 2012). However, another study in the US argued that a greater number of siblings was associated with greater willingness to co-reside with parents (Goldscheider & Lawton, 1998). This inconsistency may be attributed to the different measures of intergenerational support, such as emotional support is less limited by resources (time, energy or money) than instrumental support.

Although most cohorts born since the one child policy have not yet entered their middle age, there are still only-child middle-aged adults who were affected by birth plans in China. It is estimated that in 2005 there were 157 million only children aged 30 or younger, and the number of mothers of only children who were aged under 60 was 144 million (Wang, 2009). Intergenerational support between parents with one child and their only children is attracting increasing attention. One-child parents were less likely to receive support at all and more likely to receive lower levels of support from their only children than those with more children (Phillips & Feng, 2015), but the difference was not significant when controlled for sociodemographic factors (Shi, 2008). These studies on family structure and intergenerational support focused mainly on two generations and did not address the sandwiched situation of one-child parents. Additionally, the sandwiched situation of middle-aged only children should involve more demands as they have no siblings, especially brothers, to share their responsibility for supporting their older parents. They may be more likely to support both generations or to support neither. However, few studies have addressed the issue in the context of multiple generations, and we know little about how middle-aged Chinese adults within different family structures in terms of siblings balance helping their younger offspring and older parents.

This study intends to deepen understanding of the motives and resources behind intergenerational support among middle-aged adults in China by examining the associations between upward support and downward support, and between offering and receiving support. The effect of family structure on support choices is also studied in the context of China’s social and demographic transition.

**Data and Methodology**

**Data**

Data for this study comes from the China Health and Retirement Longitudinal Study (CHARLS) baseline survey, which is nationally representative and includes cross-sectional data collected from 28 provinces, 150 counties and 450 cities/villages between 2011 and 2012. Using a sampling frame containing all county-level units with the exception of Tibet, and a multistage probability-proportional-to-size design, a questionnaire interview was administered, which is described in detail by Zhao et al. (2014). The interview subjects were adults aged 45 and over. If there was more than one eligible household member, only one age-eligible household member was randomly selected as the main respondent. This procedure yielded 17,708 individual respondents within 10,257 households (including 7,451 main respondents’ spouses who were invited to answer questions about his/her parents and siblings). In order to examine the support choices of middle-aged Chinese adults who were facing competing demands from older parents and adult children, we restricted the sample to include main respondents aged between 45 and 65 (in line with previous literature, for example, Wiemers & Bianchi, 2015), who had at least one living parent or parent-in-law and at least one living child older than 18 years old (since children below 18 are less likely to provide support to their parents, particularly financial support). This selection is consistent with previous studies in Western countries (e.g. Lee et al., 2012 and Fingerman et al., 2011). There were only 5,065 respondents remaining after the sample selection which was based on age and family structure. There were 2,190 cases lacking information about financial support of parents or adult children (key dependent variables), who were also excluded. In most of these cases, they lived with their parent or/and their adult child, and they did not have another living parent and an adult child who did not live with them. The data collected in CHARLS mainly focused on the economic support given to or received from non-co-resident family members. However, if the respondents lived with their parent or/and their adult child, and they had another living parent and an adult child who did not live with them, these cases were included in the sample. Forty-seven respondents were also further excluded due to missing values on family income and education/ health condition of parent or parent-in-law. The final valid sample used in this study comprised 2,828 middle-aged adults with complete data. Comparative analysis showed that there was no significant difference between the final sample and the deleted cases with missing values in the sample characteristics, except that the percentages of those with difficulties performing the Activities of Daily Living (ADL, which refers to the ability to perform a set of personal activities of daily living, activities requiring physical strength, mobility, and flexibility, and instrumental activities of daily living), disability or chronic disease, living with children, being a farmer or without work were lower among the final sample; while the deleted cases were older, less educated and less likely to be married. Since all these independent variables are included in the models, we assume that those deleted cases did not depend on the response outcome after taking account of the variables, as would be expected in order to meet the assumption of Missing at Random (MAR) (Rubin, 1976).

**Variables and measurement**

*Intergenerational support*

In this study, we focused on two types of intergenerational support: financial support and instrumental support across multiple generations. For financial support to parents and children, participants were asked whether they or their spouse provided any financial support to their parents (own parents or parents-in-law) and children who did not live with them in the last year (dichotomous variables). Here, financial support to parents and children who lived with the respondents were not included due to data limitations. In fact, it is also challenging to identify economic transfers between family members who are living together, because they usually share resources within the household. CHARLS also contains information on whether respondents received any economic support from their parents and children who did not live with them in the previous year. Consistently with the measure of financial support to their parents or children, financial support from parents and financial support from children were coded as dichotomous variables: “Received any financial support from their parents and children who did not live with them in the last year” (coded 1); and “Did not receive any financial support from their parents and children who did not live with them in the last year” (coded 0). In terms of instrumental support for the sandwich generation (G2) in China, when older parents (G1) needed care /help, their children (G3) were usually adults and the main demand for instrumental support from their children might comprise assistance with babysitting. This may compete with the care needs of older parents because middle-aged Chinese adults tend to have children at an earlier age than those in Western societies. Instrumental support to children (G3) was measured by the question of “Did you or your spouse spend any time taking care of your grandchildren (G4) last year?” and care support to parents was measured by asking participants, “Did you or your spouse take care of your parents or parents-in-law (G1) during last year by assisting them in their daily activities or other activities?” In order to investigate the choice patterns of middle-aged adults providing financial and care support to their parents and children simultaneously, we further divided support into four categories correspondingly: (1) helping both parents and children, (2) helping parents only, (3) helping children only and (4) helping neither parents nor children.

*Family structure*

Family structure is the key variable. Under the traditional filial piety culture of China, it is the responsibility of sons to provide old-age support to their parents. Hence only children and those with only sisters face similar situations supporting their parents in their old age. In addition, there were only a few cases in the dataset (2.1%) where both husband and wife were only children. Family structure was measured based on the participants’ and their spouses’ number of siblings, and the siblings’ genders (couples’ characteristics). We regrouped them as: neither spouse has a brother (the participants and their spouse both have no siblings or only have sister(s)); one spouse has a brother (either the participant or their spouse has no sibling or only have sister(s)); and both spouses have brothers (both the participant and their spouse have at least one brother.).

**Covariates**

Control variables were demographic (age, gender, urban/rural residence and marital status), socioeconomic status (educational attainment, family income per capita and occupation), health condition of respondents (ADL disability and whether they have chronic disease) from their individual characteristics, and needs from parents and children (with support needs from children measured through whether they were co-residing with their children, the number of children they had living independently, the number of children they had under 16 years old, and the number of their children still in school; and the needs from parents including whether participants co-resided with their parents, the educations of their parents, and the health conditions of the parents) from the couples’ characteristics.

**Methods**

This study used bivariate and multivariate analyses for the observational cross-sectional data. *t-tests* or *f-tests* were used to compare the differences in sample characteristics and intergenerational support between households with different family structures. Logistic models were applied to investigate whether support to parents (either financial or instrumental) was associated with support to children (both financial and instrumental) and receiving support from parents and children; and whether support to children (either financial or instrumental) was associated with support to parents (both financial and instrumental) and receiving support from parents and children. In addition, we fitted multinomial regression models to identify how family structures and receiving support were associated with the choice patterns of middle-aged adults to provide financial support and instrumental support to their parents and children (helping both parents and children, helping parents only, and helping children only (relative to helping neither parents nor children)). All data analysis was conducted in Stata 11.

**Results**

**Descriptive findings**

*Intergenerational support across different family structures*

Table 1 presents the sample characteristics and intergenerational support in different family structures. The average age of the final sample was 54 years old, comprising 47% males, 82% rural residents, and 92% married. More than half of the sample had lower education than a middle school education; over 60% were farmers or unemployed. Over 60% of the respondents had at least one chronic disease; however, they usually reported being able to manage their daily activities independently. In terms of intergenerational support among three generations, less than 3% of respondents or their spouses received financial support from their parents, and nearly half (46.7%) of the households provided financial support to their parents. However, only 11.7% of the respondents or their spouses provided financial support to their children, and more than one third of the households received financial support from their children. More than half of the respondents or their spouses provided instrumental support to their adult children, whereas only 22% of them provided instrumental support to their parents.

Comparing the respondents across three types of family structure, age, employed work, number of children living independently, children still in school, co-residence with parents, health condition of parents and number of siblings, exhibited significant differences. 47.61% of households both spouses had brothers who provided financial support to their parents; this compares with around 43% of those households both without brothers or either one without a brother; while around 39% of households both without brothers or either one without a brother received financial support from their children, compared with 35.5% of households in which both spouses had brothers.

<Table 1 about here>

*Support choices of sandwiched Chinese adults and differences by family structure*

In order to illustrate the proportion of respondents who provided financial support to their children only, parents only, or both in different family structures, Figure 1 shows financial support among respondents within different family structures. Over 30% of respondents only provided financial support to their parents in the previous year, while less than 7% reported providing financial support to both parents and children. The pattern of money transfer differs significantly between different family structures of respondents’ household. Higher percentages of respondents from households where neither spouse had a brother provided financial support to both parents and children, or to neither parents nor children, than the other two groups in the last year. Higher percentages of respondents from households where both spouses had brothers provided financial support only to a parent than of those in the other two groups. However, the difference in providing support only to a child was not significant among respondents’ households with different family structures.

<Figure 1 here>

Figure 2 presents the proportion of respondents who provided instrumental support to their children only, their parents only, or to both their parents and children. Almost 40% of the couples provided instrumental support to their children only in the last year, while less than 13% of them provided instrumental support to both. Comparing the pattern of care support between respondents within three types of family structures, a higher percentage of respondents from households where neither spouse had a brother provided instrumental support to their parents only or did not provide instrumental support to two generations than respondents in the other groups, and these differences were statistically significant. However, there was no significant difference between households with different family structures in providing instrumental support to both parents and children.

<Figure 2 about here>

**Statistical model**

*The associations between upward and downward support (financial or instrumental), and offering and receiving support to/from other generations*

Turning to explore the associations between providing financial/instrumental support to one generation, receiving financial support from one generation, and providing financial/ instrumental support to the other, the results from the logistic regression models showed that middle-aged respondents who provided financial/instrumental support to a child were more likely to provide financial/instrumental support to a parent, and vice versa. Receiving financial support from an adult child was positively associated with providing financial support to a parent, and also significantly correlated with providing instrumental support to an adult child. Receiving financial support from a parent was significantly associated with providing financial support to a child, but the association between receiving financial support from a parent and providing instrumental support to a parent was not significant. In addition, the association between receiving and providing financial/instrumental support to one generation was not statistically significant (Table 2).

<Table 2 about here>

*The associations between family structures, receiving support and choices of providing support to both parents and children, only parents, or only children*

The results of the choice pattern of middle-aged adults provide financial support and instrumental support to their parents and/or children (helping both parents and children, helping parents only, and helping children only comparing to the based reference: helping neither parents nor children) in the multinomial regression models are shown in Table 3. Respondents who received financial support from a child were significantly more likely to provide financial support to a parent only than those who did not receive financial support. In addition, those who received financial support from a child were significantly more likely to provide instrumental support to both parents and children, or to provide care to a child only, than those who did not receive financial support from a child. Respondents from households where neither spouse had a brother were significantly less likely to provide financial support only to a parent or to provide instrumental support only to a child than respondents who were from households where both spouses had brothers; while respondents from households where one spouse had a brother were significantly more likely to provide financial support to a child only, and less likely to provide financial support to both parents and children, than respondents who were from households where both spouses had brothers.

<Table 3 about here>

**Discussion and conclusion**

Using a nationally representative sample, we studied the support choices of middle-aged Chinese adults aged between 45 and 65, and the influence of family structure on these choices. Our study extends intergenerational support studies conducted in Western developed countries to an Eastern society with underdeveloped social security and a traditional culture of filial piety, and contributes an important perspective on the intergenerational relationship during China’s social and demographic transition.

*Support pattern of sandwiched Chinese adults*

Descriptive analysis shows that simultaneous support for both younger and older generations from middle-aged people is rare in China; however, this percentage (> 6%) is still higher than in US societies where only 3% of women concurrently transfer money to both parents and children (Wiemers & Bianchi, 2015). Unlike the transfer pattern in Western societies (Dukhovnov & Zagheni, 2015; Fingerman et al., 2011), in China financial support typically flows upwards from the younger generation to the older generation, especially in the households in which both spouses have brothers. However, instrumental support to adult children is more prevalent among middle-aged Chinese people (although the complete transfer pattern of instrumental support could not be shown here, due to the lack of information on support that middle-aged couples received from their older parents and younger offspring). The difference in transfer patterns may be attributed to Chinese filial piety culture and economic disadvantages. Older parents’ financial needs are prioritised because older cohorts in China are less like to receive a pension and more likely to be financially dependent on their adult children, and the traditional norm of filial piety governing children’s responsibilities towards their parents is clearly defined (Phillips & Feng, 2015). However, as younger women actively participate in work in order to share their families’ economic burdens, the demands of taking care of grandchildren become more urgent than the long-term care demanded by their parents. This may partly explain why middle-aged Chinese adults are more likely to favour their children in instrumental support.

*Support to older parents and adult children*

Our results not only reinforce the results other studies in Western societies regarding middle-aged adults providing support to both generations (Fingerman et al., 2011; Hagestad, 2006), but also extend findings that the provision of help to parents is positively associated with helping children, and vice versa (Grundy & Henretta, 2006). Our study confirms this positive association both in instrumental support and financial support. These findings are aligned to the resource expansion model (Marks, 1977; Sieber, 1974), and suggest that middle-aged Chinese adults try to balance the needs of their older parents and adult children once they shoulder these responsibilities.

*Receiving support and providing support among multiple generations*

In this study, receiving financial support from adult children is associated with the financial support offered by middle-aged couples to their older parents. In addition, receiving financial support from older parents is also associated with offering financial support to their younger offspring among middle-aged Chinese adults. The multinomial regression model also suggests that receiving financial support from younger children not only increases the likelihood of taking into account both generational demands, but also increases the likelihood of offering financial support to older parents only. Thus, help from one generation indirectly aids another generation higher up or further down the intergenerational chain (Hagestad, 2006). These findings imply that intergenerational support or family solidarity is managed across several intergenerational links in China, by which the welfare of each family member in need is guaranteed, and the different responsibilities that middle-aged adults face simultaneously can be balanced even under conditions of resource scarcity. These findings contribute theoretically to the understanding of multigenerational relationships in a society with traditional filial piety culture. This may also reinforce the resource expansion model in which personal resources are expandable since multiple roles provide access to multiple resources (Marks, 1977; Sieber, 1974)

Our study also extends the current understanding of motives for intergenerational support. From the empirical evidence of exchange approach, previous studies in Western societies suggest that providing more support to parents/adult children is positively associated with receiving more support from parents/adult children (Lee et al., 2012; Lucas & Stark, 1985). In this study, receiving financial support from older parents was not significantly associated with providing financial support to older parents, and receiving financial support from younger adult children was not significantly associated with providing financial support to children. However, those receiving financial support from their offspring were more likely to offer instrumental support to their offspring. These findings suggest that intergenerational support may not be motivated by direct exchange. However, the arrangement in which parents receive financial assistance while in turn helping their adult children by caring for grandchildren is common in China (Sereny & Gu, 2011; Yang, 1996), which may reinforce the intergenerational “social contract” or family solidarity.

*Family structure and distribution of intergenerational support*

Comparative analysis finds that a higher percentage of households in which neither spouse had a brother, or one spouse had a brother, received financial help from their children; and a lower percentage of them offered financial support to their parents than in households where both spouses had brothers. As to the competing demands, people from households in which neither spouse had a brother were less likely to financially support their parents only and to provide instrumental support to their children only than people from households where one spouse had a brother. These findings suggest that the family still plays an important role in old-age support in China and that the “sandwich generation” tries to balance the competing demands by transferring money to their parents and time to their children. However, the sandwiched situation of middle-aged Chinese adults becomes more demanding as family size declines. Under conditions of resource scarcity, sandwiched only children or those with no brother tended to support neither parents nor children rather than support both parents and children, especially through instrumental support. Only children could hardly or were less likely to balance the competing demands by transferring money to their parents and time to their children as usual, because their older parents were both financially and instrumentally dependent on their only children. Hence, promoting government support programmes to supplement family-based assistance should be an important direction for the Chinese government’s response to rapid population aging.

This paper also has its limitations. First, the instrumental support in the data we used mainly focused on long-term care for older parents and babysitting assistance for children, which may limit a broader definition of instrumental support. Second, intergenerational support was assessed only in terms of whether support was provided to or received from others, rather than based on the amount of financial support or total care hours. Although downward support by older adults did not reduce the likelihood of helping their older parents, the amount that middle-aged couples provided to one generation may compete with that provided to another generation. This aspect will be explored in a future study. Third, given that the deleted cases were more vulnerable and more likely to live with their adult children than the final sample, generalisations related to multigenerational support choices should be cautiously drawn. Finally, we only conducted the research mostly among baby boomers (born in the 1960s) in this study. The study therefore could not explore the evolving role of family due to demographic transition, especially the implementation of the one child policy (OCP) in China, as most cohorts born since the OCP have not yet entered their middle age. Although a more stratified analysis could not be conducted due to the limited cases of only children and only sisters among baby boomers, especially where both respondents and their spouses were from only-children or one-sister families, our findings for the baby boomer generation still provide important information for understanding the role of the family.

Nevertheless, the findings in this paper provide additional insight into the exchange motive for intergenerational support among middle-aged people, and examine the competing demands from multiple generations in China. The findings show that the situation of being sandwiched is harder to balance through family solidarity due to the changes in family structure; and public institutions are necessary to complement weakening family support.

**References**

Bengtson, V. (2001).Beyond the nuclear family: the increasing importance of multi-generational bonds. Journal of Marriage and Family,63,1-16.

Cai, F., Giles, J., &Meng, X. (2006). How well do children insure parents against low retirement income? An analysis using survey data from urban China. Journal of Public Economics, 90(12), 2229–2255.

Chen, F., Liu, G., & Mair, C. A. (2011). Intergenerational Ties in Context: Grandparents Caring for Grandchildren in China. Social Forces. 90(2) 571–594.

Cox, D. (1987). Motives for private income transfers. Journal of Political Economy, 95(3), 508–546.

Croll, E. J. (2006). The intergenerational contract in the changing Asian family. Oxford Development Studies. 34(4):473-491.

Dukhovnov, D.&Zagheni, E. (2015). Who takes care of whom in the United States? Time transfers by age and sex. Population and Development Review, 41(2), 183–206.

Fingerman, K. L., Pitzer, L. M., Chan, W., Birditt, K., Franks, M. M., &Zarit, S. (2011). Who gets what and why? Help middle-aged adults provide to parents and grown children. Journal of Gerontology: Social Sciences, 66B (1), 87–98.

Fingerman, K.L., Kim, K., Tennant, P.S., Birditt, K.S., Zarit, S.H. (2015).Intergenerational support in a daily context. The Gerontologist,10.1093/geront/gnv035.

Gans, D., Lowenstein, A., Katz, R., &Zissimopoulos, J. (2013). Is there a trade-off between caring for children and caring for parents? Journal of Comparative Family Studies,44(4), 455–471.

Goldscheider, F. K.&Lawton, L. (1998). Family experiences and the erosion of support for intergenerational coresidence. Journal of Marriage and the Family, 60, 623–632.

Grundy, E. (2005). Reciprocity in relationships: Socio-economic and health influences on intergenerational exchanges between Third Age parents and their adult children in Great Britain. British Journal of Sociology, 56, 233–255.

Grundy, E.&Henretta, J. C. (2006). Between elderly parents and adult children: a new look at the intergenerational care provided by the ‘sandwich generation’. Ageing & Society, 26(5), 707–722.

Hagestad, G. O. (2006). Transfers between grandparents and grandchildren: The importance of taking a three-generation perspective. ZeitschriftfürFamilienforschung, 18, 315–332.

Harper, S. (2003). Changing families as European societies age. European Journal of Sociology,44(2),155–184.

Harper, S. (2004). The challenge for families of demographic aging. In S. Harper (Ed.), Families in ageing societies: A multi-disciplinary approach(pp. 6−30). New York: Oxford University Press.

Henretta, J. C., Grundy, E., & Harris. S. (2001). Socioeconomic differences in having living parents and children: A US–British comparison of middle-aged women. Journal of Marriage and Family, 63,852–867.

Henretta, J.C., Hill, M. S., Li, W., Soldo, B. J., &Wolf, D. A. (1997). Selection of children to provide care: The effect of earlier parental transfers. Journal of Gerontology: Psychological and Social Sciences, 52B, 110–119.

Ikkink, K. K., Van Tilburg, T., Knipscheer, K. C. P. M. (1999). Perceived instrumental support exchanges in relationships between elderly parents and their adult children: Normative and structural explanations. *Journal of Marriage and the Family* , 61,831-844.

Kohli, M. &Künemund, H. (2005).The midlife generation in the family: Patterns of exchange and support. In: S. L. Willis & M. Martin (Eds.), Middle Adulthood: A Lifespan Perspective(pp. 39). Sage, Newbury Park.

Künemund, H. (2006). Changing welfare states and the “Sandwich Generation”: Increasing burden for the next generation? International Journal of Ageing and Later Life, 1(2), 11–30.

Lee, G. R., Netzer, J. K., & Coward, R. T. (1994). Filial responsibility expectations and patterns of intergener- ational assistance. Journal of Marriage and the Family, 56, 559-565.

Lee, J.E., Zarit, S.H., Rovine, M.J., Birditt, K. S., & Fingerman, K.L. (2012). Middle-aged couples’ exchanges of support with aging parents: Patterns and association with marital satisfaction. Gerontology, 58, 88–96.

Lin, J.P., Yi, C.C. (2011). Filial norms and intergenerational support to aging parents in China and Taiwan. International Journal of Social Welfare. 20, S109–S120.

Lucas, R. E. B.& Stark, O. (1985). Motivations to remit: Evidence from Botswana. Journal of Political Economy, 93,901–918.

Lundholm, E, & Malmberg, G. (2009). Between elderly parents and grandchildren—geographic proximity and trends in four-generation families. Population Ageing, 2, 121–137.

Luo, B., & Zhan, H. (2012). Filial piety and functional support: understanding intergenerational solidarity among families with migrated children in rural China. Ageing Int, 37, 69-92.

Marks, S. R. (1977). Multiple roles and role strain: Some notes on human energy, time and commitment. American Sociological Review, 42,921–936.

Moor, N.&Komter, A. (2012).The impact of family structure and disruption on intergenerational emotional exchange in Eastern Europe. European Journal of Ageing, 9,155–167.

Mu, G., & Zhang, T. (2011). Trends of population and strategic response. Journal of Huazhong Normal University(Humanities and Social Sciences),50(5), 29-36.In Chinese.

Pierret, C. R. (2006). The ‘sandwich generation’: Women caring for parents and children. Monthly Labor Review, 129(9), 3–9.

Pillemer, K.& Suitor, J. J. (2006). Making choices: A within-family study of caregiver selection. Gerontologist, 46, 398 – 448.

Phillips, D. R., & Feng, Z. (2015). Challenges for the Aging Family in the People's Republic of China. Canadian Journal on Aging, 34, 290-304.

Rubin, D. (1976). Inference and Missing Data. *Biometrika* 63: 581-592.

Rubin, R. M.& White-Means, S. I.(2009). Informal caregiving: Dilemmas of sandwiched caregivers. Journal of Family Economic Issues, 30, 252–267.

Schoeni, R. F. (1997). Private inter-household transfers of money and time: New empirical evidence. Review of Income and Wealth, 43, 423–448.

Sereny, M. D. &Gu, D. (2011). Living arrangement concordance and its association with self-rated health among institutionalized and community-residing older adults in China. Journal of Cross-Cultural Gerontology, 26(3), 239–259.

Shi, Y. (2008). The financial burden of aging support for the children of only child in China: A case study in Zhenjiang. Youth Study, 10, 46–52. In Chinese.

Sieber, S.D.(1974). Toward a theory of role accumulation. American Sociological Review, 39,567-578.

Silverstein, M., Conroy, S., Wang, H., Gairrusso, R.,&Bengtson, V. L. (2002). Reciprocity in parent-child relations over the adult life course. Journal of Gerontology: Social Sciences, 57, S3 – S13.

Silverstein, M., Gans, D., Yang, F. M. (2006). Intergenerational support to aging parents: The role of norms and Needs. Journal of Family Issues. 27(8):1068-1084.

Spitze, G., & Logan, J. (1992). Helping as a component of parent-adult child relations. *Research on Aging*, 14, 851–858.

Stoller, E. P. & Earl, L. L. (1983). Help with activities of everyday life: Sources of support for the non-institutionalized elderly. The Gerontologist,23(1), 64–70.

Suitor, J. J., Sechrist, J., &Pillemer, K. (2007). Within-family differences in mothers’ support to adult children in Black and White families. Research on Aging, 29, 410–435.

Sun, R. (2002). Old age support in contemporary urban China from both parents’ and children’s perspectives. Research on Aging, 24(3), 337 -359.

Szydlik, M. (2008). Intergenerational solidarity and conflict. *Journal of Comparative Family Studies.*39,97-114.

Wang, G. (2009). Estimation of the structure of China's only child and its future development trend. *Population Study.*33,1, 10-16. In Chinese.

White-Means, S. I.& Rubin, R. M. (2008). Parent caregiving choices of middle-generation Blacks and Whites in the United States. Journal of Aging and Health, 20, 560–582.

Wiemers, E. E.& S. M. Bianchi (2015). Competing demands from aging parents and adult children in two cohorts of American women. Population and Development Review, 41(1), 127–146.

Yang, H. (1996). The distributive norm of monetary support to older parents: A look at a township in China. Journal of Marriage and the Family, 58(5), 404–415.

Zhao, Y., Hu, Y., Smith, J. P., Strauss, J.,& Yang, G. (2014). Cohort profile: The China health and retirement longitudinal study(CHARLS). International Journal of Epidemiology, 43(1), 61–68.

**Table 1. Descriptive characteristic of whole sample, and among different family structures**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Variables | All cases(N=2828)Mean(SE)/% | Both without brother(N=146)Mean(SE)/% | One without brother (N=523)Mean(SE)/% | Both with brother (N=2159)Mean(SE)/% | P-Value |
| ***Individual Characteristics***  |  |  |  |  |  |
| **Age(mean)** | 54.37(0.10) | 55.49(0.32) | 55.42(0.21) | 54.04(0.12) | \* |
| **Male**  | 46.94% | 45.90% | 50.16% | 46.23% |  |
| **Rural residents**  | 81.86% | 77.44%  | 82.02% | 82.12% |  |
| **Education**  |  |  |  |  |  |
|  Illiterate and home school  | 38.58% | 42.18%  | 41.58% | 37.61% |  |
|  Primary school  | 22.14% | 20.02%  | 19.10% | 23.02% |  |
|  Middle school  | 24.61% | 23.16%  | 25.84% | 24.41% |  |
|  High school and above | 14.67% | 14.64%  | 13.48% | 14.96% |  |
| **Marital status (married)** | 91.87% | 89.96%  | 91.33% | 92.13% |  |
| **ADL disability scale** | 11.75(0.04) | 12.05(0.12) | 11.75(0.09) | 11.73(0.05) |  |
| **Chronic disease**  | 66.12% | 65.66%  | 67.90% | 65.72% |  |
| **Family income per capita** | 2.60(0.07) | 2.78(0.25)  | 2.59(0.16) | 2.59(0.08) |  |
| **Occupation**  |  |  |  |  |  |
|  Farmer or without work | 61.28% | 66.13%  | 66.45% | 59.70% |  |
|  Employed work | 26.24% | 22.70 % | 22.15% | 27.47% | \*\* |
|  Self-employed work | 12.48% | 11.17%  | 11.40% | 12.83% |  |
| ***Couples’ characteristics*** |  |  |  |  |  |
| **Co-residing with children** | 53.15% | 51.47%  | 52.01% | 53.54% |  |
| **Number of children living independently** | 1.77(0.02) | 1.86(0.10)  | 1.91(0.04) | 1.73(0.02) | \*\*\* |
| **Children under 16** | 3.85% | 4.24%  | 3.37% | 3.94% |  |
| **Children still in school** | 26.79% | 30.28%  | 29.53% | 25.89% | \* |
| **Co-residing with parents** | 6.58% | 8.71%  | 8.67% | 5.93% | \*\* |
| **Education of parents** | 14.07% | 12.10%  | 12.68% | 14.54% |  |
| **Health conditions of parents** | 25.18% | 21.58%  | 22.47% | 26.08% | \* |
| **Number of siblings**  | 7.35(0.05) | 4.79(0.11)  | 5.63(0.09) | 7.94(0.05) | \*\*\* |
| **Financial support from parents** | 2.51% | 1.52%  | 2.25% | 2.64% |  |
| **Financial support from children** | 36.51% | 39.05% | 39.97% | 35.50% | \* |
| **Financial support to parents** | 46.71% | 43.75%  | 43.82% | 47.61% | \* |
| **Financial support to children** | 11.70% | 12.39%  | 10.27% | 12.00% |  |
| **Care support to parents** | 22.46% | 22.82%  | 23.31% | 22.23% |  |
| **Care support to children** | 51.73% | 47.99%  | 53.64% | 51.52% |  |

*Note:* ADL = activities of daily living; Significance for *t-*test/*f*-test: \*\*\* P<0.001, \*\*P<0.01, \*P<0.05, +P<0.1 (TheP-values refer to the statistical test for comparison of the difference in sample characteristics based on family structures).

Weighted percentages

**Table 2. Odds ratio of financial support and instrumental support to parents/children by whether support is given to children/parents and received from parents/children**

|  |  |  |
| --- | --- | --- |
| Attribute |  |  |
| Financial support to parents | Financial support to children | Instrumental support to parents | Instrumental support to children |
| **Provided support to parents (ref: Did not provide)** | - | 2.35\*\*\* | - | 1.51\*\*\* |
| **Provided support to children (ref: Did not provide)** | 2.34\*\*\* | - | 1.52\*\*\* | - |
| **Received support from parents (ref: Did not receive)** | 0.65+ | 2.00\* | 1.05 | 0.95 |
| **Received support from children (ref: Did not receive)** | 2.06\*\*\* | 0.80 | 1.24+ | 1.52\*\*\* |
| **Number of siblings**  | 1.05\*\* | 0.98 | 1.01 | 1.02 |
| **Co-residing with children (ref: No)** | 1.01 | 0.52\*\*\* | 0.99 | 1.10 |
| **Number of children living independently** | 0.99 | 0.81\* | 1.01 | 0.90\* |
| **Has children under 16 (ref: No)** | 0.63\* | 1.58 | 1.15 | 0.34\*\*\* |
| **Children still in school (ref: No)** | 1.21\* | 1.30+ | 0.97 | 1.96\*\*\* |
| **Co-residing with parents (ref: No)** | 0.68\* | 1.14 | 4.77\*\*\* | 0.91 |
| **Education of parents**  | 0.92 | 1.02 | 1.12 | 0.91 |
| **Health conditions of parents**  | 1.17+ | 1.16 | 1.25+ | 1.19+ |
| **Male (ref: Female)** | 1.21\* | 1.12 | 0.99 | 0.94 |
| **Age** | 0.95\*\*\* | 0.94\*\*\* | 0.97\*\* | 1.03\*\* |
| **Rural residents (ref: Urban and None)** | 1.36\* | 0.56\*\* | 1.08 | 0.73\* |
| **Education (ref: Illiterate )** |  |  |  |  |
|  Primary school  | 0.95 | 1.37+\* | 1.17 | 0.76\* |
|  Middle school  | 1.03 | 1.61\*\* | 1.34\* | 0.98 |
|  High school and above | 1.20 | 1.30 | 1.64\*\* | 0.87 |
| **Married (Ref: Others (separated, divorced, widowed))** | 1.08 | 1.11 | 1.12 | 1.59\*\* |
| **ADL disability scale** | 0.96\* | 0.94 | 1.00 | 0.97 |
| **Presence of chronic disease (ref: Not present)** | 1.25\*\* | 1.11 | 1.11 | 1.07 |
| **Family income per capita** | 1.02 | 1.05\* | 0.99 | 1.00 |
| **Occupation (ref: No work and Farmer)** |  |  |  |  |
|  Employed work | 1.29\* | 1.04 | 1.42\* | 0.86 |
|  Self-employed work | 1.47\*\* | 1.48\* | 1.27 | 0.78+ |
|  |  |  |  |  |
| Log Likelihood | -1837.33 | -906.93 | -1091.05 | -1487.86 |
| Pseudo R2 | 0.0591 | 0.1114 | 0.0545 | 0.0443 |
| Sample size | 2826 | 2248 |

*Note:* ADL: activities of daily living; Significance for *t*-test/*f*-test: \*\*\* P<0.001, \*\*P<0.01, \*P<0.05, +P<0.1

**Table 3. Results from multinomial models: relative odds ratios of helping both parents and children, parents only, and children only (based reference: helping neither parents nor children)**

|  |  |  |
| --- | --- | --- |
| Attribute |  Financial support  |  Instrumental support  |
| To both  | Only to parents | Only to children | To both  | Only to parents | Only to children |
| **Family structure (a) (ref: Both spouses have brothers)** |  |  |  |  |  |  |
| Neither spouse has a brother | 2.07 | 0.61\* | 0.99 | 0.61 | 1.22 | 0.40\* |
| One spouse has a brother | 0.65\* | 0.96 | 1.58\* | 1.20 | 1.06 | 0.99 |
| **Received support from parents (ref: Did not receive)** | 0.91 | 0.60+ | 2.21\* | 1.11 | 0.78 | 0.85 |
| **Received support from children (ref: Did not receive)** | 1.38+ | 2.07\*\*\* | 1.17 | 1.83\*\*\* | 1.37+ | 1.57\*\*\* |
| **Co-residing with children (ref: No)** | 0.52\*\* | 1.03 | 0.52\*\* | 1.06 | 1.10 | 1.14 |
| **Number of children living independently** | 0.82+ | 1.00 | 0.81+ | 0.87 | 1.11 | 0.93\* |
| **Has children under 16 (ref: No)** | 0.73 | 0.70 | 1.70 | 0.54 | 0.66 | 0.26\*\*\* |
| **Children still in school (ref: No)** | 1.43+ | 1.24\* | 1.58\* | 1.83\*\*\* | 1.12 | 2.04\*\*\* |
| **Co-residing with parents (ref: No)** | 0.79 | 0.69\* | 1.03 | 4.18\*\*\* | 4.31\*\*\* | 0.84 |
| **Education of parents** | 0.87 | 0.89 | 1.10 | 0.95 | 1.32 | 0.97 |
| **Health conditions of parents** | 1.33 | 1.21+ | 1.25 | 1.55\*\* | 1.16 | 1.15 |
| **Male (ref: Female)** | 1.18 | 1.25\* | 1.40+ | 0.84 | 1.29 | 1.03 |
| **Age** | 0.91\*\*\* | 0.94\*\*\* | 0.90\*\*\* | 0.99 | 0.96\* | 1.02\* |
| **Rural residents (ref: Urban and None)** | 0.76 | 1.49\*\* | 0.68 | 0. 87 | 0.79 | 0.64\*\* |
| **Education (ref: Illiterate )** |  |  |  |  |  |  |
|  Primary school  | 1.35 | 0.97 | 1.30 | 0.93 | 1.06 | 0.74\* |
|  Middle school  | 2.07\*\* | 0.97 | 1.21 | 1.44+ | 0.98 | 0.88 |
|  High school and above | 1.94\* | 1.12 | 0.99 | 1.50+ | 1.40 | 0.82 |
| **Married (Ref: Others (separated, divorced, widowed))** | 1.06 | 1.13 | 1.54 | 2.39\*\* | 0.81 | 1.39+ |
| **ADL disability scale** | 0.93 | 0.96\* | 0.92 | 0.98 | 0.99 | 0.97 |
| **Chronic disease**  | 1.04 | 1.36\*\* | 1.82\*\* | 1.15 | 1.16 | 1.07 |
| **Ln Family income per capita** | 1.07\*\* | 1.01 | 1.05 | 0.99 | 0.98 | 0.99 |
| **Occupation (ref: No work and Farmer)** |  |  |  |  |  |  |
|  Employed work | 1.26 | 1.40\* | 1.23 | 1.19 | 1.61\* | 0.91 |
|  Self-employed work | 2.13\*\* | 1.32\* | 1.60+ | 1.15 | 0.86 | 0.65\* |
|  |  |  |  |  |  |  |
| Log Likelihood | -2769.08 | -2571.11 |
| Pseudo R2 | 0.0649 | 0.0497 |
| Sample size | 2826 | 2248 |

*Note:* ADL: activities of daily living; Significance for *t-test/f-test*: \*\*\* P<0.001, \*\*P<0.01, \*P<0.05, +P<0.1

***Figure 1*. Financial support among households within different family structures.** (Weighted percentages)

***Figure 2*. Care support among households within different family structures.** (Weighted percentages)