JOURNAL OF
Social Issues
A Journal of the Society for the Psychological Study of Social Issues

Journal of Social Issues, Vol. 72, No. 1, 2016, pp. 26–46
doi: 10.1111/josi.12154

Ageism and Depression: Perceptions of Older People as a Burden in China

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Traditional values and beliefs about aging and older adults appear to be changing in China, as a result of transformations in family structure and social system in the context of rapid modernization and economic growth. This study examined the effects of burden views toward Chinese older adults on their depressive symptoms based on a secondary analysis of data collected from a sample of 954 Chinese adults aged 60 and over in Jiangsu Province. After controlling for sociodemographic, health, and family relationship variables, results of hierarchical multiple regression analysis revealed that participants with stronger views of older people as a burden to family and society were at higher risk of depressive symptoms. Findings of this study can inform the development of policies and programs to address mental health challenges facing older adults in China, focusing on helping them get rid of the burden views about older people, improving family relationship quality, and fostering a positive attitude toward aging in the wider society.

Depression is a common and chronic mental health problem faced by older people (Lai, 2004; Mui & Kang, 2006), with Chinese older people of no exception (Lai & Tong, 2009; Zeng & Chan, 2010; Zeng, North, & Kent, 2012). Depressive disorders are characterized by a cluster of symptoms including fatigue, reduced energy, reduced pleasure and interest, prevailing sad mood, and increased risk of

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suicide, disability, and mortality (Chong et al., 2001; Neugebauer, 1999; Saab, El-Roueiheb, Chaaya, & Sibai, 2005). The World Health Organization (Barua, Ghosh, Kar, & Basilio, 2010; Rangaswamy, 2001) has estimated that the prevalence rate of depression among older adults in the world varies between 10% and 20% depending on cultural contexts. It is further reported that prevalence rates of depression in older people are similar across Asia, America, and Europe (Barua, Ghosh, Kar, & Basilio, 2011).

Previous studies have identified three broad categories of risk factors contributing to depressive symptoms in old age. The first category includes sociodemographic factors such as an older age (George, Landerman, Blazer, & Anthony, 1991), female gender (Kessler et al., 1994), lower socioeconomic status (Cairney & Krause, 2005; Kahn & Fazio, 2005; Mirowsky & Ross, 2003), and living alone (Mui, 1998). The second category comprises indicators of poor health including more chronic diseases (Chi et al., 2005; Gagnon & Patten, 2002), poorer self-rated health status (Han, 2002), and greater levels of functional dependence (Ormel, Rijsdijk, Sullivan, van Sonderen, & Kempen, 2002; Travis, Lyness, Shields, King, & Cox, 2004; Zeng et al., 2012). Finally, older people who have experienced stressful life events (Chi et al., 2005; Turner & Lloyd, 1999) and who lack social support (Brummett, Barefoot, Siegler, & Steffens, 2000; Lai & Tong, 2012; Travis et al., 2004) are more vulnerable to depressive symptoms. However, despite their potentially significant implications for older adults' well-being, the specific effects of family relationship quality and attitude toward aging and older people as social determinants of depressive symptoms have seldom been examined in previous studies, especially in Chinese societies.

The impact of family relationships on older adults' mental health has been widely studied in western societies. Positive aspects of family relationships and better intergenerational communications are found to contribute to older adults' mental health, while negative aspects of these relationships have detrimental effects on their well-being (Hummert, 2007; Lendon, 2012; Ward, 2008). However, very little is known about the effects of family relationship quality on older Chinese adults' depressive symptoms (Chen & Silverstein, 2000; Guo, Chi, & Silverstein, 2012). One possible explanation is that Chinese tradition and culture often emphasize respecting and valuing the contributions of older people, leading many to assume that Chinese older people enjoy prestigious familial and social status. Filial responsibility for elder care has also often been taken for granted in China, and these values and beliefs often form the basis for older Chinese adults' satisfaction and wellness. However, societal values toward older people in Chinese culture appear to be changing (Chiu & Yu, 2001). Changes in family structures and values associated with economic growth and westernization, the rise of nuclear families, and an increasing emphasis on productivity, technological advancement, and competitiveness, all form major challenges to the perceived contributions and social status of the aging population in Chinese societies (Bai, 2014; Bai, 2016;

Bai, Chan, & Chow, 2012; Chao & Roth, 2000; Chiou, Chen, & Wang, 2005; Chow & Bai, 2011; Holroyd, 2001; Lai, 2007; Ng, 2002; Zhan, 2004; Zhan & Montgomery, 2003). Under the "one-child" policy, it has become increasingly difficult for the younger generation to provide filial support in a traditional way as most of them do not have siblings to share the filial obligations. The tremendous urban–rural disparity has further pushed young people from rural areas to urban areas for better education and employment opportunities in the process of the modernization, leaving behind their older parents who have to face an empty nest (Chow & Bai, 2011). Along with an increasing acceptance of older parents living separately from adult children, by the end of 2010, the average household size had shrunk to 3.1 persons in China (Du, 2013; Sereny, 2011). This separate living arrangement may pose new challenges for adult children to provide timely support and care for their older parents, resulting in a burden view of older people.

In western societies, older people are often perceived in a negative manner, viewed as ill, mentally slower, forgetful, bothersome, sexually inactive, unproductive, a burden to society, and so forth, although it is acknowledged that some might show positive characteristics (Aaronson, 1966; Kite & Wagner, 2002; Kite, Stockdale, Whitley, & Johnson, 2005; Palmore, 2005; Levy & Macdonald, 2016). Researchers have become increasingly interested in issues of aging-related attitudes and stereotypes (Bai et al., 2012; Bugental & Hehman, 2007; Nelson, 2005; North & Fiske, 2012, 2013). Positive attitudes toward aging are found to be predictive of better memory and hearing performance (Hess, Auman, Colcombe, & Rahhal, 2003; Levy & Langer, 1994; Levy, Slade, & Gill, 2006), lower chance of cardiovascular disease (Levy, Hausdorff, Hencke, & Wei, 2000), better life satisfaction, less depression, stronger will to live, and better survival over time among older people (Dong, Simon, Beck, & Evans, 2010; Hausdorff, Levy, & Wei, 1999; Lai, 2009; Levy, Ashman, & Dror, 2000; Ng, Monin, Allore, & Levy, 2016). Compared to western countries, there are far fewer studies available in Chinese communities which have examined views of aging, among older adults themselves or by others (Bai et al., 2012; Zhang et al., 2006).

In the context of rapid modernization and population aging in China, it is of both theoretical and practical merit to investigate issues of family relationship quality and aging stereotypes, as perceived by older people themselves, and their possible impacts on depression in older Chinese adults. This study aimed to examine the effects of family relationship quality and aging stereotypes on Chinese older adults' depressive symptoms, after adjusting for their sociodemographic characteristics, as well as physical and functional health status. Implications for policy and practice are further discussed.

Theoretical Perspectives

Modernization Theory

Older people's status and esteem in society often decline as a society becomes more modernized, with health technology, scientific technology, urbanization, literacy, and mass education reflecting forces potentially contributing to older adults' declining status in "modern" society (Cowgill & Holmes, 1972). According to Cowgill (1974), modernization is defined as "the transformation of a total society from a relatively rural way of life based on animated power, limited technology, relatively undifferentiated institutions, parochial and traditional outlook and values, toward a predominantly urban way of life, based on inanimate sources of power, highly differentiated institutions, matched by segmented individual roles, and a cosmopolitan outlook which emphasizes efficiency and progress" (p. 127). In the field of gerontology, modernization theory suggests that the process of modernization serves to disadvantage older people.

China has been modernizing since 1949, in a more rapid pace after its opening up in 1978. It has been stated that China must confront the challenges of population aging before becoming an "advanced" industrial society (Calvo & Williamson, 2008; Chow & Bai, 2011). China has experienced a "compressed" form of modernization, which resulted in a modernization strategy of first developing urban areas (Sun, 2003), anticipating that benefits of modernization would spread from urban areas at the center of modernization, to rural areas in the periphery. Unfortunately, the anticipated "spread effect" has been replaced by a "backlash effect," with rich regions becoming more prosperous and underdeveloped regions becoming even poorer (Sun, 2005). Significant inequalities and resource disparities exist between urban and rural areas in contemporary China (Bai, 2016; Kanbur & Zhang, 1999). The common belief that older people in rural areas are more likely to command respect compared to their urban counterparts has become a myth in the process of modernization. It seems that rural elders have been even more upset than urban elders when being left behind by their children, as they have much less access to formal support provided by the Government (Chow & Bai, 2011).

The needs of older people in China have not been sufficiently addressed by the government, and are no longer necessarily fulfilled by informal family support. As explained above, processes of modernization and westernization including a focus on economic growth and technological advancement, have led to significant changes in family structures, as well as values and attitudes associated with aging and older people (Bai et al., 2012; Chao & Roth, 2000; Chiou et al., 2005; Chow & Bai, 2011; Holroyd, 2001; Lai, 2007; Zhan, 2004; Zhan & Montgomery, 2003), which have implications for family relationships and care. Age-related stereotypes have been worsening under modernization, as older Chinese people, especially in rural areas, are likely to be perceived as a burden to family and society,

when families cannot respond to older adults' emotional, physical, and material needs, and when uneven development across China has resulted in a lack of adequate services in numerous areas. In turn, this can have direct impacts on older adults' physical and mental well-being. Modernization theory can thus provide a framework for understanding the current context in which aging stereotypes have emerged and affect perceptions and experiences of older adults in China, within their family and in the wider society.

Stereotype Internalization Theory

Facing the challenges and worsening images of aging in the process of modernization, how will older adults' self-image be affected? A number of theories, including assimilation theory (Rothermund & Brandtstädter, 2003) and internalization and self-fulfilling prophecy effects (von Hippel, Silver, & Lynch, 2000; Nelson, 2005), suggest that exposure to negative stereotypes about their group may make the stereotype target groups internalize those stereotypes, directly or indirectly causing such stereotypes to become true, and leading to a sense of inadequacy, low self-esteem, and depression (Bai & Chow, 2011; Rodin & Langer, 1980). This line of argument has its roots in cognitive theories of aging (Kuypers & Bengtson, 1973; Rodin & Langer, 1980), with scholars maintaining that older people tend to internalize age-related stereotypes (e.g., Bugental & Hehman, 2007; von Hippel et al., 2000). The views of older people in general are influenced by age-related stereotypic information with which they are confronted (Levy, 1996), and older adults' self-conceptions are also contaminated by certain types of age-stereotypic information. Sinclair, Huntsinger, Skorinko, and Hardin (2005) report that social interactions with individuals expressing stereotype-relevant views affect the self-evaluations of stereotype targets. In other words, the internalization (or "contamination") hypothesis predicts an assimilation effect whereby age-related stereotypes are incorporated into one's self-image (Bennett & Gaines, 2010; Rothermund & Brandtstädter, 2003).

This perspective is relevant given changing societal values toward older people in Chinese culture (Chiu & Yu, 2001), is linked to processes of modernization and changes in socioeconomic structure and family relationships. Older adults in China may internalize broader attitudes toward the role and value of older adults in the family and wider society. Internalization of and adaptation to these changing attitudes, and associated loss of traditional societal and familial status and value, can potentially severely affect older adults' sense of adequacy, self-esteem, and well-being. This is of relevance given previous research findings speaking to the negative impact of negative attitude toward aging on older adults' mental health (Bai et al., 2012; Bugental & Hehman, 2007; Dong et al., 2010; Hausdorff et al., 1999; Hess et al., 2003; Lai, 2009; Levy & Langer, 1994; Levy et al., 2000, 2006; Nelson, 2005; North & Fiske, 2012, 2013), however, there are far fewer relevant

studies available in China than in western countries. This perspective can provide a framework for understanding the ways in which changing attitudes toward older adults are influencing older adults' perceptions of their roles and status in the family and society, as well as the potential effects of these perceptions on their mental health status.

Based on these theories, it is hypothesized that older adults' stereotypical views of older people as a group would affect their mental health status, represented by depressive symptoms, even after controlling for sociodemographic characteristics, physical and functional health status, and quality of family life. More specifically, it is hypothesized that more the older adults themselves perceive older people as a burden to family and society, the more depressive symptoms they would experience.

Methods

Research Design, Data Set, and Sampling

This study was based on a secondary analysis of data originally collected as part of a larger-scale cross-sectional study examining the general needs and well-being of a representative sample of Chinese adults aged 60 years and older in Jiangsu, an eastern coastal province of China in June 2010. Jiangsu is one of the most densely populated of the 22 provinces of China, and older population aged 65 years and over has accounted for 10.89% of its total population (Jiangsu Province Statistical Bureau, 2011). In the original study, data were collected through face-to-face interviews using a structured questionnaire that covered a range of topics including, but not limited to, basic demographics, labor participation and employment, health status, family networks, service need, and use of community services. The interviews were conducted mainly in Mandarin, by trained interviewers who were senior-year undergraduate students and graduate students in social science disciplines.

The sample was obtained using multistage proportional probability sampling, covering both urban and rural areas in Jiangsu province. As a first step, four cities and four rural counties were randomly selected as a first step (Wu Xi, Chang Zhou, Tai Zhou, Ru Gao). Sixteen districts and 16 towns were then randomly selected from urban and rural areas, respectively. Each district and town was further divided into different street clusters, and using the residents' registration system, 505 participants were selected from 19 street clusters in the four cities and 500 participants were selected from 17 street clusters in four rural counties (Dong Hai, Jiang Ning, Hongze, Binghai).The selection was proportionally based on the actual population distribution of adults 60 years and older in the selected local communities. Similarly, for the rural sample, in total, 505 urban participants (100% response rate) and 499 rural participants (99.8% response rate) were interviewed.

The high response rate was likely due to the study being sponsored by the Province, with strong collaboration and support from local governing units. Publicity at the local community level was used to promote awareness and involvement of residents. Trust in the credibility of the original study formed the basis for the positive response among the participants. Due to missing answers for some variables, only 475 urban cases and 479 rural cases were included in the secondary analysis for this study, for a total of 954 participants.

Measurement

Variables that were measured in this study included burden views toward older people and their depressive symptoms, as well as sociodemographic characteristics, physical and functional health status, and quality of family life.

Sociodemographic characteristics. Sociodemographic characteristics include urban–rural residence, age, gender, and living arrangement. The mean age of the overall sample was 72.73 years ($SD = 7.55$). Respondents were asked to report their chronological age, and it was used as a continuous variable in the correlational and regression analyses. Owing to long-lasting dichotomized and imbalanced urban–rural development in Chinese society (Sun, 2003), older people living in urban areas are generally better off in terms of both education and financial status. Urban–rural residence is therefore considered a reliable variable that can accurately assess participants' socioeconomic status (Chow & Bai, 2011). Living arrangement was measured by asking participants if they were currently living with a spouse, child, and/or significant other, or if they were living alone.

Physical and functional health status. Physical health status was determined by the number of chronic illnesses reported by participants, such as stroke or cerebrovascular diseases, rheumatism, diabetes, hypertension, cataracts, heart disease, respiratory diseases, and digestive diseases. The adapted version of the Instrumental Activities of Daily Living (IADL) scale (alpha = .92) was used to assess participants' functional capacity, including capacity or dependence in seven IADL areas: telephone use, shopping, food preparation, housekeeping, laundry, use of public transportation, and handling finances (Lawton & Brody, 1969). Participants were asked to report whether they could perform the above-mentioned tasks independently, with some assistance, or could not complete them even with assistance. Functional status was measured as totally dependent on others (1), somewhat dependent on others (2), or totally independent (3). Composite scores were calculated by summing the seven items, with higher scores indicating more optimal functional health status.

Quality of family relations. Quality of family relations was measured based on participants' perceived availability of family support and self-rated family relations, using the three-item family network subscale of Lubben's Social Network Scale (Lubben, 1988), and a single item asking participants to rate their family relations as harmonious or not, respectively. Participants were asked how many relatives they met or contacted at least once a month, how many relatives they could share innermost feelings with, and how many relatives they could turn to for help when needed, on a six-point scale (from 0 = none, 1 = one, 2 = two; 3 = three or four; 4 = five through eight; 5 = nine or more). The scale has vindicated a satisfactory level of internal consistency, with alpha = .82 for the study sample. Composite scores were obtained by summing the three items, with higher scores indicating greater perceived availability of family support. This scale provides quantitative information on individuals' family ties and accurately identifies persons at risk of social isolation (Lubben et al., 2006). Harmonious family relationship is often characterized by positive emotion or behavior, shared beliefs and feelings, and enduring ties among family members (Dykstra & Fokkema, 2011). Participants' self-rated family relations were classified as being either harmonious (1) or not harmonious (0).

Burden views toward older people. Participants' burden views toward older people were measured by two items. On a three-point scale, they were asked to rate the extent to which they perceived older people as a burden to family, and the extent to which they perceived older people as a burden to society (1 = "No"; 2 = "Neutral"; 3 = "Yes"). The satisfactory internal consistency of these two items was evidenced in this study, with alpha = .84. Thus, composite scores were then calculated by summing the two items, with higher scores indicating a stronger burden view toward older people.

Depressive symptoms. Participants' depressive symptoms were assessed using a 15-item short form of the Chinese version of the Geriatric Depression Scale (GDS-SF). Among the various depression screening instruments, the GDS was the first developed for the aging population (Lai, Tong, Zeng, & Wu, 2010). The 15-item GDS-SF is derived from the 30-item GDS, and is a popular depression screening tool for older adults (Brink et al., 1982; Yesavage et al., 1983). Respondents are asked to indicate whether they have experienced specific symptoms during the past week (e.g., drop activities and interests, feel that life is empty, get bored), reporting either "yes" or "no." A score range from zero to four is considered "normal," from five to nine is considered "mildly depressed," and 10 or above is considered "moderately to severely" depressed. The scale is found to carry satisfactory internal consistency for the study sample, with alpha = .80.

Data analysis. Data entry and analysis were performed using the Statistical Package for Social Sciences version 17.0. Descriptive statistics of the key study variables, including frequencies, means, and standard deviations, were first examined. Analysis of bivariate correlations between mental health status and all independent variables was then conducted. To test the hypotheses, hierarchical multiple regression analysis was used with sociodemographic variables (urban–rural residency, age, gender, living arrangement) entered as the first block, followed by health variables, and then quality of their family life. The composite score of familial and societal burden views was entered as the final block.

Results

Characteristics of Older Participants

Sociodemographic characteristics. Descriptive findings concerning participants' sociodemographic characteristics are presented in Table 1. Of the 954 participants aged from 60 to 94 (mean = 72.73), half were from rural areas and half were from urban areas, with 49% being male, and 51% being females. The vast majority of participants (86.7%) were currently living with their spouse, children, and/or significant others, and 13.3% were living alone.

Physical and functional health status. On average, participants reported to be experiencing two chronic diseases, such as stroke or cerebrovascular diseases, rheumatism, diabetes, hypertension, cataract, heart disease, respiratory diseases, or digestive diseases. Concerning their functional health status, mean scores for the seven IADL domains were 2.51 for ability to use phone, 2.68 for shopping, 2.71 for food preparation, 2.79 for housekeeping, 2.58 for laundry, 2.59 for use of public transportation, and 2.63 for ability to handle finances. Most participants were able to perform these activities by themselves.

Quality of family relations. On average, participants had three to four relatives that they would meet or contact at least once a month, two to three relatives with whom they could share their innermost feelings, and three to four relatives that they could turn to for help when needed. With respect to participants' self-rated family relations, 94.2% rated their family relations as harmonious, while only around 6% perceived family relations as not harmonious.

Burden views toward older people. Of the 954 participants, 392 (41.9%) perceived older people as a real burden to the family, 400 (41.9%) perceived older people as somewhat of a burden on families, and only 162 (17.0%) did not think that older people were a burden on families. A similar trend was observed in their perception of older people as a burden for society, with only 186 participants

Table 1. Descriptive Statistics of Older Participants' Characteristics ($N = 954$)

Characteristics	Categories/items	Frequency (%)	Mean (*SD*)
Residence	Rural (0)	479 (50.2%)	
	Urban (1)	475 (49.8%)	
Age	Range: 60–94		72.73(7.55)
Gender	Female (0)	467 (49.0%)	
	Male (1)	487 (51.0%)	
Living arrangement	Not living alone (0)	827 (86.7%)	
	Living alone (1)	127 (13.3%)	
Number of chronic diseases	Range: 0–11		1.89 (1.78)
Function health	IADL composite score (range: 7–21)		18.49 (3.85)
	Ability to use phone (range: 1–3)		2.51 (.77)
	Shopping (range: 1–3)		2.68 (.64)
	Food preparation (range: 1–3)		2.71 (.63)
	Housekeeping (range: 1–3)		2.79 (.55)
	Laundry (range: 1–3)		2.58 (.70)
	Use of public transportation (range: 1–3)		2.59 (.70)
	Ability to handle finances (range: 1–3)		2.63 (.71)
Availability of family support	Lubben's family support composite score (range: 0–15)		8.39 (3.35)
	Number of relatives who would be met or contacted at least once a month (range: 0–5)		3.03 (1.23)
	Number of relatives who can share innermost feelings with (range: 0–5)		2.47 (1.28)
	Number of relatives who can offer help when needed (range: 0–5)		2.88 (1.38)
Self-rated family relations	Not harmonious (0)	55 (5.8%)	
	Harmonious (1)	899 (94.2%)	
Burden views of older people	Composite score (range: 2–6)		3.98 (1.68)
	Perceive older people as burden to family (range: 1–3)		2.01 (.91)
	Perceive older people burden to society (range: 1–3)		1.97 (.90)
Depression	GDS composite score (range: 0–15)		3.98 (1.68)
	Normal (range: 0–4)	562 (58.9%)	
	Mild depression (range: 5–9)	293 (30.7%)	
	Moderate to severe depression (range: 10–15)	99 (10.4%)	

Note. SD = standard deviation.

Table 2. Bivariate Correlation Coefficients for Independent Variables and Depression

	Correlation coefficient
Rural–urban residence	−.15***
Age	.17***
Gender	−.11**
Living arrangement	.04
Number of chronic diseases	.18***
Functional health status	−.43***
Availability of family support	−.18***
Self-related family relations	−.21***
Burden views of older people	.33***

Note. *p < .05; **p < .01; ***p < .001.

(19.5%) disagreeing with the statement that older people were a burden for society. Other participants either strongly agreed (41.8%) or somewhat agreed (38.7%) that older people were a burden for society.

Mental health status. The mean GDS score for study participants was 3.98 ($SD = 1.68$), with 30.7% experiencing mild depression and 10.4% experiencing moderate to severe depressive symptoms.

Correlations between Potential Predictors and Mental Health

Bivariate analysis was performed in order to identify correlations between participants' depressive symptoms and all independent variables. As shown in Table 2, mental health status, represented by GDS score, was significantly correlated with rural–urban residence, age, gender, number of chronic diseases, functional health status, availability of family support, self-rated family relations, and burden views toward older people.

Hierarchical Regression Analysis of Mental Health

Table 3 presents the regression analysis for all potential predictors when depressive symptoms was treated as the dependent variable. The final model explained 31% of variance in depressive symptoms. The four blocks of variables introduced respective increases of 7% ($p < .001$), 14% ($p < .01$), 6% ($p < .001$), and 5% ($p < .001$) in explained variance of depressive symptoms. In the first model, sociodemographic variables, including urban–rural residence, age, gender, and living arrangement, were entered. With the exception of living arrangement, these variables were significantly associated with depressive symptoms. Urban

Table 3. Hierarchical Multiple Regression Analysis of Participants' Depressive Symptoms

	Model 1 Beta	Model 2 Beta	Model 3 Beta	Model 4 Beta
Sociodemographic variables				
Urban–rural residence (0 = rural; 1 = urban)	−0.17***	−0.14***	−0.15***	−0.08**
Age	0.17***	−0.03	0.00	0.01
Gender (0 = female; 1 = male)	−0.12***	−0.06*	−0.07*	−0.05
Living arrangement (0 = not living alone; 1 = living alone)	−0.03	0.12	0.01	0.00
Physical and functional health variables				
Number of chronic diseases		0.07*	0.07*	0.09**
Functional health status		−0.40***	−0.38***	−0.33***
Family-related variables				
Availability of family support			−0.14***	−0.13***
Self-rated family relations (0 = not hamonious; 1 = harmonious)			−0.20***	−0.19***
Burden views of older people				
The extent of perceiving older people as a burden to family and society				0.23***
R^2 change	0.07***	0.14***	0.06***	0.05***
R^2	0.07	0.21	0.27	0.32
Adjusted R^2	0.06	0.20	0.26	0.31

Notes. $\triangle R^2$ = Change of explained variance. For each model, F change = 16.58 (df = 4 and 949, $p < .001$), F change = 83.19 (df = 2 and 947, $p < .001$), F change = 40.90 (df = 2 and 945, $p < .001$), and F change = 64.31 (df = 1 and 944, $p < .001$), respectively.
*$p < .05$; **$p < .01$; ***$p < .001$.

residence, younger age, and male gender were found to predict better mental health with less depressive symptoms. In the second model, variables measuring physical and functional health status were added. Age was no longer significant in predicting mental health in this model. Those who reported less chronic diseases and better functional health status were less likely to suffer depressive symptoms.

In the third model, quality of family relations, including availability of family support and self-rated family relations, was added into the regression. After controlling for sociodemographic characteristics, and physical and functional health status, the availability of family support and better self-rated family relations were associated with more favorable mental health. The final regression model examined whether participants' perception of older people as a burden on family and society was significantly associated with depressive symptoms, independent of the first three blocks of predictors. The final model revealed that those who held burden views toward older people were more likely to suffer more

depressive symptoms, indicating poorer mental health status. Other significant predicting factors included living in rural areas, reporting more chronic diseases, being more dependent on others in dealing with daily activities, having limited family support, and poorer family relations.

Discussion and Implications

The findings of this study show that in general, older Chinese adults often face a number of challenges with respect to maintaining a positive view of themselves as a group. When asked whether they perceived older people as a burden to family and to society, participants reported a mean score of two, on a scale of one to three. This may reflect that the images of aging and of older people are changing in contemporary China, to the extent that many older people have started to perceive themselves as a bit of a burden for both family and society, especially when they lack capability and necessary resources to stand on their own feet (Chow & Bai, 2011). This is consistent with modernization theory hypotheses as well as with stereotype internalization hypotheses. Through exposure to negative stereotypes about their group, in the context of rapid modernization, older people are likely to internalize these views into their self-image (Bai, 2014; Bennett & Gaines, 2010; Cowgill, 1974; von Hippel et al., 2000).

Aging stereotypes held by older participants were identified as an important predictor of depressive symptoms after controlling for sociodemographic characteristics, physical and functional health status, and family relationship quality. Confirming the most important hypothesis of this study, those with stronger burden views toward older people were found to be at higher risk of mental health challenges, notably depression. Age-based stereotypes and discrimination are embedded in our society and manifested through various aspects of daily life (Bai, 2014; Nelson, 2005). According to the stereotype internalization perspective, older peoples' self-image may deteriorate when they internalize such negative stereotypes. This is consistent with findings of previous studies, that positive attitudes toward aging are associated with positive effects on well-being, including depression (Dong et al., 2010; Hausdorff et al., 1999; Lai, 2009; Levy et al., 2000). This means that addressing aging stereotypes and older adults' self-image may be effective in the prevention of depressive symptoms. It is worthwhile to encourage late-middle-aged adults to take active preparation efforts before they virtually enter into old age, with the assistance of family, friends, and governments at all levels. Such preparation should at least include plans for financial security, appropriate social functioning, health maintenance, adaptation to relationship change with other family members, and future care arrangement. Based on the results of previous studies (e.g., Kim, Kwon, & Anderson, 2005; Lee & Law, 2004), we have reasons to expect that those who have paid more effort in getting prepared for retirement are more likely to adjust better to old age, have more optimal

self-esteem, experience less anxiety and depression, and be more confident in taking up future challenges.

As the number and proportion of older persons will continue to increase over the next few decades in China, and in many other countries and regions, negative attitudes toward aging must be addressed, among older adults and the general public. This can enable a more pleasant, productive, and positive aging experience, and reduce risk of mental health challenges such as depression. Older adults should be guided to protect their self-concept against the contaminating effects of stereotyped expectations of "typical" older people (Bai & Chow, 2011). For example, counseling activities with older adults might address their negative self-image, in addition to clinical symptoms associated with depression. Programs could provide opportunities for older adults to identify and explore positive aspects of aging, such as leisure or recreational opportunities, which might shift their attitudes toward aging. Participation in voluntary activities might also shift perceptions of older adults as a "burden" to society and improve their self-image. Social workers could also take on an advocacy role with older adults, with an empowerment focus intended to promote self-esteem and self-image (Kelchner, 1999).

Older adults' attitudes toward aging are a reflection of broader societal attitudes. Policy and program efforts should therefore actively address issues related to ageism (Kelchner, 1999; Nelson, 2005). Community education efforts should aim to create a positive social and community environment for the aging population, focusing on the positive aspects of aging and dispelling myths. Programs might also facilitate intergenerational understanding and respect through the development of relationships between older adults and members of the younger generations. Leisure, recreational, and voluntary activities might provide opportunities for developing such relationships.

In addition to burden views toward older adults, this study identified other factors associated with older adults' depressive symptoms. Perceived availability of family support and better self-rated family relations were found to be associated with more favorable mental health status among older participants, after adjusting for sociodemographic and health characteristics. This is consistent with previous evidence that positive family relations contribute to older peoples' mental health, while negative aspects of family relations have detrimental effects (Lendon, 2012; Ward, 2008). Perceived availability of family support and harmonious family relationships can buffer the negative effects of stressful events on older people's mental health (Lang & Schütze, 2002; Ward, 2008). As family members have traditionally been responsible for the well-being of older people in Chinese society, the impact of these changes in family structure and roles associated with modernization are particularly great. Efforts to enhance the mental health of older Chinese adults should focus on strategies or programs to improve family relationships, develop family support, and expand and strengthen older adults' social

support networks. Older adults' sense of self is often tied to their role in their family and to their relations with family members, particularly in Chinese culture. As such, the development and strengthening of family relationships may contribute to the enhancement of older adults' self-image and improve their views of aging (Gergen & Gergen, 2001).

Inasmuch as Chinese society is often described as founded on social relationships and interlocking social networks of familiarity (Fei, 1998), and as kinship relationships form an essential element in the community from which the elderly in China can receive care and support, the family network might be extended to friends, peers, and ideally to the whole caring community (Wang, 2005). More adequate provision of community services would help to share the responsibility in taking care of older people. Other sources of assistance should also be explored and organized. To ease the empty-nesters' problem of lack of sufficient care, they should be provided with more access to in-home services, day care centers, and residential care facilities (Yao, 2006).

Among participants, mental health challenges, measured by depressive symptoms, were associated with poorer physical and functional health and with rural residence (Chow & Bai, 2011; Sun, 2005). The contribution of health variables to variance in the dependent variable is more important than that of sociodemographic variables. These findings align with previous studies, which have reported that predictors of depression among older adults include rural residence (Chen et al., 2005; Lim et al., 2011), lower socioeconomic status and financial strain (Cairney & Krause, 2005; Chi et al., 2005; Kahn & Fazio, 2005; Lim et al., 2011; Mirowsky & Ross, 2003), and poorer health and functional status (Chi et al., 2005; Gagnon & Patten, 2002; Han, 2002; Ormel et al., 2002; Travis et al., 2004; Zeng et al., 2012). Previous research has also reported that better physical and mental health and socioeconomic status are linked to more positive attitudes toward aging (Lai, 2007).

Efforts to address depressive symptoms among older adults in China should include the development of adequate health care and health promotion services for the aging population (Travers, Martin-Khan, & Lie, 2009), including prevention, early detection, and intervention programs to reduce risks associated with chronic diseases and deterioration of functional capacity as adults enter into old age. The community-based healthcare teams need to be more effectively organized to pay frequent home visits to needy elderly members, especially those who are living alone, or with chronic diseases. Policy efforts could also focus on enhancing rural elders' financial situation, though multipillar retirement pension schemes. Older adults, and society in general, view aging negatively when it is associated with expected outcomes such as poor health and loss of independence, as opposed to being viewed as a meaningful and positive process (Gergen & Gergen, 2001; Nelson, 2005; Chrisler, Barney, & Palatino, 2016; Ramírez & Palacios-Espinosa, 2016). If these expectations and perceived outcomes can be improved, people may

view aging in a more positive way, which can in turn improve older adults' mental health status (Kim, 2009; Gergen & Gergen, 2001). It is also imperative that health and mental health professionals, social workers, and other service providers get rid of their stereotypes and biases toward aging and older people (Kelchner, 1999; Nelson, 2005).

Limitations

There are several limitations in this study that should be acknowledged. First, this study was based on data from one province, and as such, one should be cautious about generalizing the findings to older adult populations in other parts of China. Second, as this study was based on secondary analysis of data originally collected as part of a larger-scale cross-sectional study, the measurements used were limited by the availability of variables in the original data set. More sophisticated measurements of aging stereotypes could be used in future studies, and the inclusion of both subjective and objective measures of aging stereotypes in both positive and negative directions would be desirable. Third, viewing older people as a burden only explained 5% of variance in depression in the final regression model, much lower than the explanation power of physical and functional health variables, indicating that burden views toward older people represent an important but not necessarily critical variable in predicting mental health outcomes. While physical and functional health are also important predictors of depressive symptoms the study findings raise questions about the potential role that ageism might play in older adults' access to health and community support services, which could have significant impacts on older adults' health and mental health outcomes. Thus, further research on the interaction between ageism and service access in aging population is recommended.

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