Employment and Life Satisfaction Among Middle- and Old-Aged Adults in China

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Abstract
The population in China has been aging rapidly over the past two decades, raising concerns about how to meet the health and long-term care needs of the growing older adult population. The productive aging framework has been applied to promote the active roles that older adults can play in society and to improve physical and psychological well-being. Employment, as an essential form of productive aging, is central to personal control, self-identify, economic resources, and social connectedness. However, there is no clear role or accommodation for older workers in China due to the mandatory retirement policy and traditional culture of gender roles. Using the World Health Organization (WHO) Study on Global Aging and Adult Health (SAGE) Wave 1 data, we examined the relationship between employment and life satisfaction in middle- and old-aged Chinese. Multiple regression analyses indicated that employment and certain work characteristics were positively related to life satisfaction in both the total and male samples. Overall, rural residents had higher levels of satisfaction than urban residents after equalizing socioeconomic resources and health. Policy and practice implications are discussed on how to improve life satisfaction through employment and how to address gender and residency gaps.

Keywords
employment, life satisfaction, Chinese older adults, residency, gender difference

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Introduction
The population in China has been aging rapidly over the past two decades. Specifically, the proportion of Chinese aged 60 years and older reached 10% of the total population in 2006, and it is projected that this proportion will rise to 30% by 2030 (Shanghai Municipal Centers for Disease Control & Prevention, 2012). The rapid growth of the aging population has raised concerns about how to meet the health and long-term care needs of older adults. One potential social intervention is to promote a long and healthy later life through engagement in productive activities, including employment and volunteering (Morrow-Howell, Hinterlong, & Sherraden, 2001). Particularly, employment provides a strong influence throughout one’s life, enabling financial security, a defined social role, and maintained health and well-being (Walker, 2006). In the global context of population aging and the consequent changes in the labor market and family structure, great efforts are needed to assess the impact of employment on physical and mental health, and cognitive capability in older adults (Bowen, Noack, & Staudinger, 2010). It is critical for societies with aging populations to provide for productive aging and for individuals to have a healthy and meaningful later life (Staudinger & Kocka, 2010).

The concept of productive aging has been well documented since 551 BC in China, indicating that elders should be provided opportunities to make contributions to family and society (Mui, 2010). The underlying assumption is that older adults, as they have continually garnered capital during their lives, are not only capable of continuing their social and economic contributions, but also perhaps even more so than when they were younger (Mui, 2010). As such, highly respected elders often took charge of various levels of government and family decisions in ancient Chinese societies (P. Du & Wang, 2013). In Western societies, productive aging...
refers to older adult activities that generate a good or service for society (Bass, Caro, & Chen, 1993). The continuing capacity of older adults is worth enhancement as their contributions are beneficial to individuals, families, and society (Gonzales, Matz-Costa, & Morrow-Howell, 2015). As an essential form of productive aging, employment is central to personal control, self-identify, economic security, and social integration. Indeed, continued working as one ages is related to positive effects on physical and psychological well-being (Calvo, 2006). In addition, employment is directly related to improved life satisfaction (Aquino, Russell, Cutrona, & Altmaier, 1996). Conversely, job loss, especially involuntary layoff of older workers, is associated with poorer mental health and deteriorated physical functioning, whereas reemployment is associated with subsequent improved health outcomes (Gallo, Bradley, Siegel, & Kasl, 2000).

One of the challenges facing China is to provide economic support and health care to the growing older population, thus continued employment in old age is particularly important for both individuals and society (P. Du & Wang, 2013; Morrow-Howell & Mui, 2013). Yet little information is available regarding how employment affects life satisfaction from Chinese older adults’ perspectives. The mandatory retirement age policy in China has curtailed labor force participation of young-old adults and unintentionally legitimized the practice of discrimination against women workers (F. Du & Dong, 2009). Gender inequality in the labor market may further affect women’s well-being. With increasing urban-rural gaps in lifestyles, it becomes important to continue to work into advanced old age in rural China, while it is unclear whether and how the urban-rural differences in employment are related to life satisfaction. The overall goal of this study is to understand the relationship between employment and life satisfaction and to explore whether the relationship differs across genders and is conditional on urban/rural residency.

Literature Review

The productive aging conceptual framework posits that the antecedents of productive aging include social policy (e.g., government and employment policies), environment (e.g., residency), situation (socioeconomic status), and individual factors (Bass & Caro, 1996, 2001). Although positive and negative outcomes may link to productive engagement, employment in general leads to more positive physical and mental health outcomes for older adults (Morrow-Howell & Greenfield, 2016; Staudinger, Finkelstein, Calvo, & Sivaramakrishnan, 2016). The positive benefits may vary by certain circumstances, such as gender and residency. Most studies were conducted in Western societies, while scant research has investigated the association between employment and well-being in low- and middle-income countries (Staudinger et al., 2016). Based on our literature review, a few studies did focus on general status of employment and found that working in old age was associated with better self-reported health among Chinese older adults (Ling & Chi, 2008). Especially in urban areas, older Chinese with paid jobs had better mental and physical health than the unemployed (Li, Xu, Chi, & Guo, 2014). Based on these findings, it is speculated that retiring later in life may lessen or postpone poor health outcomes for older adults in general (Staudinger et al., 2016). Obviously, health outcomes are also linked to certain work characteristics, such as minimal wage and job strain (Staudinger et al., 2016). Very few studies have explored the associations between work characteristics and well-being in the Chinese older population.

The urban-rural differences in employment rates and patterns are stark in China (Giles, Wang, & Cai, 2011). Large numbers of retirement-age residents in urban areas have received relatively generous pension support (Giles et al., 2011). This pension support might be linked to a recent decline in employment in urban areas (G. Chen & Gao, 2013). By contrast, rural older adults with lower incomes and less accumulated wealth typically do not have pension incomes (Giles et al., 2011; Ravallion & Chen, 2007). They have to work throughout old age, most of them past the age of 70 or until they are no longer physically able (Benjamin, Brandt, & Fan, 2003). Even then, they are expected to take care of themselves, either through productive farm work or extended family arrangements (Benjamin et al., 2003).

Historically, Chinese women have been significantly disadvantaged by various measures of human and political capital. However, these disadvantages have not explained the variance of gender gaps in employment status and earnings (Zhang, Hannum, & Wang, 2008). Instead, gender gaps are related to family status and subsequent career mobility, with married women and mothers facing significant disadvantages (Zhang et al., 2008). Moreover, family factors such as child care, family care and size, and husband’s employment have significant impacts on women’s participation in the labor force, with these effects varying by residential area (J. Chen, Shao, Murtaza, & Zhao, 2014). Although the overall gender gap in the labor force has been fairly narrow, this gap has been increasing over the last two decades, with women being more likely to work at the lower end of the skill and productivity jobs that have lower than average earnings (Dasgupta, Matsumoto, & Xia, 2015). Due to their primary responsibilities for housework and care activities, women encounter more rigid tradeoffs between paid employment and unpaid housework (Dong & An, 2015), reducing their ability to pursue career development and miss out on enjoying the psychosocial benefits from paid work.

Due to lack of research, it is unclear whether residency and gender differences in employment are further linked to life satisfaction; even less is known about the impact of work characteristics (i.e., payment type, employment sector, work-related benefits) that vary by urban-rural areas) on life satisfaction in the
aging Chinese population. In line with the productive aging conceptual framework, work into old age is generally related to positive outcomes; yet social policy (e.g., mandatory retirement, as implied by residency), environment (e.g., residency), and individual factors (e.g., gender) may affect the association between employment and life satisfaction. Thus, we hypothesize that

**Hypothesis 1:** Work in old age is positively related to life satisfaction.

**Hypothesis 2:** Work characteristics (i.e., payment type, employment sector, work-related benefits) are related to life satisfaction among workers.

**Hypothesis 3:** Gender differences exist in the work-satisfaction relationships, that is, (3a) employment status, and (3b) work characteristics have stronger relationships with satisfaction in men than in women; (3c) factors related to life satisfaction differ across genders.

**Hypothesis 4:** Residency moderates the work-satisfaction relationship, that is, rural workers have less life satisfaction than urban workers after controlling for covariates.

**Method**

**Study Population**

We used data from the World Health Organization (WHO) Study on Global Aging and Adult Health (SAGE; available at http://www.who.int/healthinfo/sage/cohorts/en/index2.html). Participants aged 50 years and older were included in the study. They were surveyed between 2007 and 2010 (Wave 1) after being selected through multistage cluster sampling procedures. In China, SAGE covered eight provinces: Guangdong, Hubei, Jilin, Shaanxi, Shandong, Shanghai, Yunnan and Zhejiang. Wave 1 consists of 10,218 households in total and 14,813 individual respondents, with response rates of 95% of household interviews and an even higher rate for individual interviews (Shanghai Municipal Centers for Disease Control & Prevention, 2012). In this study, we used individual interview data (N = 13,170), including 6,983 females and 6,187 males. Due to missing values, the final regression sample size was 8,431. Furthermore, the sample was limited to those who reported currently working to test the relationship between work characteristics and life satisfaction (n = 3,607). Sensitivity analysis was conducted, and results showed that, compared with respondents, nonrespondents on education (with most missing values) were more likely to report more life satisfaction, not working, with more work-related benefits, younger in age, married, living in urban areas, with better health, and more income. The missing data may depend on both observed and unobserved information, thus missing not at random is assumed, which greatly limit the study generalizability.

**Dependent Variable**

**Life satisfaction.** Six questions were asked to elicit responses about satisfaction with health, respondents themselves, daily living activities, personal relationships, living conditions, and overall life. Responses were given on a 5-point Likert-type scale, coded from 1 (very dissatisfied) to 5 (very satisfied). The summary score was used (range = 6-30), with high internal consistency (Cronbach’s α = .90). High scores indicated high levels of life satisfaction.

**Independent Variables**

**Employment** was indicated by whether the respondent was working at the time of interview (yes/no). **Work characteristics** included payment type (cash only, cash and in kind, in kind only, or no payment), employment sector (public sector, private sector, self-employed, or informal employment), receiving retirement pension (yes/no), and receiving medical service (yes/no). In addition, workload measures, including working days in a week (range = 0-7) and working at more than one job during the past 12 months (yes/no), were included.

**Covariates**

Sociodemographic characteristics included age (range = 50-99), education in years (range = 0-23), marital status (married/cohabited, not married), residency (rural, urban), migration (whether having migrated or not), and self-rated health (very bad/bad, moderate, very good/good). Because there is no income variable in the data set, financial security was used as a proxy of income, asking whether respondents had enough money to meet their needs (none at all, a little, moderately, mostly, or completely).

**Analysis**

Univariate and bivariate analyses were first applied to describe the samples and compare gender differences in life satisfaction, work characteristics, and sociodemographics. Then, multiple regression models were estimated to test the Hypotheses 1 to 3 in the total, male, and female samples, respectively. The interaction term between employment and residency was created and tested for Hypothesis 4 about whether residency moderated the relationship between employment and life satisfaction. Analyses were performed using SAS statistical software Version 9.2 (SAS Institute, Inc., Cary, NC).

**Results**

Table 1 presents the descriptive and bivariate analysis results on gender differences. Compared with men (M = 22.09, SD = 3.62), women had less life satisfaction (M = 21.66, SD = 3.61) and were less likely to be
employed (38% vs. 51%). And if employed, women were less likely to receive cash payment (60% vs. 62%) and more likely to be self-employed or have informal work (48% vs. 45%). Also, female workers were less likely to have more than one formal job (11% vs. 16%) or receive medical benefits from their employment (47% vs. 49%). In addition, women had fewer years in education, were less likely to be married/cohabited, but more likely to live in urban areas, to report bad or very bad health, and to believe they had not enough money to meet their basic needs.

Multiple regression analyses showed that employment was significantly related to life satisfaction in the total sample ($b = 0.35, SE = 0.09, p < .0001$) and in men ($b = 0.54, SE = 0.12, p < .0001$) but not in women (Table 2). In addition, for the total sample, statistically significant predictors of life satisfaction included older age, more education, married status, living in rural areas, better self-rated health, and more financial resources. In the male sample, education ($b = 0.03, SE = 0.01, p < .05$) and migration ($b = 0.26, SE = 0.11, p < .05$) were significantly related to life satisfaction, but not in women for whom married/cohabited status was related to higher satisfaction ($b = 0.33, SE = 0.14, p < .05$). There was no interaction effect of residency and employment on life satisfaction, indicating that the positive effect of employment on satisfaction, if there is any, existed in both urban and rural respondents. After controlling for all other variables, urban residents in fact had less life satisfaction than rural residents ($b = -0.51, SE = 0.23, p < .0001$) in the total sample, with similar results in the male and female samples.

To further understand how work characteristics were related to life satisfaction, multiple regression analyses were run among workers in the total, female, and male samples, respectively. After controlling for sociodemographics, work characteristics had different associations with life satisfaction in three samples (Table 3). In the total sample, payment type, employment sector, and working on more than one job were significantly associated with life satisfaction, indicating that the positive effect of employment on satisfaction, if there is any, existed in both urban and rural respondents. After controlling for all other variables, urban residents in fact had less life satisfaction than rural residents ($b = -0.51, SE = 0.23, p < .0001$) in the total sample, with similar results in the male and female samples.

| Table 1. Gender Difference in Key Variables. |
|---------------------------------------------|
| Variables | Total (N = 13,170) | Female (n = 6,983) | Male (n = 6,187) | Bivariate results |
|-----------|-------------------|-------------------|-----------------|------------------|
| Life satisfaction | 21.86 (3.62) | 21.66 (3.61) | 22.09 (3.62) | $t(12,715) = -6.74$*** |
| Employed | 5,017 (44.25) | 2,168 (37.57) | 2,849 (51.18) | $\chi^2(2) = 212.52$**** |
| Payment type | | | | $\chi^2(2) = 22.4$**** |
| Cash only | 6,938 (61.10) | 3,485 (60.29) | 3,453 (61.93) | |
| In kind only | 3,657 (32.20) | 1,851 (32.02) | 1,806 (32.39) | |
| Cash and in kind | 761 (6.70) | 444 (7.68) | 317 (5.69) | |
| Employment type | | | | $\chi^2(2) = 22.4$**** |
| Public sector | 4,888 (43.06) | 2,452 (42.44) | 2,436 (43.70) | |
| Private sector | 1,154 (10.17) | 524 (9.07) | 630 (11.30) | |
| Self-employed/informal | 5,310 (46.78) | 2,802 (48.49) | 2,508 (44.99) | |
| Frequency of work | 5.77 (1.28) | 5.78 (1.27) | 5.76 (1.28) | $t(11,341) = 0.89$ |
| Receiving pension | 4,925 (43.57) | 2,332 (43.14) | 2,593 (43.14) | $\chi^2(1) = 0.81$ |
| Receiving medical service | 5,397 (47.74) | 2,718 (48.97) | 2,679 (46.78) | $\chi^2(1) = 6.69$*** |
| Work more than one job | 1,487 (13.12) | 666 (15.59) | 821 (15.59) | $\chi^2(1) = 58.55$**** |
| Age | 63.02 (9.32) | 62.93 (9.36) | 63.13 (9.29) | $\chi^2(13,168) = -1.18$ |
| Education | 7.37 (3.69) | 7.05 (3.67) | 7.65 (3.68) | $\chi^2(9,657) = -7.91$**** |
| Marital status | | | | $\chi^2(1) = 313.50$**** |
| Not married | 2,176 (16.53) | 1,530 (21.93) | 646 (10.44) | |
| Married/cohabited | 10,985 (83.47) | 5,446 (78.07) | 5,539 (89.56) | |
| Urban residency | 6,506 (49.40) | 3,612 (51.73) | 2,894 (46.78) | $\chi^2(1) = 32.16$**** |
| Migration | 6,031 (46.67) | 3,961 (57.80) | 2,070 (34.10) | $\chi^2(1) = 72.27$**** |
| Self-rated health | | | | $\chi^2(2) = 92.43$**** |
| Verybad/bad | 2,659 (20.55) | 1,566 (22.79) | 1,093 (18.01) | |
| Moderate | 5,912 (45.68) | 3,223 (46.90) | 2,689 (44.31) | |
| Good/very good | 4,370 (33.77) | 2,083 (30.31) | 2,287 (37.68) | |
| Income | | | | $\chi^2(2) = 17.55$*** |
| Not at all/a little | 2,610 (20.46) | 1,451 (21.40) | 1,159 (19.38) | |
| Moderately | 3,665 (28.73) | 1,999 (29.49) | 1,666 (27.86) | |
| Mostly/completely | 6,483 (50.82) | 3,329 (49.11) | 3,154 (52.75) | |

*p < .05. **p < .01. ***p < .001. ****p < .0001.*
Male workers with cash and in-kind payment had less satisfaction than those with cash-only payment ($b = -0.54, SE = 0.27, p < .05$). None of work characteristic variables were related to life satisfaction in the female sample. Compared with urban workers, rural workers had significantly higher levels of satisfaction in all three samples.
Discussion

Using a national sample from the WHO SAGE China data, we tested and partially confirmed our hypotheses that employment in general, and certain work characteristics including employment sector and payment type, were related to life satisfaction among middle- and old-aged Chinese, being especially true for men. We found that the relationships between employment and life satisfaction varied by gender, and for men being in the labor force, working for public sectors and receiving cash only payment were related to greater life satisfaction. Although we did not find the interaction effect of residency, the study showed that rural residents had higher life satisfaction after controlling for socioeconomic factors, which is contradictory to our hypothesis.

As shown in previous studies (e.g., Dasgupta et al., 2015), the gender gap in employment and wages is increasing in China. Similarly, we found that women are still disadvantaged in terms of being less educated, less likely to be employed, and working on less desirable jobs as compared with men. These variables create a gender gap within employment that may explain why labor force participation does not affect life satisfaction in women. Although women’s socioeconomic status has significantly improved, they are still mainly responsible for family caregiving, which impedes labor force participation and increases gender differences (J. Chen et al., 2014; Dasgupta et al., 2015; Xie, 2013). As a result, female workers are not able to enjoy the intrinsic aspects of working, such as social interaction, self-identify, feeling of accomplishment (Mutchler, 2002; Smyer & Pitt-Catsouphes, 2007), and life satisfaction.

China has witnessed a widening gap between urban and rural area lifestyles since the 1980s due to differing economic structures and exponential migration engendering rapid urbanization (J. Chen et al., 2014; Giles et al., 2011). There are large disparities in income, types of jobs, work environments, and work-related benefits between rural and urban areas. However, the relationship between work and life satisfaction did not vary by residency, as shown in our study, indicating that the meaning or importance of work may be similar across residencies. Furthermore, rural residents had greater life satisfaction than did urban peers after equalizing health and socioeconomic resources, with similar findings across genders. Findings are consistent with previous studies documenting that rural households had higher subjective well-being than did their urban counterparts (e.g., Knight & Gunatilaka, 2010). There are many determinants of life satisfaction and happiness other than total income or paid work, and objective life conditions have little impact on subjective well-being (Shmotkin, 2005). Future research is needed to explore the mechanisms of urban-rural differences in life satisfaction, such as migration pattern, social participation and support, coping strategies, and personal attributes.

Older adults can make substantial economic and social contributions to society through productive engagement. However, the main barrier to employment in later life is related to the mandatory retirement age policy, which has further contributed to gender inequality in employment and income. The unequal retirement age for women (50 or 55 for women vs. 60 for men) constrains their ability to work, limits their career development opportunities, and creates disparities in social security benefits (Dasgupta et al., 2015). To address these issues, the Chinese government has decided to stipulate policies for gradually suspending the retirement age in the near future (Dasgupta et al., 2015). In response to the rapid population aging in China, policy initiatives have been framed within the productive aging model (P. Du & Wang, 2013). This policy framework highlights the importance of engaging older adults’ capital through active participation in the society, which will improve their dignity, care, and self-realization (P. Du & Wang, 2013). Governments and employers make efforts toward workplace policies and practices that create work environments across the life course and support and maintain productivity and well-being for workers of all ages (Staudinger et al., 2016). It is also important to develop and utilize older adults’ skills and knowledge, allowing them to take professional or technical training, creating opportunities for continued education and self-employment (P. Du & Wang, 2013). Concerted efforts at both the individual and societal levels are needed to change attitudes toward older adult workers, to provide equal access to social resources across genders and residencies, and to create old-age friendly environments to pursue meaningful engagement in activities of their choice.

This study has several limitations. First, the cross-sectional nature of the data only allows for testing the associations rather than the causal relationship between work and life satisfaction. Thus, the direction of the relationship could be reversed, that is, men with higher life satisfaction are more likely to work, and for women life satisfaction is not a determinant to work. Future studies need to rely on longitudinal data or socially experimental design to test the pathways from work to life satisfaction and other well-being outcomes. Second, the data do not contain sufficient measures of work characteristics and information is missing, such as type of occupation, work history, career stability, job stress, and employers’ attitude toward older workers, among others. Therefore, this study cannot fully examine the gender and residency differences in employment and related life satisfaction. This study discovered that the definition of work is more mutable and subtle than it appears, and as such this concept of work was not clearly conceptualized by WHO, or the respondents, who may each have different ideologies about the meaning of “work.” For this reason, unpaid work or informal work was included in the work category in this study, to help in a small way further the
criterion within a global understanding about the complex meaning of work and its impact on life satisfaction. Further research is needed to develop comprehensive measures of work characteristics toward developing an agreed-upon definition of work (i.e., paid work, employment, and labor force participation, were used interchangeably in this study). Next, due to large numbers of missing values and huge variations in living areas, the generalizability of findings is limited. Finally, the motivations and environments of work were not investigated, which may mediate its relationship with life satisfaction. Research in this line will help illustrate whether gender and residency differences exist within the mechanisms toward greater life satisfaction and well-being.

In conclusion, the aging of the Chinese population will have a great impact on individual well-being, family life sustainability, and social development. Productive aging through labor force participation will empower older adults to exert greater control over their lives and thus help maintain quality of life, health, and well-being for themselves and their families. Meanwhile, continued work in old age is vital to build up protection of social systems at all levels and address the growing concerns of a rapidly aging society on social security and health care resources. Life satisfaction is a key measure of positive life circumstances, sustainable family units, health, and well-being. It is therefore imperative to focus policy, practice, and research arenas on promoting quality of life and life satisfaction across the life course among the largest populations that will effect China’s socioeconomic development in coming years, namely, our women and rural citizens.

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