ARE CONTRIBUTORY BEHAVIORS RELATED TO CULTURE? COMPARISON OF THE OLDEST OLD IN THE UNITED STATES AND IN CHINA

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Abstract:
The purpose of this study is to examine the impact of culture on contributory behaviors within the context of family, friends, and neighbors among the oldest old in the United States and in China. The study was conducted in suburban areas of Boston in 1996 (n = 465), and later in 1999 a replication of the study was conducted by Chinese researchers in urban areas of Shanghai, China (n = 539). This study found some common factors such as objective measure of health status, assistance received from others, and group affiliation. However, many differences emerged in the study. The range of contributory behaviors toward friends is quite different between the two samples. Some of the correlates' impact is also culturally specific, such as sibling support. These differences reflect variation in respondents' social support as well as social structural differences. Findings from this study suggest that providing more opportunities for elders to participate in groups would facilitate their participation in volunteer activities and improve their overall well-being.

Article:
Introduction
The rapid increase of life expectancy has been occurring worldwide, with the oldest old population as one of the fastest growing segments of the population in many countries. The oldest old population (age 85+) in the United States was four million in the year 2000, or 12% of the elderly population 65 and above (U.S. Census Bureau, 2000). The number of oldest old in China, commonly defined as age 80 and older' by Chinese researchers, was about 11 million in the year 2000, or 8% of the elderly population 60 and above (Chinese Census Bureau, 2002). It is estimated that in the year 2050, in the United States, the number will be 18.2 mil-lion, or 23% of the elderly population (Population Resource Center, 1997); and in 2050, the oldest old in China will reach 80 million, comprising 18% of the elderly population (Wu, 2001).

Studies suggest that individuals are likely to make contributions to other people depending on cultural norms (Triandis, 1994). The major cultural dichotomy is individualism vs. collectivism in the United States and China (Triandis, 1995). In the

United States, individualism dominates in a culture which emphasizes independence. Increasing filial autonomy reflects this overarching American value. In China, the culture emphasizes collectivism and thus interdependence. Filial piety reflects the Chinese value of interdependence. Davis-Friedman (1991) reported that Chinese elders and their adult children "believe that the creation of the children's physical existence and the care given them in childhood require children to reciprocate in their parents 'old age.'" The popular saying, "rearing a son for the sake of old age" expresses the expectation that older people, by providing economic and other support to the young, lay the foundation for their own support in later life.

Given that cultural norms are different in the United States and in China, and the population of the oldest old is increasing drastically in both countries, more knowledge needs to be gained regarding the behaviors of this group. Thus, this study will examine whether contributory acts are related to culture by comparing contributory behaviors and their related factors between the oldest old in the United States and in China.

The different cultural systems of these two countries have reinforced different cultural norms (interdependence vs. independence). Currently, the United States has provided a stronger economic and health care safety net for elders than China. In recent years in the United States, the improvement of elders' economic status, health care coverage, and extended public programs such as the increasing avail-ability of community-based long-term care programs, have promoted greater independence from family support among elders (Rossi & Rossi, 1990). By contrast, the Chinese government's policies toward elders have long promoted the interdependence of the generations in the family. Although a higher percentage of Chinese urban elders have pension and health care coverage than their rural counterparts, such coverage is still limited in comparison to their U.S. counterparts (Zimmer & Kwong, 2004). Many of them are relying on their family to provide financial support and future long-term care (Zeng et al., 2002).

The cultural norms of individualism vs. collectivism have different impacts on the role of family and friends in elders' lives in the United States and in China. While family is an important part of an American elder's life, friends are replacing family members in providing various kinds of support that were once performed by close family members or relatives, such as being confidants (Rajulton & Ravanera, 2001). Friends provide valuable social support for older adults, especially during the period of a major role transition.

In the Chinese culture, family is the center of everything (Gao, 1996). In traditional Chinese families, older persons rely almost exclusively on themselves and their families (Siu & Phillips, 2002). To the Chinese, family is both a home and a community. The Chinese have a nearly formal obligation to the family. Gudykunst & Matsumot (1996) suggested that individuals are more likely to put family and one-on-one relationships before groups or the general society in a collectivistic culture such as China. Among elders, family still plays far more important role than friends, despite the fact that these cultural values have been changing due to rapid industrialization and modernization in China.

While the oldest old have different cultural norms and perceive their roles to-ward family and friends differently, individuals in this age group certainly share some similarities. The oldest old are a heterogeneous group in both countries. Except for the few having severe cognitive and functional impairment, many among the oldest old maintain high levels of function and retain strong ties with family, friends, and society (Camacho et al., 1993; Faber et al., 2001; Field & Gueldner, 2001; Gonyea, 1995; Suzman et al., 1992). Historically, attitudes toward elders differ between these two cultures. Americans tend to have more negative stereo-types about elders, especially regarding the oldest old, who are assumed to be in nursing homes, senile, or unable to contribute to society (Palmore, 1999; Rowe & Kahn, 1998). China, by contrast, has a tradition of respecting elders. This philosophy of respect was built on the long history of an agricultural society in which elders were perceived as symbols of wisdom.

However, the idea of the revered elder has been eroded due to fast-changing social and economic conditions. Much attention has focused on the dependent needs of this population in the United States. As in the United States, the vast majority of studies in China have focused on elders as recipients of personal care and financial assistance. A more comprehensive picture of the oldest old as well as a greater understanding of contributory behaviors among the oldest old is needed in the gerontological field. Research on Contributory Behavior among the Oldest Old in the United States and in China

There is limited focus in the literature on characteristics of the oldest old in the United States. The few studies available on the oldest old focus on frailty and dependence and use small samples (Black & Rush, 2002; Hebert, Brayne, & Spiegelhalter, 1999; Binstock, 1992). Axelrod (1999) noted that, while there is increased interest on successful, productive, and healthy aging extending to old age in the gerontological field (Caro, Bass, & Chen, 1993; Herzog et al., 1989; Herzog & House, 1991; Rowe & Kahn, 1997; 1998), few investigators have ex-tended their scholarly pursuits to the oldest old. Axelrod (1999) further indicated that researchers have spent less time exploring the status of how the oldest old contribute to society, more specifically to family members, friends, neighbors, and to the broader community. The limited studies available indicate that, compared to the young-old, the oldest old still contribute in productive ways to society by per-forming formal paid work and informal help to family members and friends, al-though at decreased levels (Garfein & Herzog, 1995; Herzog et al., 1989).

In most developing countries, published literature on the elderly population generally is limited to age 60 to 80; the few existing surveys on the elderly have sample sizes that are too small to provide a strong empirical understanding of the oldest old. China is no exception.

One study providing insight into aging in China is relevant to this study. Al-though not focused on the oldest old, Chou and Chi (2002) offered some insights into successful aging in China. They interviewed 1,106 respondents aged 60 and above in Hong Kong in 1995. It is one of the few studies that explored successful aging among Chinese

elderly. Similar to the study conducted by Garfein and Herzog (1995) in the United States, successful aging was defined according to four dimensions: functional status, affective status, cognitive status, and productive involvement status. "Productive involvement" was defined by two items: paid work and assistance provided to the informal network with household chores. Age, gender, educational level, social support, and health status were found to be associated with the overall successful aging indicator. To our knowledge, no research has specifically examined contributory behavior among the oldest old population in China.

While researchers have begun to look at performing informal help towards family and friends in this age group in the United States, few studies have looked at contributory behavior towards family and friends separately. More importantly, no study has investigated contributory behavior toward family and friends cross-culturally to determine whether contributory behaviors are related to culture. Given the different roles that family and friends play in older adults' lives in the United States and in China, it is instructive to examine predictive factors of contributory behavior within the context of family, friends and neighbors in these two cultures.

Literature Review

The study framework was developed based on a comprehensive review of cur-rent literature (Figure 1). Variables were selected from the existing literature for their potential relationship to contributory behavior. Since the literature on contributory behavior from a cross-cultural perspective is so small, as noted earlier, we also conducted a general literature review of culture and well-being to identify potential predictors. We selected potential correlates from the following categories: sociodemographics, health status, social participation, living situation and assistance from others. Although culture cannot be directly measured, it affects contributory behaviors through some proxies listed in Figure 1.

Impact of Culture on Potential Correlates of Contributory Behaviors
Cultural norms of independence and interdependence are strongly related to some variables such as sources of income (i.e., financially independent vs. financial support to the oldest old from their adult children) (Kagiticibasi, 1996; Hogan, Eggebeen & Clogg, 1993; Shi, 1993; Sun, 2002), preferences in living arrangements (living alone vs. living with other people) (Bian, Logan, & Bian, 1998; Hogan, Eggebeen, & Clogg, 1993; Cooney & Uhlenberg, 1992), patterns of social contact (Gao, 1996; Blau, 1981, Pahl & Spencer, 1997), and patterns of assistance from others (Bian, Logan, & Bian, 1998; Logan & Spitze, 1996). These variables are elements of social support. In addition, culture is also related to individuals' different religious affiliations, as well as religious practices between Eastern and Western culture (Krause et al., 1999). Furthermore, subjective ratings of health status are likely to vary between individuals in the two different cultures (Jy1115. et al., 1998).

Sociodemographics

In later life, age and contributory behaviors are negatively associated. Studies suggest that for older adults, activities remain at an even level or decrease across age groups

(Herzog et al., 1989; Krause, Herzog, & Baker, 1992; Logan & Spitz, 1996). The likelihood of providing household care and financial support decreases with age among rural Chinese elders (Shi, 1993). Other researchers suggest that although age is related to the amount of support provided to children, it tends to operate through other life course changes, such as health, marital status, or child's age. Changes in health and marital status typically deplete the physical, emotional, or financial resources required for various types of support. Therefore, growing old in and of itself is not expected to have the same effect on the availability of the resources (Cooney & Uhlenberg, 1992). Compared to men, older women report greater continuity in their long-term friendships and perceive that friends play a more significant role in their lives as they grow older (Antonucci, Sherman, & Akiyama, 1996). In terms of contributing to the family, one study found that a sole surviving grandmother is more likely to give assistance than a sole surviving grandfather (Hogan, Eggebeen, & Clogg, 1993). Chinese female elders are more emotionally attached to their children and hence are expected to have more frequent support exchanges than male elders (Shi, 1993). Krause, Liang, and Keither (1990) suggest that older adults provide more types of informal support to others as levels of educational attainment increase. In addi-

Figure 1
Theoretical Framework of the Study
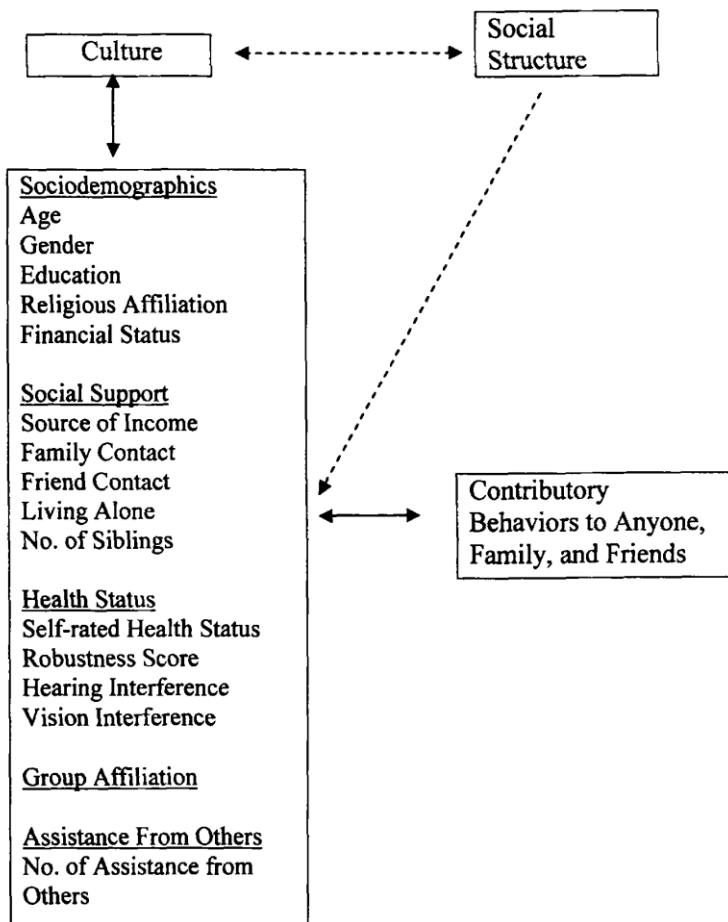
tion, older adults with higher levels of education were more likely to have higher levels of financial and instrumental exchanges with their adult children (Hogan, Eggebeen, & Clogg, 1993).

Individuals with fewer socioeconomic resources are likely to be less involved in kin support among U.S. elders (Hogan et al., 1993). Chou and Chi (2002)'s study conducted in Hong Kong found that, although financial strain is negatively associated with successful aging indictors, level of education is a positive factor. Some studies further suggest that adult children and parents who are more highly educated and have higher incomes are more likely to be involved in exchanges of emotional and instrumental support than their counterparts with less education and lower incomes (Hogan et al., 1993; Kulis, 1992; Rossi & Rossi, 1990).

Organized religious affiliation increases the opportunity to provide social contributions specifically through volunteerism and charitable acts. Religious involvement is an important factor in contributory behavior among the oldest old. This factor is positively associated with a higher level of social support for other people since giving social support to others is a central part of religious life (Wulff, 1991). Studies further suggest that helping others is promoted by virtually every one of the world's major religions (Ellison & Levin, 1998).

Health Status
The existing studies did not have consistent findings with respect to health status and contributory behavior. Using self-rated health status as an indicator, Hogan, Eggebeen, and Clogg (1993) suggest that older adults with better health are not significantly more likely to have higher levels of instrumental or resource exchanges with their adult children. However, using the same measure, Cooney & Uhlenberg (1992) found that the healthier older adults are, the more likely they are to provide advice to their adult children. Elders who are healthier and more mobile are also more likely to provide assistance to their children (Soldo & Agree, 1988; Avery, Speare, & Lawton, 1989). These findings hold true among Chinese elders in Hong Kong (Chou & Chi, 2002).

Social Support
More frequent contact between adult children and older parents was a significant factor for all levels of kin support (Hogan, Eggebeen, & Clogg, 1993). Classic psychological and sociological research show that individuals tend to help others whom they know, interact with frequently, and like (Kadushin, 1966). Some evidence indicates that a high frequency of social contacts with family, friends and neighbors is negatively associated with both emotional and social loneliness among the oldest old (Bondevik & Skogstad, 1998). Chou and Chi (2002)'s study further confirmed that a higher level of contact with friends correlates positively with successful aging indicators among Chinese elders.

Older adults give significant social support to siblings (O'Bryant, 1988), and support to siblings may increase over the life cycle (Goetting, 1986). This is partially due to the loss of other family members and friends over time. Studies suggest that individuals with more siblings are more likely to provide sibling support (Connidis, 1994). One study

conducted among older adults in Taiwan and the Philippines found that Taiwanese elders tend to concentrate their social support efforts within the kin network, with almost all of the support directed towards their adult children and their grandchildren. In contrast, the elders in the Philippines show much more broadly distributed exchange activities with other generations, most importantly with siblings (Agree, Biddlecom, & Valente, 2005).

Co-residence increases opportunities for contributions (Dwyer, Lee, & Jankowski, 1994). Shi (1993) reported that Chinese elders living with children or other relatives are more likely to provide household help. These living arrangements facilitate mutual aid, which is more likely to be in-kind rather than direct cash contributions between generations.

Group Affiliation

Group participation is an important part of socialization. As Rosow (1967) indicates, "people are tied into their society essentially through their beliefs, and groups that they belong to, and the positions that they occupy" (page 9). Participation in volunteer groups provides greater opportunities for helping friends, as well as others in need (Gallagher, 1994). In addition, some researchers note that being a member of any club or organization is one indicator of greater amount of support given to others (Peek & O'Neill, 2001).

Assistance from Others in the Informal Network

Individuals receiving a greater amount of assistance from others would more likely to contribute to others. Reciprocity is an important concept related to elders' contributory behavior. The pattern of social exchange between elders and their adult children addresses the reciprocity inherent in support relationships (Antonucci, 1990; Ingersoll-Dayton & Antonucci, 1988). Shi (1993) suggests reciprocity exist in household support among rural residents. Elders who receive more household and financial care from their children are likely to provide more household care to their children. Studies found different patterns of reciprocity between older adults and adult children in the United States and China. One study found that about 55% of Chinese older adults reported receiving regular help from their adult children, whereas only about 25% of the children received any kind of regular help from their parents (Bian, Logan, & Bian, 1998). A study conducted in the United States found that 27% of older parents reported receiving help from any child, and 58% of parents give help to any child (Logan & Spitze, 1996). Reciprocity is a very important concept in Chinese culture. Chinese elders traditionally have relied upon family members for nearly all aspects of elder care and support, reflecting the oft-recognized traditional values of filial piety, and the economic realities of the limited availability of resources from outside of the home. On the other hand, Chinese elders also provide support to their family to exchange the support. This type of intergenerational exchange is built upon mutual needs between older adults and their adult children (Xiong, 1998).

The need for reciprocation is a universal phenomenon and a crucial component in the maintenance of self-worth (Wentowski, 1981). The general principle of reciprocity

governs voluntary social exchange. However, based on equity theory, an individual's well-being may suffer if inappropriate rewards or continued non-reciprocation occur (Siegrist, Knesebeck, & Pollack, 2004). Roberto and Scott (1986) further stated that in late life, giving support to a friend can be gratifying even though nothing tangible is received in return, whereas receiving support and not being able to return the favor causes feelings of discomfort. Hogan et al. (1993) suggest that adult children who have provided assistance to their older parents in the past would continue to receive reciprocal assistance from their parents. Intergenerational support in the United States involves a mixture of altruistic giving and an exchange strategy. Older adults continue to give as long as they are able, and adult children also tend to increase their support to parents in times of need. Even in the times of greatest need, nearly half of all persons receiving intergenerational support also give support, indicating the key role reciprocity may play in sustaining an exchange relationship among kin. An inability to provide balanced reciprocity due to limited resources or failing health results in dependence on the more resourceful party, e.g., adult children or other third party, and may lower levels of psychological well-being (Stoller, 1985).

Methods
Data Collection and Sample
The U.S. data were collected through telephone interviews under the direction of Silverstein and Wu at the Gerontology Institute, University of Massachusetts Boston from April through June 1996. A sample of 1,526 community-dwelling elders 85 years and older was randomly drawn from town census data from eight suburban towns in the Greater Boston area. A total of 465 respondents completed the interview, which lasted an average of 40 minutes. The survey instrument included sociodemographic variables, social participation, and measures of contributory behavior (Silverstein & Wu, 1997).

In 1999, in collaboration with colleagues at the Gerontology Institute, University of Massachusetts Boston, the Shanghai Second Medical University and the Shanghai Research Center on Aging conducted both telephone and in-person interviews with the oldest old (defined in China as aged 80 and above) in Shanghai, China. We modified the questionnaire and researchers in China translated it into Chinese. The translations were not formally forward-backward translations but were checked for accuracy by the first author, who compared the original English questionnaire to the Chinese version. Some questions, such as those relating to driving and snows shoveling, were not applicable or not common in China and were deleted from the Chinese version.

Due to the fact that Chinese elders were not accustomed to telephone inter-views, both telephone and in-person interviews were conducted in China. The in-person interviews were a random selection of individuals from five districts in Shanghai. Respondents from the telephone interviews were recruited through a radio program for seniors. This study was based on combined samples of 539 respondents from telephone and in-person interviews. All 350 respondents except for one participated in the in-person household interviews. All 190 telephone respondents completed the interview. Such a high response rate is quite common in officially sponsored projects in China (Ikels, 1991; Yu et al., 1989; Zeng, 2002).

While direct comparison cannot be made, there are many similarities between these two metropolitan areas. Both cities are seaports and financial, cultural, and trade centers in their respective countries. Elders in these two cities have relatively higher levels of education and income in comparison to most cities and rural areas in their respective countries. Elders in eight suburban towns in the Greater Boston area generally reflect the characteristics of middle class individuals residing in the Greater Boston area. Although Shanghai is an enormous administrative area, the five districts from which in-person interview data were collected are in core urban areas. Shanghai has been undergoing massive construction and population relocation in the past 15 years. However, a huge number of older residents still reside in core urban areas. On average, respondents in both samples resided in the same community for many years. The mean length of stay in the community for the Boston and Shanghai samples is 38.9 and 32.4 years respectively. Only 6% and 8% of the respondents in Boston and Shanghai samples reported staying in the com-munity for less than five years.

Measures
Dependent Variables
The term *contributory behavior* captures a broad range of activities performed for other individuals. Contributory behavior was measured by asking respondents whether they provided any of a set of contributory acts in the previous month (1) to anyone in the informal network (In this study, "anyone" refers to family members, friends, neighbors, casual acquaintances, and group members), (2) to family alone, and (3) to friends/neighbors alone.' In this study, contributory behavior was de-fined by the following 11 acts: giving gifts or money, providing companionship, giving comfort, visiting the sick, cooking meals, shopping, giving advice, repairing things, caring for someone ill, providing household work, and providing child care. The respondents were asked whether they provided any of these contributions (the list above) to anyone in the informal network, to the family, and to friends and neighbors in the previous month. *Range of contributory behavior* was the sum of these 11 acts.

Independent Variables
Sociodemographics. This category included age, gender, educational level, religious affiliation, and financial and life satisfaction.

Age was measured as actual year of age. A similar coding strategy was applied to the *number of siblings. Gender* was coded as female = 1, and male = O. For U.S. respondents, *educational level* was measured as attaining college degree or above as 1, and otherwise 0; for the Chinese respondents, education was recoded as high school or above as 1, and otherwise as 0.

For U.S. respondents, religious affiliation included Catholic, Protestant, and Jewish. Being *Catholic* was coded as 1, otherwise as O. A similar dichotomous coding strategy was applied to the variables *Protestant* and *Jewish.* For the Chinese respondents, *having a religious affiliation* was coded as 1, otherwise as O.

Respondents were asked to rate their financial status as not enough, enough, or more than enough. *Financial satisfaction* was coded 1 for financially more than enough, and 0 otherwise.

Social Support. Social support included sources of income, family contact, contact with friends, living arrangement, and number of siblings. *Sources of income* included Social Security, pension, savings, earnings, family support, and welfare. The variable *sources of income* was the number of these income sources. Social contact included (1) high social contact with family, friends, or neighbors, and (2) membership in a social group such as a church group, exercise class, or reading group. The variable *high contact with family* was coded 1 if the respondent had at least weekly face-to-face, phone calls, or mail contact with family members, and 0 otherwise. The same coding algorithm was applied to the variable *high contact with friends or neighbors. Living alone* was coded as 1 and otherwise as O. *Number of siblings* was measured as the actual number of siblings still alive.

Health Status. This category contained the following variables: self-rated health status, number of robustness indicators, the presence of some vision impairments, and the presence of hearing impairment. The *self-rated health status* was coded as 1, excellent or very good; and 0 otherwise. A *robustness scale* was created from four indicators of robustness used by Suzman et al. (1992): lifting ten pounds, walking .25 miles, bending or kneeling, walking up ten steps. The total robustness score was the sum of the behaviors performed, ranged from 0 to 4, and yielded a Cronbach's alpha of .78 in the Chinese data and .67 in the U.S. study. This scale measures an individual's strength and represents functional status. The presence of some vision impairments was coded as 1 and 0 otherwise. The same coding strategy was applied to the variable *hearing impairment.*

Group Affiliation. For the U.S. sample, *number of the groups belong to* was coded as the actual number of groups. For the Chinese sample, the *group membership* was coded as 1 if the respondents belonged to at least one group, and 0 otherwise. *Assistance from Others.* Assistance from others was measured by the assistance respondents received from the informal network. The range of acts of assistance is equivalent to that for contributory acts, except for childcare. Assistance was de-fined as giving gifts or money, providing companionship, giving comfort, visiting the sick, cooking meals, shopping, giving advice, repairing things, caring for some-one ill, and providing household work. The *number of assistances received* was the sum of these ten acts. A separate measure of assistance from anyone in the informal network, family, or friends was included in the different models to anyone including family, friends, and neighbors, family alone, and friends/neighbors alone.

Analysis
Separate analyses of variable distributions were performed for the U.S. and Chinese samples and separate models were constructed. A few variable distributions (i.e., educational level, religious affiliation, and group affiliation) were quite different in the two samples. However, except for a few variables, the models are quite similar. Chi-

square and t-tests were used to assess the differences between the U.S and Chinese samples with respect to their characteristics, frequency, and range of contributory behaviors. Six separate regression models were run to examine the factors related to contributory behavior towards anyone in the informal network, to family, and to friends in both samples. SAS 9.1 was used to recode variables and conduct data analysis.

Results
Sample Characteristics
Table 1 compares demographics, health status, living arrangements, and social participation of the oldest old in Boston and Shanghai.

Contributory Behaviors. There was no significant difference in contributory behaviors towards anyone in the informal network, and family members alone in the informal network between the U.S. and Chinese sample. The number of contributory acts to anyone in the informal network was 2.58 and 2.41 respectively for the U.S. and Chinese respondents. The number of acts for family was 1.60 and 1.78 respectively. The U.S. respondents provided significantly more contributory acts to friends (1.33) than their Chinese counterparts (0.63).

Sociodemographics. Compared to the Shanghai sample, a significantly higher percentage of the Boston respondents was female (71% vs. 60%) and a smaller percentage married (19% vs. 38%). In terms of education, respondents in the Boston sample had much higher educational levels than their counterparts in Shanghai. Eighty-six percent of the respondents in Boston reported their formal education at high school or above while only 39% of the Chinese respondents had a high school education or above.

There was a wide difference with respect to religious affiliation between these two groups. Almost all respondents in Boston reported having a religious affiliation (94%), but only 32% of the respondents in Shanghai did so. The majority of the respondents (83%) in Boston identified themselves as Catholic or Protestant, but this was the case for only 7% in Shanghai. In China, Buddhism is the major religion. Twenty-five percent of the respondents reported that they were Buddhist. Many people do not practice organized religion or may not do so openly in China. The majority of Chinese respondents thus reported no religious affiliation at all. A significantly larger percentage of Chinese respondents (35%) reported that their financial status is "more than enough," compared to only 8% of the U.S. respondents.

Table 1

Table 1
Description analysis of the Oldest Old in Boston and Shanghai

	Boston (_n_ = 465) Percentage/ Mean(SD, Range)	Shanghai (_n_ = 539) Percentage/ Mean(SD, Range)	_p_
No. of contributions to anyone[1]	2.58(2.03, 0-10)	2.41(2.17, 0-10)	ns
No. of contributions to family	1.60(1.74, 0-10)	1.78(1.83, 0-9)	ns
No. of contributions to friends	1.33(1.50, 0-7)	0.63(1.13, 0-8)	<0.01
Sociodemographics			
Age	88.27(2.88, 85-102)	83.33(2.23, 80-90)	<0.01
Female	70.97%	59.74%	<0.01
Education			
High School or above	85.87%	39.33%	<0.01
Junior College or above	35.48%	13.36%	<0.01
Marital Status			<0.01
Married	18.92%	37.85%	
Religious Affiliation	93.55%	31.91%	<0.01
Catholic	47.74%	1.48%	<0.01
Protestant	34.84%	5.19%	<0.01
Jewish	10.97%	-----	na
Buddhist	-----	25.23%	na
Financial Status			
Financially more than enough	8.04%	34.53%	<0.01
Social Support			
No. of sources of income	1.98(0.93, 1-5)	1.11(0.39, 0-3)	<0.01
Social Security	92.53%	-----	na
Pension	44.40%	75.51%	<0.01
Savings	38.60%	2.23%	<0.01
Earnings	5.26%	0.56%	<0.01
Family	4.60%	29.31%	<0.01
Other including social welfare	12.33%	3.15%	<0.01
High contact with family	78.28%	70.87%	<0.01
High contact with friends	82.37%	34.14%	<0.01
Living alone	64.52%	9.65%	<0.01
No. of siblings	1.25(1.73, 0-11)	1.69(1.97, 0-13)	<0.01
Health Status			
Self-rated health status			<0.01
Excellent	10.97%	7.05%	
Very Good	24.73%	15.21%	
Good	27.10%	20.22%	
Fair	26.45%	42.86%	
Poor	10.54%	14.66%	
No. of robustness indicators(0-4)	2.86(1.27, 0-4)	3.18(1.24, 0-4)	<0.01
Hearing interference	37.85%	31.37%	<0.05
Vision interference	37.85%	38.96%	ns
Group Affiliation			
Having group affiliation	92.69%	15.77%	<0.01
No. of groups belong to	0.75(0.99, 0-6)	0.17(0.46, 0-3)	<0.01
Assistance from Others			
No. of assistances from anyone	4.29(2.15, 0-10)	4.69(2.35, 0-10)	<0.01
No. of assistances from family	3.24(2.29, 0-10)	3.32(1.91,0-8)	ns
No. of assistances from friends	1.56(1.45; 0-7)	1.59(1.29,0-7)	ns

Note: 'Anyone refers to family members, friends, neighbors, casual acquaintances, and group members. P values are generated by X2 tests for categorical variables and by t test for continuous variable. na stands for not applicable, ns stands for not significant.

Social Support. The major sources of income in the Boston sample were Social Security (93%), pensions (44%), and savings (39%). On average, Boston respondents had two income sources. The major sources of income for the respondents in Shanghai were pensions (76%), and support from family (29%). On average, Chinese respondents only had one income source, either pension or family support. The U.S. respondents had significantly higher contact with family and friends than their Chinese counterparts. Seventy-eight percent of the oldest old in the United States reported that

they had at least weekly contact with their family, and 82% reported having at least weekly contact with their friends; the percentage for the Shanghai respondents was 71% and 34% respectively.

There is much variation in living arrangements between the oldest old in these two samples. Compared to the oldest old in Shanghai, a significantly higher per-cent of U.S. respondents lived alone (65% vs. 10%). In addition, Chinese respondents had significantly more siblings than their U.S. counterparts. The mean number was 1.69 and 1.25 respectively.

Health Status. According to self-rated health status, the U.S. respondents rated their health as significantly better than their Chinese counterparts. Thirty-six per-cent of the U.S. respondents reported their health as excellent or very good, while only 22% of the Chinese respondents reported their health as at least very good.

However, the robustness scores provided a different profile of Chinese elders' health status in comparison to that in the United States. The Chinese elders reported significantly higher robustness scores than their counterparts in Boston. Among the four indicators for robustness (which includes lifting ten pounds, walking .25 miles, bending or kneeling, and walking up ten steps) the mean score for the United States and Chinese respondents were 2.86 and 3.18 respectively. In addition, a higher percent of the U.S. respondents had some hearing impairment. However, there was no significant difference regarding vision impairment between these two groups.

Group Affiliation. U.S. respondents were much more involved in social groups: 93% of the Boston respondents reported belonging to at least one group, while only 16% of the Chinese respondents reported having any group affiliations. In addition, the U.S. respondents individually had much higher number of group affiliations than their Chinese counterparts.

Assistance from Others. Chinese respondents received higher amount of assistance from anyone in the informal network than their U.S. respondents, the number was 4.69 and 4.29 respectively. However, there was no significant difference in the amount of assistance received from family, friends, and neighbors, in the informal network between the two samples.

Multivariate Analysis Results
Contributory Behavior to Anyone in the Informal Network. Table 2 shows results of the regression analysis on contributions to anyone in the informal network. Some common factors were found in both samples: Individuals who were younger, had higher robustness scores, and received more acts of assistance from others were more likely to provide more contributory acts to anyone in the informal network. For the United States respondents, the higher number of group affiliations was positively related to the higher number of acts provided to others. Similarly, having a group affiliation was a positive factor for contributory behavior of Chinese respondents.

The findings were somewhat different between these two groups. In the United States, living alone and having vision impairment was negatively associated with an individual's contributory behavior. On the other hand, having more siblings was positively associated with contributory behavior. In the Chinese sample, more frequent contact with family members was positively related to a higher level of contribution.

Contributory Behavior to Family Alone. Findings on factors related to contributory behaviors to family are demonstrated in Table 3. Several factors were found to be significant among U.S. and Chinese respondents. Younger respondents with higher robustness scores, and who received more assistance from family members were more likely to engage in contributory acts. On the other hand, individuals who were living alone were less likely to engage in contributory behavior.

Different findings were also found between these two groups. Among the U.S. respondents, having more siblings was positively related to their contributions to others, while interestingly, having better self-reported financial status was negatively related to their contributory behaviors. Higher frequency of contact with family members was a positive factor for Chinese respondents.

Contributory Behavior to Friends and Neighbors Alone. Table 4 shows the analysis of contributory behavior toward friends and neighbors. Robustness indicators, group affiliation, and assistance from friends were three common positive factors found to affect acts of contribution to friends and neighbors. No other factors were found to be significant in the Chinese model. However, other two factors were found to affect contributions to friends and neighbors in the U.S. sample. Being Jewish and having more income sources positively affected U.S. respondents' contributory acts.

Table 2

Multiple Regression Analysis on Number of Contribution to Anyone'

	Boston			Shanghai		
	To Anyone			To Anyone		
	b	ß	SE	b	ß	SE
Sociodemographics						
Age	-0.095	-0.137	0.031 **	-0.134	-0.138	0.040 ***
Female	-0.005	-0.001	0.207	0.205	0.047	0.191
Education						
Junior College or above in Boston	-0.064	-0.015	0.188	—	—	—
High School or above in Shanghai	—	—	—	0.073	0.016	0.191
Religious Affiliation				-0.121	-0.026	0.191
Catholic	-0.309	-0.076	0.194	—	—	—
Jewish	0.396	0.062	0.297	—	—	—
Financial Status						
Financially more than enough	-0.177	-0.036	0.222	0.191	0.056	0.143
Social Support						
No. of income sources	0.192	0.079	0.114	-0.069	-0.012	0.241
High contact with family	0.028	0.006	0.227	0.431	0.091	0.204 *
High contact with friends	0.235	0.044	0.242	0.056	0.012	0.188
Living alone	-0.404	-0.095	0.197 *	-0.499	-0.065	0.303
Number of siblings	0.188	0.159	0.052 ***	-0.006	-0.005	0.046
Health Status						
Health as very good or excellent	0.250	0.059	0.196	0.422	0.080	0.218
No. of robustness indicators(0-4)	0.210	0.131	0.076 **	0.458	0.268	0.075 ***
Hearing interference	0.078	0.019	0.185	-0.055	-0.012	0.193
Vision interference	-0.457	-0.109	0.189 *	-0.331	-0.074	0.186
Group Affiliation[2]						
Having group affiliation	0.356	0.175	0.092 ***	0.824	0.138	0.247 ***
Assistance from Others						
No. of assistances from anyone	0.178	0.205	0.041 ***	0.255	0.277	0.040 ***
R-Square	0.221			0.271		
Adjusted R-Square	0.190			0.247		

Note: 'Anyone refers to family members, friends, neighbors, casual acquaintances, and group members.

2 In the U.S. sample, group affiliation was measured as No. of groups belong to. In Chinese sample, it was measured by having group affiliation.

* significant at 0.05 level, ** significant at 0.01 level, *** significant at 0.00I level

Discussion

Between U.S. and Chinese elders, this study found some similar patterns of contributory behaviors toward anyone in the informal network, and family members in particular. The U.S. and Chinese elders have much in common with respect to factors affecting contributory behavior. Those common factors suggest the existence of universal themes that affect human behavior, such as objective measures of health status (defined as robustness indicators in this study), assistance received from others, and group affiliation. However, many differences emerged. Bivariate analysis suggests that individuals' cultural-related variables such as social support, as well as sociodemographics, health status, and group affiliation vary significantly. In

Table 3
Multiple Regression Analysis on Number of Contribution to Family

	Boston			Shanghai		
	To Family			**To Family**		
	b	β	SE		*b*	β	SE	
Sociodemographics							
Age	-0.050	-0.084	0.026 *	-0.122	-0.150	0.034 ***
Female	-0.133	-0.035	0.173	-0.020	-0.005	0.162
Education							
Junior College or above in Boston	-0.004	-0.001	0.157	–	–	–
High School or above in Shanghai	–	–	–	0.002	0.001	0.161
Religious affiliation				-0.079	-0.020	0.162
Catholic	0.072	0.021	0.162	–	–	–
Jewish	0.163	0.030	0.249	–	–	–
Financial Status							
Financially more than enough	-0.565	-0.134	0.185 **	0.179	0.062	0.121
Social Support							
No. of income sources	0.047	0.022	0.095	0.277	0.057	0.204
High contact with family	0.289	0.068	0.191	0.465	0.117	0.172 **
High contact with friends	-0.172	-0.038	0.202	0.049	0.013	0.159
Living alone	-0.633	-0.173	0.164 ***	-0.877	-0.136	0.259 ***
Number of siblings	0.163	0.160	0.043 ***	-0.036	-0.039	0.039
Health Status							
Health as very good or excellent	0.175	0.048	0.164	0.281	0.064	0.185
No. of robustness indicators(0-4)	0.151	0.110	0.063 *	0.287	0.199	0.063 ***
Hearing interference	0.039	0.011	0.155	-0.103	-0.027	0.164
Vision interference	-0.251	0.000	0.158	-0.314	-0.084	0.158
Group affiliation[1]							
Having group affiliation	0.142	0.081	0.077	0.408	0.081	0.210
Assistance from Others							
No. of assistances from family	0.248	0.324	0.035 ***	0.229	0.238	0.041 ***
R-Square	0.267			0.243		
Adjusted R-Square	0.237			0.218		

*Note: [1] In the U.S. sample, group affiliation was measured as No. of groups belong to. In Chinese sample, it was measured by having group affiliation. * significant at 0.05 level, ** significant at 0.01 level, *** significant at 0.001 level*

addition, this study indicates that the range of contributory behaviors toward friends is quite different between the two samples. Some of the correlates' impact is also culturally specific, such as sibling support. These differences reflect variation in respondents' social support as well as social structural difference. This study further illustrates that contributory behaviors are related to culture. Some of these findings warrant further discussion.

Contributory Behaviors towards Family vs. Friends and Neighbors
This study indicates that range of contributory behaviors toward friends and neighbors are quite different between the two samples. The U.S. respondents pro-vided significantly higher range of contributory behaviors towards their friends than the Chinese respondents. This finding demonstrates that the cultural norms of individualism vs. collectivism have different impacts on the role of family and friends in elders' lives in the United States and in China.

Table 4
Multiple Regression Analysis on Number of Contribution to Friends

	Boston			Shanghai		
	To Friends			To Friends		
	b	β	SE	*b*	β	SE
Sociodemographics						
Age	-0.034	-0.065	0.022	-0.001	-0.002	0.022
Female	0.128	0.039	0.144	0.178	0.076	0.105
Education						
Junior College or above in Boston	0.004	0.001	0.131	–	–	–
High School or above in Shanghai	–	–	–	0.019	0.008	0.104
Religious Affiliation				0.147	0.060	0.104
Catholic	-0.180	-0.060	0.135	–	–	–
Jewish	0.697	0.147	0.208 ***	–	–	–
Financial Status						
Financially more than enough	0.210	0.058	0.155	-0.021	-0.011	0.078
Social Support						
No. of income sources	0.168	0.092	0.080 *	-0.231	-0.075	0.132
High contact with family	-0.141	-0.038	0.153	-0.028	-0.011	0.108
High contact with friends	0.215	0.055	0.171	0.003	0.001	0.103
Living alone	0.118	0.038	0.135	0.227	0.056	0.166
Number of siblings	0.063	0.072	0.036	0.033	0.057	0.025
Health Status						
Health as very good or excellent	0.232	0.074	0.137	0.139	0.050	0.119
No. of robustness indicators(0-4)	0.164	0.138	0.053 **	0.160	0.177	0.041 ***
Hearing interference	0.070	0.022	0.129	-0.018	-0.007	0.106
Vision interference	-0.145	-0.047	0.130	-0.083	-0.035	0.101
Group Affiliation[1]						
Having group affiliation	0.213	0.141	0.065 **	0.484	0.152	0.135 ***
No. of assistances from friends	0.399	0.384	0.045 ***	0.313	0.353	0.039 ***
R-Square	0.315			0.213		
Adjusted R-Square	0.287			0.187		

*Note: 1 In the U.S. sample, group affiliation was measured as No. of groups belong to. In Chinese sample, it was measured by having group affiliation. * significant at 0.05 level, ** significant at 0.01 level, *** significant at 0.001 level*

Triandis (1988) states that individuals have different rank-orders of importance towards groups (e.g., family, friends and neighbors) in collectivistic culture; while these rank-orders of importance are less distinct in individualistic culture. In the United States, family and friends are both important part of an American elder's life; while family is the center of a Chinese elder's life (Gao, 1996). Our data empirically confirms this statement. The U.S. respondents have similar high frequency of contact with their family members, friends, and neighbors; while the contact with friends is far less frequent than with their family among the Chinese respondents. To a large extent, social contact determines level of individuals' contributory behaviors toward others.

The nature of contributory behaviors is also varied due to cultural value differences (independent vs. interdependent) between these two groups. Studies have confirmed that in the United States, there is a high frequency of exchange of emotional support and companionship between parents and their adult children, while exchanges of practical assistance are rare (Dietz, 1995; Jayakody et al., 1993; Lawton et al., 1994; Lye, 1996). With respect to contributory behaviors toward friends, Blau (1981) stated that friendship helps sustain a sense of usefulness and self-esteem more effectively than

filial responsibility because friendship rests on mutual choice and need, and involves voluntary exchange. In contrast, Gao (1996) underscored that contribution patterns of the Chinese tend to center around kinship rather than community-oriented relationships. Among Chinese elders, support to friends is still much less significant than support to family. Our earlier study indicates that among the Chinese respondents, the most frequently provided contributory acts towards family were cooking meals and providing household work (Wu et al., 2002). The high percent of Chinese respondents living with other family members appears to play a role to the nature of these contributory acts. More importantly, these contributory behaviors provided by Chinese reflect the interdependence nature of the relationship within family settings.

Robustness Measure

Most previous studies used self-rated health status to investigate its relation-ship with productive and successful aging: the findings on the impact of health have been inconsistent. In this study, robustness measure consistently had a significant impact on the range of contributory behavior to anyone in the informal network, family, and friends and neighbors for both the U.S. and Chinese respondents in our study. The self-rated health status had no independent impact. Presumably, physical capability, measured by the robustness indicator, has a more direct connection with individuals' contributory behavior than the self-rated health mea-sure. More importantly, the self-rated health measure may not be as accurate as some other objective health measures for the Chinese elderly population. In this study, while Chinese respondents reported better or similar health outcomes than the U.S. counterparts on objective measures, such as robustness scores and hearing and vision impairments, U.S. respondents reported better self-reported health status. A higher percentage of Chinese respondents rated their health as fair. The findings on fair ratings by Chinese are consistent with those found in other studies conducted in China (Qiao, 2002). The high incidence of fair health ratings by Chinese respondents is likely to be a cultural artifact and related to the wording of the question. In China, the societal expectation is, as people get older, that they take their age into consideration and are consequently reluctant to report that their health is very good or good, even if it is. As a result, while self-rated health status is a widely used and valid measure for assessing general health status in many instances (and for many age groups), this study confirms findings from other cross-cultural comparison studies indicating that self-rated health status is not comparable across different populations, especially when they include developed and developing countries (Jylha et al., 1998). Therefore, an objective measure of health status, such as robustness measure, would be a more reliable and accurate measure in this type of cross-cultural study.

Reciprocity

The findings from this study have empirically verified the previous statement that reciprocity is a universal phenomenon (Wentowski, 1981). The amount of assistance received from (1) anyone in the informal network and (2) family members alone was a significant variable in the two models (contributory behavior to any-one in the informal network and to family) among the U.S. and Chinese respondents. It is interesting to note that, despite cultural differences, reciprocity has a

similar impact on the range of contributory behaviors in the family setting in the two groups. In the United States, individualism predominates in a culture which emphasizes independence (Triandis, 1995); reciprocity reflects the sense of independence among the U.S. oldest old. While in China, the traditional culture emphasizes collectivism and interdependence (Triandis, 1995). Parents raise their children and expect their children to provide the care and financial support needed by them during their old age. Nonetheless, reciprocity still applies for the oldest old and their family members. Our data found that a much higher percentage of the Chinese oldest old (30%) as compared to their U.S. counterparts (5%) depend on family support as a source of income. Thus, by making contributions to their family members, such as cooking meals and doing household work, the Chinese oldest old receive a more balanced exchange of support (e.g., financial support) from their spouse and their adult children. In addition, by making contribution to their family, Chinese elders also have the expectation of immediate or future personal care assistance from their family members if there is a need. From adult children's perspective, providing assistance to their parents is an obligation. These assistances are also a repayment for the long-term investment parents have invested on them (Xiong, 1998). In summary, our findings suggest that reciprocity applies to the oldest old within the informal network in cross-cultural settings. It is a crucial component in the maintenance of self-worth (Wentowski, 1981). However, we have to be aware that the type of assistance from others can be different between these two samples, and further analysis is needed to examine the relationship between reciprocity and contributory behavior cross-culturally.

Social Interaction

Homans (1974) indicated that social interactions entail "an exchange of activity, tangible or intangible, and more or less rewarding or costly between at least two persons." In the United States, the majority of elders actively participates in social, religious, and community activities and are active members of informal groups. Many of them still maintain a high level of participation in their older age (Caro & Bass, 1993; Herzog & Morgan, 1993). Our study findings confirmed previous findings that the overwhelming majority of the U.S. respondents (93%) belong to at least one social group. In addition, although the majority of the U.S. respondents lived alone, the U.S. respondents had higher frequency of contact with family and friends than their Chinese counterparts. On the contrary, most of the oldest old in urban China do not have many opportunities to participate in social activities out-side of the home. First of all, although more and more community organizations welcome elders' participation, few in the current cohort of the Chinese oldest old belong to any of the community groups. Second, in big cities like Shanghai, the availability of traditional housing that facilitates interactions with neighbors is diminishing. Instead, many newly developed housing structures are unfriendly to-ward promoting neighborhood interactions (Wu & Hu, 1997). Third, transportation services are a particular problem for the Chinese oldest old that confine their activity to the home. Therefore, in comparison to the Chinese respondents, greater opportunity for social interaction occasioned by transportation services may partially contribute to the American sample's higher level of contribution in the informal network.

Despite the significant gap of group affiliation between the two samples, our study confirmed that social interaction as a factor in the level of the contribution is a universal phenomenon among the oldest old. Group affiliation is a powerful variable that affects the opportunities for contributory behavior in both samples. Al-though a low percentage of Chinese respondents had any group affiliation, it was a significant predictor of contributory behavior. The current cohort of Chinese elders have limited access to group settings for various reasons, such as limited groups/ churches/clubs available, limited access to reliable transportation, and a low expectation and encouragement for group participation. However, this study suggests that group affiliation is a universal factor in affecting individual's level of contributory behavior. The group affiliation appears to create more opportunities for individuals to contribute and might likely to reduce the individual's sense of social isolation while also increase feelings of self worth.

Religious Affiliation and Practice

Religious involvement is positively associated with a higher level of social sup-port for other people since giving social support to others is clearly a central part of religious life (Wulff, 1991). Studies further suggest that the need to help others is promoted by virtually every one of the world's major religions (Ellison & Levin, 1998). In the United States, religious affiliation is the most common choice for older persons for organizational participation, particularly in their opportunities for volunteering. Furthermore, the spirit of volunteerism is deeply rooted in the American culture, which is associated with Judeo-Christian religious principles (Herzog et al., 1993; Caro & Bass, 1995). Religious affiliation is higher for older persons than for other age groups (Hooyman, & Kiyak, 2002). Attending religious activities outside of the home would facilitate elders' participation in group activities (Caro & Bass, 1995) and provide opportunities for elders to make contributions to others. Most churches and synagogues in the United States have commit-tees or groups responsible for helping to care for elderly members. If one does not belong to a church, then one can neither belong to one of these "caring" units nor be a beneficiary of one.

Religiosity has different impact on individuals' contributory behavior in China. As the data show, most Chinese (68%) professed no religious affiliation. On the other hand, 94% of U.S. respondents indicated a religious affiliation. Despite some political constraints on religious practice, religious activity in East Asia is more suitably defined as a private religious practice (Krause et al., 1999); therefore, the nature of these religious practices does not encourage social interaction. As a result, the opportunity for social interaction and contributory behavior does not exist in the same context in China and the United States.

In our study, having a religious affiliation did not have significant affect on contributory behaviors among Chinese elder. Therefore, our study illustrates that religious practice and its associated opportunity, instead of religious affiliation, is more related to contributory behaviors.

Sibling Support

The measure, *number of siblings,* was significantly related to contributory behavior for the U.S. respondents, but not in the Chinese sample. This finding can be explained by demographic characteristics and cultural differences as in Cantor's (1979) hierarchical-compensatory model. Based on this model, spouse and children are assumed to be at the top of the hierarchy and thus favored as appropriate providers of a broad range of support. If unavailable, ties lower in the hierarchy serve as substitutes and compensate for the missing relationships. Many of the respondents in this study were widowed and living alone. When the spouse is absent and children are living apart, they would be more likely to provide support to their siblings. In the Chinese sample, an overwhelming majority of the respondents live with their spouse or other family members (i.e., children and grandchildren). The immediate availability of spouse or children makes them the primary beneficiaries of elders' contributory acts. This finding is consistent with the Agree, Biddlecom, and Valente (2005) study suggested that a strong vertically defined system of support existing in the Chinese family. No additional conclusions can be drawn since very few studies have focused specifically on sibling support among Chinese elders. However, as Jiang (1995) suggested, in the next two to three decades elders will provide more support toward their siblings due to China's one child policy which was implemented in 1979 and imposed a cash penalty on families having more than one child. In addition, the changing traditional cultural values and living arrangements would also have a great impact on an individual's level of contributory behavior.

Several limitations need to be acknowledged. We are aware that the findings may apply only to particular cohorts. For example, an individual's living standard, pension and health care coverage, living arrangements, religious affiliation, group membership, as well as cultural values have been changing for the younger generations in China. The current cohort of the oldest old in the United States may also have different characteristics than younger generations. Hence, contributory behavior and related factors presented in the study may be different in subsequent cohorts. In addition, the data were collected in only two areas in the United States and in China; given the size and heterogeneity of these two countries, generalization of the findings should proceed with caution. Moreover, given the nature of the data as cross-sectional, we were only able to investigate the factors associated with contributory behavior of the oldest old. Longitudinal studies are needed to further analyze causal relationships between the independent variables and contributory behavior among older adults.

Findings from this study suggest that providing more opportunities for elders to participate in groups would facilitate individuals' level of volunteer activities and help to mobilize unused talents of the elders. This implication applies to the elders in both the United States and China. Programs and services are needed to establish or expand elders' participation in activities outside of their family. As the population of the oldest old increases rapidly in both countries, the oldest old group itself is a great resource to help each other. Social policy and services need to make use of all available information and establish programs to create a climate conducive to improve elders' overall well-being.

Biographical Notes

Bei Wu is an assistant professor at West Virginia University Center on Aging and Department of Community Medicine. Her published articles cover variety of topics such as dementia, caregiving, health services utilization, health behavior, depression, long-term care, minority and immigrant health, and international aging. She has been working as principal investigator or co-investigator on several ongoing projects related to health care service utilization and long-term care.

Acknowledgments

Notes

1. "The oldest old" is conventionally defined as aged 80 and older in China (e.g., Zeng et al., 2002; 2003), because the life expectancy is lower in China than it is in the United States. For example, in 1990, the life expectancy in the United States was 78.8 for women and 71.8 for men, while the life expectancy in China was 70.5 for women, and 66.9 for men.

2. Since there is a small fraction of anyone else other than family and friends/neighbors that respondents made contributions to, these people were not listed as a separate category for the analysis.

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