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Parental status and late-life well-being in rural China: The benefits of having multiple children

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Abstract

Objectives—This study examined potential differences among childless elders, elders with one child, and elders with multiple children in rural China in their levels of depression and life satisfaction, and investigated the mechanism behind the potential differences.

Methods—The sample consisted of 1,224 older adults in rural Anhui province, China. ANOVA tests were carried out to compare the three groups in depression and life satisfaction, respectively. Multiple regressions were carried out to predict depression and life satisfaction, with 1) parental status, 2) individual attributes (i.e., socio-demographic variables and functional health), and 3) variables representing family relations (i.e., living arrangement, intergenerational contact, and family support) entered sequentially in each regression.

Results—Overall, childless elders in rural China had significantly higher level of depression and lower level of life satisfaction than did older parents. The primary reason for such group differences was lack of monetary support from adult children, the effect of which was conditioned upon the income level of older adults. With a high level of income, the benefit of monetary support from children was negligible. However, the mere presence of multiple children was associated with a higher life satisfaction, independently of personal attributes and potential monetary support form children.

Conclusion—This study contributed to the "missing link" in the explanation by identifying the pathways through which parental status affect individual well-being. The findings indicate that local contexts such as affluence, social norms, and available formal support all play a role in shaping the consequences of childlessness in later life.

Keywords

Parental status; depression; life satisfaction; rural China; local contexts

Introduction

When examining psychological well-being in later life, one can hardly ignore the role of families and intergenerational relations. Families in general and adult children in particular, play a central role in maintaining social connectedness, providing emotional and instrumental support, and buffering negative stressors in old age (Bengtson & Harootyan, 1994; Connidis, 2009). Given the benefits of parenthood, the belief about the high risks of loneliness, social isolation, and depression of older childless persons is widespread and persistent (Koropeckyj-Cox, 2004). However, empirical findings about parental status and psychological well-being in later life are mixed. Whereas research in United States and Northern Europe have found either no effect or even a weak positive effect of childlessness

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on psychological well-being (Hansen, 2011), Chinese studies reported higher depression, greater sense of loneliness, and lower life satisfaction among childless elders as compared to older parents (K. L. Chou & Chi, 2004; W. Zhang & Liu, 2007).

The mechanisms through which parental status produces different consequences in individuals are unclear. It is likely that the meaning, experience, and consequence of childlessness differ across cultures and societies (Umberson, Pudrovska, & Reczek, 2010). Confounding factors at individual and family levels may also play a role. Questions arise such as: Whether childlessness is more consequential in China because of the lower socioeconomic resources of Chinese elders compared to their Western counterparts? Does this relationship fund in China reflect other aspects of family relations such as lack of intergenerational contact and family support? To address these questions, this study compared three groups of older adults in rural China – childless elders, older adults with one child, and older adults with multiple children – in their psychological well-being. This study also investigated to what extent parental status interacts with confounding factors such as education, income, living arrangement, contact with children, and family support in affecting psychological wellbeing.

Childlessness and psychological well-being: What we think and what we know

Parenthood is believed to entail substantial benefits on people's lives. Culturally and symbolically, it represents a normative life experience and social role that are closely linked to core psychological needs for connectedness, belonging, meaning and immortality(Connidis, 2009). The parenthood experience itself may boost self-esteem, making parents feel like better persons and providing them with a sense of fulfillment (Hansen, Slagsvold, & Moum, 2009). From a practical perspective, children not only can provide older parents with companionship, intimacy, and affection, but also are important sources of instrumental and financial support in late life (Alexander, Rubinstein, Goodman, & Luborsky, 1992; Dykstra & Hagestad, 2007). These positive views of parenthood gave rise to concerns over the unfavorable psychological well-being of childless elders as a result of the absence of these benefits (Chang, Wilber, & Silverstein, 2010).

Despite this widespread belief, empirical findings in the West fail to show any consistent emotional advantages of having children. Studies in the U.S. and Northern Europe revealed that childless older adults are similar to older parents on measures of depression, loneliness, life satisfaction, sense of meaning in life, self-esteem, and happiness (Bures, Koropeckyj-Cox, & Loree, 2009; Chang et al., 2010; Dykstra & Hagestad, 2007; Hansen et al., 2009; Koropeckyj-Cox, 1998; Savolainen, Lahelma, Silventoinen, & Gauthier, 2000; Vikström et al., 2011; Z. Zhang & Hayward, 2001). The findings applied to even the most vulnerable older populations such as those with physical disabilities and the oldest-old (Chang et al., 2010; Z. Zhang & Hayward, 2001). In a national study of mid- and late-life adults in U.S., the childless were found to even exhibit less depression than parents (Bures et al., 2009).

Several reasons may explain these seemingly surprising findings. It is likely that childless elders adapt at finding other sources of meaning and fulfillment (Hansen et al., 2009). They may investe more heavily on relationships with other kin, friends, and neighbors, obtaining needed support from them (Dykstra, 2006). Childlessness tends to have a positive impact on economic status in later life, particularly among women, which appears to be a major correlates of subjective well-being (Plotnick, 2009). Above all, adult children may be unable or unwilling to provide support, or they may represent a source of conflict, dependence, disappointment, or emotionally drain for older parents, which are more detrimental to individual well-being than the benefit of close relationships (Birditt, Miller, Fingerman, & Lefkowitz, 2009; Krause, 1995).

Childlessness, however, appears to be a stronger and more consistent risk factor for Chinese older adults. A study of older adults in Hong Kong found a higher level of loneliness and depression in childless elders than their peers with children, even when factors such as age, gender, marital status, education, self-rated health and financial strain were controlled (K. L. Chou & Chi, 2004). Another study of elders in mainland China similarly reported lower life satisfaction, greater anxiety and loneliness among the childless than parents (W. Zhang & Liu, 2007). Such relationships disappeared when factors of demographic attributes, rural vs. urban residence, and access to pension and medical services were taken into account. Unfortunately, no additional analysis was carried out to examine in what way these confounding variables worked.

The overall empirical evidence seems to suggest that childlessness is more consequential in Chinese elders than in their Western counterparts. But the reason why it is so is not clear. Nauck and Klaus (2007) pointed out that the value of having children is conditioned upon socioeconomic and institutional structures within which the family is embedded. More research that is sensitive to the local contexts is needed. Studies are also needed to carefully tease out the effect of potential confounding factors at individual and family levels in studying the consequences of childlessness among older populations.

Rural China: The local context

This study focused on rural China, where about 60% of Chinese populations aged 60 and older live (National Statistics Bureaus of China, 2012). The proportion of older population in rural China increases at a faster rate than that in urban China due to massive out-migration of young adults (Wang & Mason, 2008). Compared to their urban counterparts, Chinese rural elderly have a larger average household size (3.6 vs. 3.2), more traditional household arrangements such as multigenerational households, and are more likely to live with their children, particularly with sons (Zeng & Wang, 2003).

Although all societies value intergenerational relations, Chinese societies in general and rural China in particular are characterized by patrilineal kinship system, with the lineage being the primary unit of solidarity (Murphy, Tao, & Lu, 2011). In China, there are strong social expectations towards parenthood, which perhaps is the most important responsibility inherent to the marriage. The Chinese proverb "*Bu Xiao You San, Wu Hou Wei Da* (Three things fail filial obligations toward the parent, the worst is not producing offspring)" is an accurate depiction of this cultural ideal. According to Chinese traditional values, childlessness was perceived as a shame or a curse on the family, particularly for women (K. L. Chou & Chi, 2004). Couples would be embarrassed if they were infertile, for not being able to continue the family line. Childless women are especially stigmatized, often experiencing disapproval and discord relationships with husband and in-laws, and even marriage breakdown (W. Zhang & Liu, 2007).

From the functional perspective, children are of particular significance as old age security in China, especially in rural areas (Jiang, 1994). In China, filial responsibility of adult children to their parents entails a complex series of duties including coresidence, food provision, and physical and emotional care of parents (Zhan, 2004). The notion that it is the children's responsibility to take care of their parents is upheld by the government. The Chinese Constitution of 1982 and the Marriage Law of 1981 both clearly mandate supporting aging parents as a legal obligation of adult children (R. J. A. Chou, 2011). Support from adult children is especially crucial for Chinese rural elders who often have very limited personal resources and formal services. The average per capita annual income for rural residents was less than one third of that of urban residents (National Statistics Bureaus of China, 2012). Whereas 74% of urban older adults receive pensions, only 5% of their rural counterparts do so (China Research Center on Aging, 2009). The lack of protection of formal services makes

adult children the most available and reliable source of old-age support for Chinese rural elders. A national study reported that 73% of Chinese rural elders received monetary support from children, whereas less than half of their urban counterparts (47%) did (Pei & Pillai, 1999).

While the previous work on Chinese older adults have either focused on economically developed regions (K. L. Chou & Chi, 2004) or used national samples without distinguishing rural and urban areas (W. Zhang & Liu, 2007), this study relied on a large sample of Chinese rural elderly to examine whether and through what mechanism parental status affects older adults' psychological well-being. I distinguished older parents with one child from older parents with multiple children in the analysis because, as the Chinese proverb "*Duo Zi Duo Fu* (the more children, the more fortune)" goes, having multiple children is likely to provide older adults with even greater psychological benefits. The questions addressed in the study include:

1. Whether older adults of different parental status (i.e., childless elders, older adults with one child, and older adults with multiple children) differ in their psychological well-being?
2. If so, to what extent are these differences due to absence of children, or other related personal and family circumstances such as education, income, living arrangement, interpersonal contact, and family support?

Given that a major negative consequence of childlessness among Chinese rural elders is lack of monetary support from children in later life, the third question asked:

3. Whether certain groups of more vulnerable older adults (e.g., low socioeconomic status, poor health, living alone) are more susceptible to lack of monetary support from children?

Methods

Sample

The sample of this study was derived from Anhui province, which is an underdeveloped province, with GDP per capita ranked 26th among the 31 provinces in China (National Statistics Bureaus of China, 2012). The baseline survey was conducted in 2001. A multistage cluster sampling method was used to recruit 1,802 respondents aged 60 and older from the administrative records of 72 randomly selected villages in 6 rural townships in Chaohu region. Surveys were conducted in respondents' homes. Respondents discussed each child at length in terms of living arrangement, frequency of contact, and support exchanges. Follow-up surveys were administered to the original respondents in 2003, 2006, and 2009, with attritions of 347 (21.2%), 301 (22%), and 259 (24.3%), respectively, over time. The 2009 survey also used systematic sampling method to select 504 elders aged between 60 and 67 (7 elders in each 72 village) to replenish the sample. Among them, 416 older adults completed the survey. The data used in the current study was derived from the most recent survey – the 2009 survey – which consisted of a total of 1,224 older adults who provided information on 4,472 children.

Measures

Parental status: older adults were categorized into three groups: childless elders, older parents with one-child, and older parents with multiple children (i.e., more than one child).

Psychological well-being was operationalized as life satisfaction and depression to index both positive and negative well-being. Both scales were derived from the Study of Health

and Living Status of the Elderly in Taiwan (for details, see Hermalin, 2002), with original questions adapted from the Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985) and a short form of the CES-D scale (Radloff, 1997), respectively. The *life* satisf*action* scale assessed cognitive judgments regarding the current quality of life. It consists of seven items asking respondents whether they agree or disagree with statements indicating contentment and discontentment with their current lives (better life than most, satisfied with life, interesting life, best years of life, life meets expectations, life is tedious, life is tiring) (1 = Yes, 0 = No). The sum score of life satisfaction ranged from 0 to seven, with higher scores reflecting higher levels of life satisfaction. The *depression* scale had nine items, among which three indicated feelings of positive affect (happiness, enjoyment, pleasantness), two indicated feelings of negative affect (lonely, upset), two indicated feelings of marginalization (useless, nothing to do), and two indicated somatic symptoms (poor appetite, has trouble sleeping). The respondents rated the frequency with which each symptom had been experienced during the past week (0 = rarely or none of the time, 1 = some of the time, 2 = most of the time). After reversely coding positive affect items (i.e., happiness, enjoyment, pleasantness), the nine scores were summed, resulting in a depression scale ranging from 0 to 18, with a higher score indicating greater depression. The Cronbach's alphas for the life satisfaction and the depression scale were .84 and .79 in this study, respectively.

Family relations were assessed by fiver indicators that captured the living arrangement, intergenerational contact, and family support received by the older adults. Living arrangement included two dichotomous variables: *living with children* (1 = yes, 0 = no) and *living with people other than children* (1 = yes, 0 = no), with *living alone* as the reference group. Intergenerational contact was assessed by the variable: *having monthly contact with at least one child* (1 = yes, 0 = no). Family support included monetary and instrumental support. Monetary support was assessed by the *total amount of money received from all children* during the past year. Natural log of the RMB value was used because of the skewed distribution of this variable. Instrumental support was assessed by a dichotomous variable assessing whether the respondent had received hands-on help from *any* family members (e.g., spouse, children, grandchildren, and relatives) in either household chores or personal care during the past year (1 = yes, 0 = no). The variables *living with children*, *having monthly contact with at least one child*, and *monetary support from children* were coded 0 for childless elders due to the absence of such family relations.

Control variables included age (in years), gender (female = 1), marital status (married = 1), education (received some education = 1), income, and functional health difficulties. Income was indicated by the total income that the respondent (and spouse, if married) had received from *work or pension* in the past year. The natural log of the RMB value was used to represent this variable given its skewed distribution. Measures of functional health difficulties were constructed by the Principal Investigators of the project (See Silverstein, Cong, & Li, 2006), and was represented by respondents' level of difficulty (0 = no difficulty, 1 = some difficulty, 2 = cannot perform without help) in performing 15 tasks that represented activities of daily living (dressing / undressing, bathing, walking around the room, getting out of bed/chair, going to the toilet, eating); instrumental activities of daily living (preparing meals, shopping, doing housework, taking the bus or train, managing money); and activities requiring physical strength, mobility and flexibility (lifting a 10 kilogram bag of rice; climbing one flight of stairs; walking 100 meters; stooping/ crouching/ kneeling). The summed functional health difficulty scores ranged from 0 (no difficulties performing any task) to 30 (unable to perform any task), with $\alpha = .93$.

Data analysis

Descriptive data were presented to provide a profile of the older adults in the study. A series of T-tests, ANOVA tests, and Chi-square tests were carried out to compare the three groups of older adults in their individual attributes and family relations. To answer the first research question, ANOVA tests were carried out to compare the three groups in their level of depression and life satisfaction, respectively. To answer the second and the third research questions, multiple regression analyses were carried out to predict the depression and life satisfaction respectively, with four sets of variables entered sequentially in each regression: 1) two dummy variables of parental status (i.e., elders with one child and elders with multiple children, with childless elders being the reference group), 2) individual attributes (i.e., socio-demographic variables and functional health), 3) family relation variables, and 4) interactions between monetary support from children and significant predictors of depression/life satisfaction resulted from the previous models. The multi-stage regressions evaluated the unique contribution of parental status on older adults' well-being, above and beyond the effect of individual attributes and family relations. The last step of the regressions tested whether childlessness is more consequential in certain groups of older adults.

Results

Table 1 presents the sample characteristics. The mean age of the respondents was 72 (*SD* = 8.25). About half of them were females and the majority were married (61.7%) and illiterate (67.2%). The mean annual income of the respondents was 2,372 RMB (339 USD) and the average functional health difficulty score was 3.95 out of a possible 30 (*SD* = 6.85). The average respondent had about four children. Among them, 50 (4.1%) had no children, 71 (5.8%) had one child, and 1,103 (90.1%) had more than one child. About 22% of the respondents lived alone. Among older parents, about 20% lived with children and another 44% had children living in the same village (data not shown in table). More than two thirds of the parents had monthly contact with at least one child. On average, older parents received 2,400RMB ($342 USD) from all children in the last year. Of all the respondents, the majority (54%) had received instrumental support from family members.

The sample is comparable to Chinese rural elderly in general in gender composition (women: 50.5% vs. 51.9%) and marital status (married: 61.7 % vs. 60.4%) (National Bureau of Statistics of China, 2012). The share of the childless in the sample is also comparable to the national figure (4.1% vs. 4.6%) (W. Zhang & Liu, 2007). However, the respondents in the sample had much lower education (illiterate: 67.2% vs. 32.3%) and annual income (2,372 RMB vs. 4,756 RMB) than Chinese rural elderly in general (China Research Center on Aging, 2009; National Bureau of Statistics of China, 2012). Overall, the sample represents a group of economically deprived older adults, even compared to Chinese rural elderly in general who have relatively low economic status.

Table 1 also compares the three groups in their individual and family attributes. The three groups differed significantly in all domains except for education, functional health difficulties, and the likelihood of receiving instrumental support. One biggest difference across the groups was that the childless were predominantly males (90%) and unmarried (92%). An examination of the raw data showed that the nature of being unmarried was quite different between the childless and the older parents. Whereas 87% of the unmarried childless were *never married*, 99% of the unmarried parents were *widowed*. In other words, childless elders in this study were mainly males who had never married. It is likely that these men in rural China were too poor to get married in early years and thus remain single and childless in later life. Childless elders also had lower income and higher likelihood to living alone. Among older parents, having more than one child was associated with greater

likelihood of having monthly contact with children and significantly more monetary support from children.

To address the first research question, two ANOVA tests were carried out to compare the three groups in levels of depression and life satisfaction. Levene's test showed that the sample variances was similar and the assumption of homogeneity of variance were met (p = .324 for depression, p = .069 for life satisfaction). The results of both ANOVA tests were significant ($p < .001$). Figure 1 illustrates the results, showing that childless elders had the highest level of depression and the lowest level of life satisfaction, followed by elders with one child and elders with multiple children. Post-hoc analyses revealed that the significant differences in depression were between older adults with multiple children and the two other groups. The differences in life satisfaction were significant across all the three groups.

To understand what factors account for such group differences and to answer the second and the third research questions, multiple regressions were carried out to predict depression and life satisfaction by sequentially entering parental status, personal attributes, family relation variables, and the interaction terms. Table 2 presents the results of regressions predicting depression. Consistent with the results of ANOVA tests, the Model 1 showed that only having more than one child was associated with lower level of depression. When controlling for personal attributes in the Model 2, the difference between the childless and elders with multiple children remained, suggesting that individual attributes such as higher income of elders with multiple children did not fully account for their lower level of depression than the childless. Having one child became a significant predictor in the Model 2, showing that, given similar individual attributes, older adults with one child would also be less depressed than the childless. Model 2 revealed that older adults who were illiterate, who had lower income, and who had more functional health difficulties had higher level of depression.

When variables representing family relations were added in the Model 3, parental status was no longer associated with depression, suggesting that individual and family attributes jointly explained the group differences in elders' level of depression. Specifically, living alone and lack of monetary support from children were associated with higher level of depression. In the Model 4, interactions between monetary support and other significant predictors were added to further understand whether the negative influence of lack of monetary support from children was particularly detrimental to certain groups of rural elders. The results of Model 4 revealed a significant interaction between income of older adults and monetary support form children. Figure 2 depicted this interaction graphically by presenting predicted depression scores by older adults' levels of income and monetary support from children while other variables held constant at their sample means. Because 40% of the respondents in this study had no income and 11% of them had no children or received no monetary support from children, both income and monetary support were compared at three levels: *no* income/support, *average* income/support (mean values), and *90th percentile* income/support.

Figure 2 shows that the effect of children's monetary support in reducing depression was strongest among older adults with no income, followed by those who had average level income. The benefit of monetary support from children was minimal among elders with 90th percentile income, evidenced by the relatively flat line. In other words, with high level of income, lack of monetary support from children was not very detrimental for older adults.

I repeated the same regression analyses on life satisfaction (Table 3). Several notable differences in the life satisfaction regressions emerged. First, parents with one child also had a higher level of life satisfaction than childless elders. Such a difference was not associated with individual attributes (Model 2), and seemed to be resulted from the differences between the two groups in whether the participants lived with and received monetary support from

children (Model 3). Second, even after controlling for all the individual and family relation variables, parents with multiple children still enjoyed higher level of life satisfaction compared to the childless (Model 3). This suggests that the mere fact of having multiple children may yield a greater sense of satisfaction among Chinese rural elders. Overall, older adults who were married, educated, who had higher income, less functional difficulties, who lived with children, and who received greater monetary support from children had greater life satisfaction.

As for depression, the interaction between income and monetary support from children was statistically significant predictor (Model 4). Figure 3 shows that elders who had no income benefited most from monetary support from children, followed by those with average income, and then those with 90^{th} percentile income.

Discussion

To revolve the puzzling findings in the previous studies that Chinese elders tend to be more negatively affected by childlessness than their Western counterparts, this study used a sample of Chinese rural elders to examine potential differences among childless elders, elders with one child, and elders with multiple children in their levels of depression and life satisfaction, and the mechanism behind the potential differences. The empirical analysis suggests several important conclusions.

Childless elders fare less well in rural China

As a matter of fact, childless elders in the sample did have poorer psychological well-being than older parents. They also demonstrated vulnerabilities in other domains of personal and social lives such as lower income and a greater tendency to live alone. These findings contrast those in the U.S. which reported higher income and wealth of the childless in later life than older parents as a result of avoiding the economic costs of raising children (Plotnick, 2009). Childlessness in rural China is a risk factor and is likely to leave those with no child in destitute and poor psychological status in later life. The reasons for such a risk go beyond the mere fact that one has no child. Instead, the risk is likely to be attributable to low income, living alone, and not receiving monetary support from children in this population. As discussed below, having higher income can buffer against this risk.

It is worth noting that the adverse conditions of the childless in the sample may be the very reason explaining their childlessness in the first place. The childless in the study were older men who had never married. This is an interesting finding that reflects poor marital prospects for Chinese men living in poor rural regions. Low income and lack of wealth are found to be associated with failure to marry among Chinese men (Ebenstein & Sharygin, 2009). The traditional Chinese norms require the groom's family to pay for the wedding, build a house, and provide for the couple (Chu, 2001). While women in poor regions/ families can manage to "marry out" and it's socially acceptable for them not to bring dowry, men in poor regions are more likely to be constrained by economic difficulties, ending up in singlehood and childlessness in later life, as observed in this study.

The pathway through which having children benefits Chinese rural elderly

The findings reveal that the primary mechanism underpinning the unfavorable psychological outcomes of childlessness in rural China was lack of monetary support from children in later life. Children is an important source of comfort to Chinese rural elders for a very practical reason: providing old-age support. While Western elders often have savings, pensions, retirement benefits, and health care, children might be the only source of income for older adults in rural China. In this study, about 90% of the parents received monetary support

from their children in the past year, and the average amount of such support (RMB 2,400) was comparable to the average annual income of the respondents (RMB 2,302). The availability of social services in rural China is also minimum. Studies in the West found that while older parents receive more informal support, the childless receive more formal support (Larsson & Silverstein, 2004; Wenger, Dykstra, Melkas, & Knipscheer, 2007). But in rural China, there was virtually no pension system prior to the 1990s, and the current rural old age pension and health care systems are still largely underdeveloped (Chen & Liu, 2009). Although there are social welfare programs such as the "*Five Guarantees*" (i.e., food, shelter, clothing, health care, and burial expenses) for childless elders, the level of such care is often minimal (Sun & Wang, 2008). Given the respondents' very low income and lack of formal support, the absence of children and consequently lack of monetary support from them may significantly impair late life well-being.

The joint effect of low income and lack of monetary support from children is particularly detrimental, demonstrated by the significant interactions between the two variables in predicting both depression and life satisfaction. As observed in Figure 2 and Figure 3, among those who had a high level of income, the benefit of monetary support from children was negligible, with older adults receiving different levels of monetary support having comparable levels of depression and life satisfaction. I argue that this pattern resembles the findings in most Western studies, that is, given sufficient financial protections, whether having children or receiving momentary support from them would have a very limited impact on individual well-being.

The significant results of income and monetary support from children by no means indicate that other factors such as health, in-person contact, and instrumental support from children are not important for Chinese rural elderly. First, the dichotomous measure of personal contact and instrumental support did not capture the frequency of contact and the quantity of support, which may be more linearly related to older adults' psychological well-being. Second, the measures of contact and instrumental support were *aggregated* values at the family level. They may contain mixed information of multiple children who have different interaction patterns with the older adult, thus having limited power in predicting older adults' psychological outcomes. Finally, it is possible that greater monetary support from children reflects closer parent-child relationships which benefit late-life wellbeing but is not captured in this study.

The influence of childlessness seems to vary by the measures of psychological well-being

Other things being equal, older parents with multiple children still enjoyed a higher level of life satisfaction than childless elders. In other words, the mere presence of multiple children boosted the sense of life satisfaction among Chinese rural elders. Such a relationship was not found in depression. This is an important finding because it demonstrates that depression and life satisfaction may represent conceptually distinctive domains of subjective well-being that are affected by the childless status differently (Umberson et al., 2010). Whereas depression is a measure of psychological distress that is sensitive to lack of support, companionship, and intimacy (Koropeckyj-Cox, 1998), life satisfaction represents "a cognitive evaluation of well-being that is based upon comparisons of actual achievements to aspired conditions" (Hansen, 2011, p.30). Life satisfaction is believed to result from one's subjective evaluation of life circumstances based on standards such as personal goals, social expectations, and the accomplishments of others (Hansen et al., 2009). There is a stronger sense of satisfaction when one's life circumstance is congruent with social expectations that are highly valued in one's culture (Schimmack, Diener, & Oishi, 2002).

In the context of this study, parenthood is the normative expectation for most people in rural China and is believed to increases social esteem (Nauck & Klaus, 2007). Unlike many

Western societies, childlessness still represents a disruption of the expected life course for most Chinese. To put into perspective, in 2006, 20% of American women age 40 to 44 were childless, and in the 2002 Health and Retirement Study (HRS), about 10 % of mid- and late-life adults in general never had a biological child (Bures et al., 2009). In contrast, only about 4.6% Chinese aged 65 and over were childless (Z. Zhang & Hayward, 2001). Being a childless in China, thus may lead to a sense of failure to meet normative expectations, which in turn, would depress positive self-evaluations and create lower life satisfaction (Hansen et al., 2009). It is reasonable to assume that parents with multiple children in rural China may view their fortunes and achievements in life more favorably than the childless and parents with only one child, and consequently enjoying greater sense of life satisfaction.

Limitations

This study is limited in its generalizability. The very low socioeconomic status of the respondents needs to be borne in mind when interpreting the findings related to income and monetary support from children. These findings may not be applicable to Chinese elders in urban areas or more affluent rural areas. Although the proportion of the childless in the sample is comparable to the national figure, the predominantly high percentage of unmarried males in the group is unusual and may reflect the characteristics of the childless in economically deprived areas only. More studies using national samples are needed .

Small samples of childless elders (n = 50) and elders with one child (n = 71) require cautious interpretation. The relationships found in this study need to be validated using larger representative samples of elders who fall into these less common but more vulnerable status groups. The small sample size of subgroups also prevented additional analysis testing interactions with gender and marital status. The negative impact of childlessness may be greater in Chinese rural women due to the stronger stigma of infertility associated with women than with men. Of concern is also the fact that 92% of the childless in this study was unmarried. A study showed that marital status rather than parental status is a more salient factor influencing loneliness and depression in old age (Z. Zhang & Hayward, 2001). Although in this study parental status had a unique contribution to the variance in older adults' psychological well-being above and beyond the effect of marital status, it was impossible to clearly separate the effect of being unmarried from being childless given that the two conditions were greatly overlapped in this study. Future studies with larger samples and a greater variation in marital status among the childless would help to discern the relative importance of the two conditions on individual well-being.

Other limitation of the study relates to the measures. Limited by the nature of secondary data analysis, many variables were measured by single items, and as discussed earlier, some family relation variables were aggregated information at the family level. Variables using multiple items and taking into account within-family variations may have a greater predicting power.

Conclusion and implications for future study

The findings presented support to the old myth that children make people happier and that not having children jeopardizes wellbeing in later life. More importantly, this study contributes to the "missing link" in the explanation by identifying the pathways through which parental status affect individual well-being in rural China, that is, through the lack of "old age security" provided by adult children. Parenthood also contributes to life satisfaction of Chinese rural elders, independently of economic status and personal resources, which may be largely due to the strong social expectations and social rewards of parenthood in rural China. Comparing to relative findings from the Western studies, the findings of this study demonstrates how socioeconomic, cultural, and institutional factors may all play a role

in shaping the consequences of childlessness in later life. I argue that, it is the different local contexts between the West and the East that explain the inconsistent findings in the current literature about childlessness and late life well-being. Parental status represents a background factor that reflects other aspects of personal, family, and social conditions which may be more influential to individual well-being than the status itself. Future studies need to look beyond structural indicators such as parental status and to examine the mechanism through which there factors work in the local settings.

Given the importance of having children for Chinese rural elders' economic and psychological well-being, more serious efforts need to be made to meet the caregiving and emotional needs of the childless elders in China. They are likely to require greater income support, health care, and social services compared with older parents. It is critical that social programs developed to address the needs of this group of particularly vulnerable older populations.

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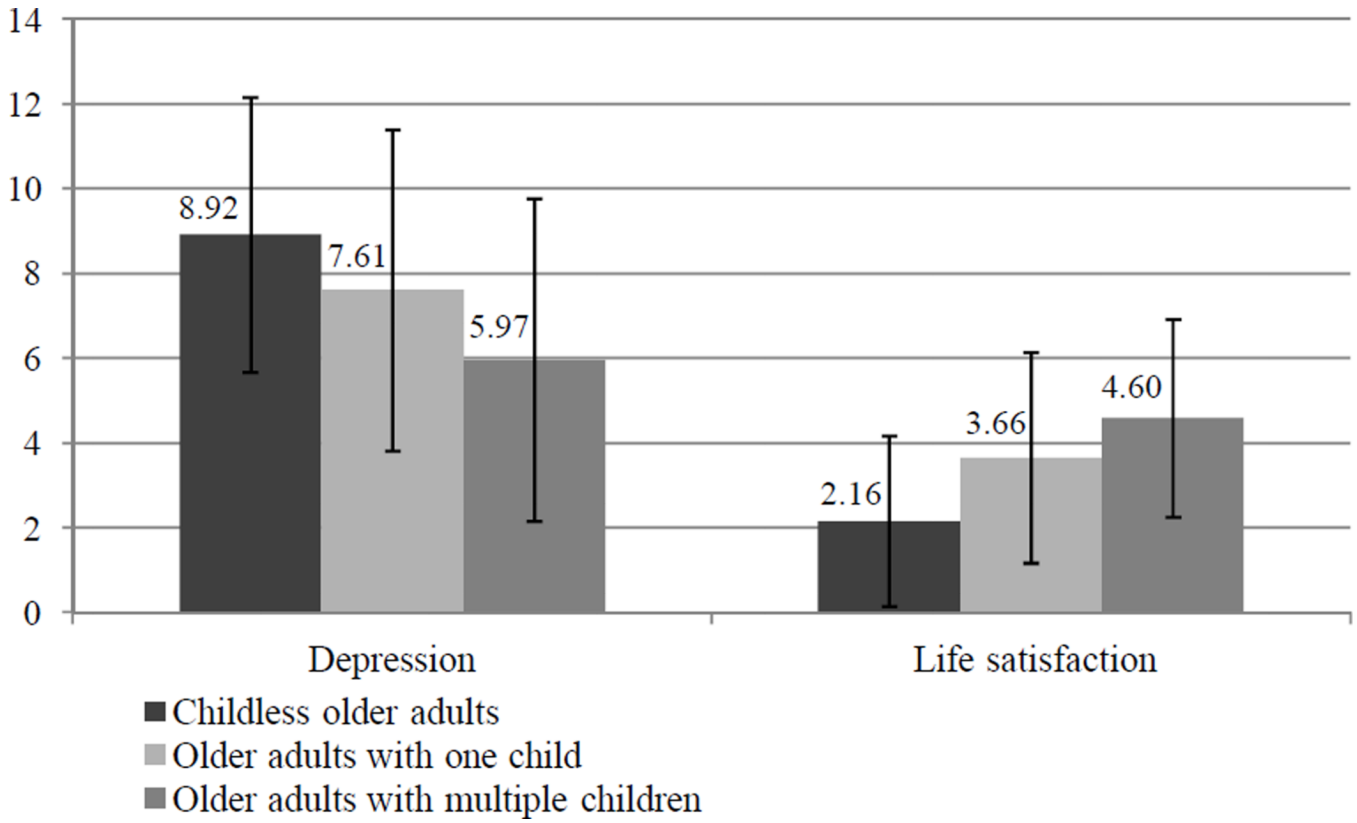

Figure 1.
Depression and life satisfaction among the older adults in Anhui study by parental status (N = 1,224)

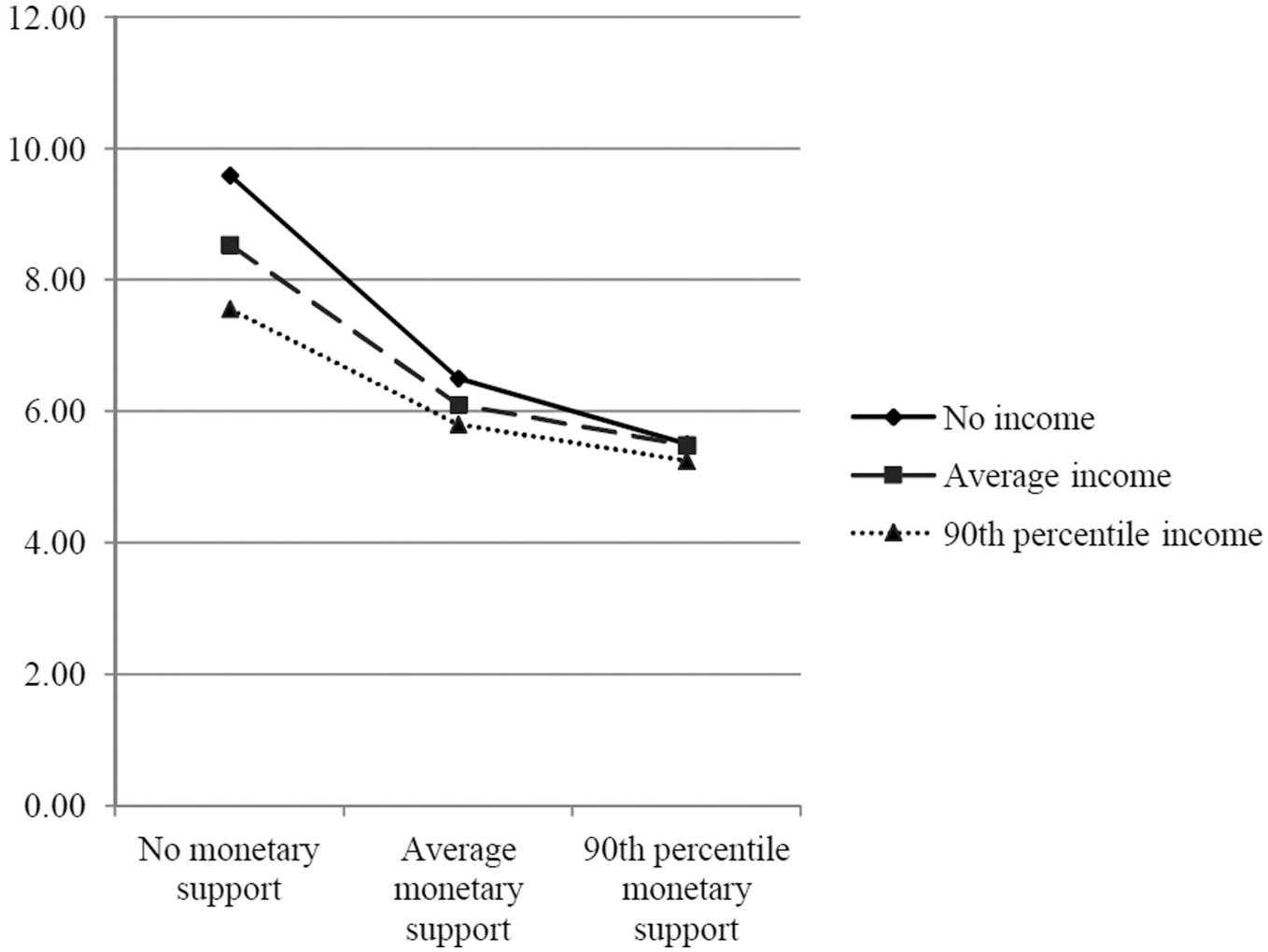

Figure 2.
Level of depression among the older parents in Anhui study by their level of income and amount of monetary support received from children (N = 1,224)

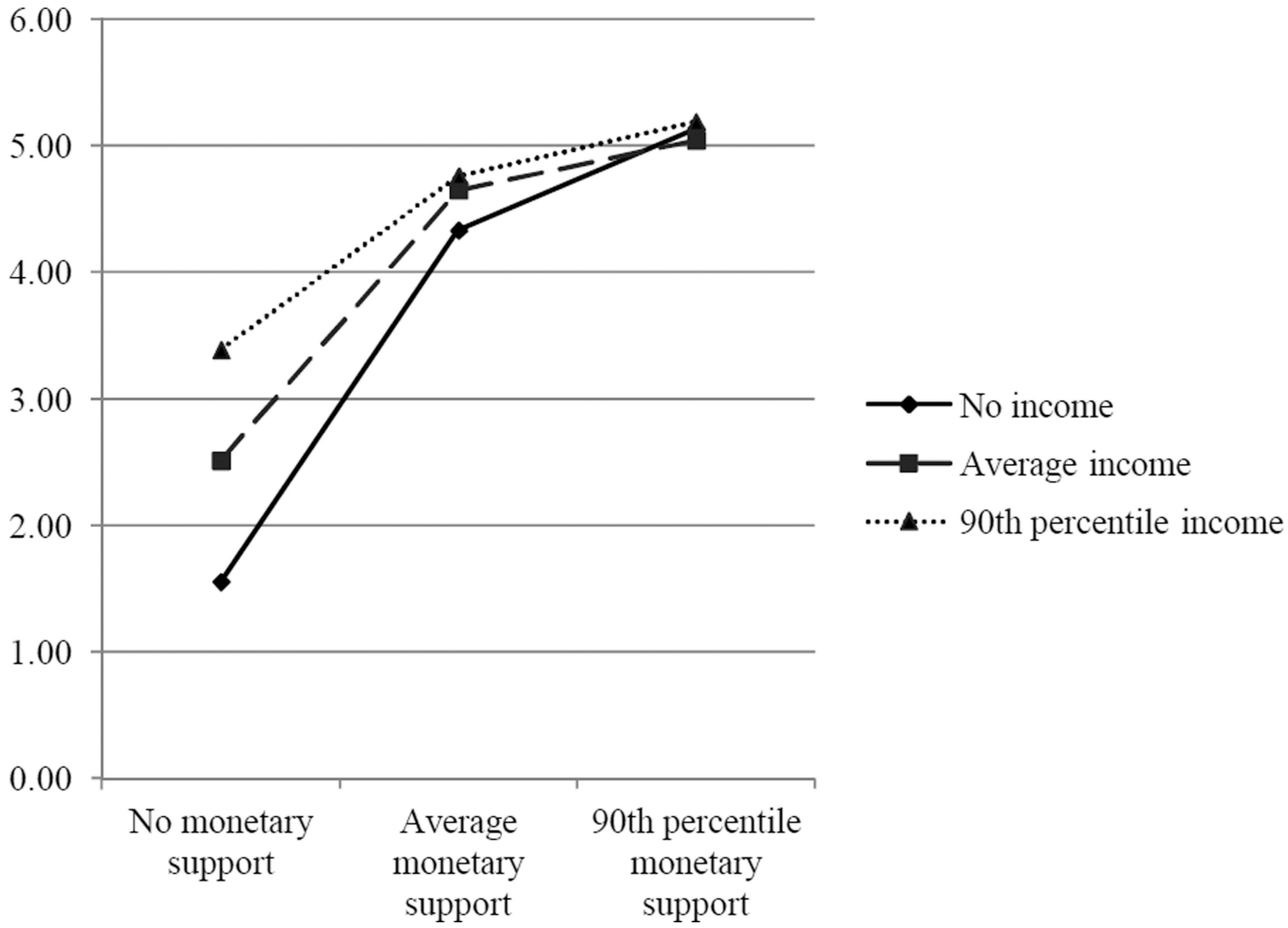

Figure 3.
Life satisfaction among the older parents in Anhui study by their level of income and amount of monetary support received from children (N = 1,224)

Table 1

Sample Characteristics of Older Adults in the Anhui Study in 2009 (N = 1,224)

	All [a] (N = 1,224)		Older adults with no children (*n* = 50)		Older adults with one child (*n* = 71)		Older adults with multiple children (*n* = 1,103)		
Variables	***M***	***SD***	***M***	***SD***	***M***	***SD***	***M***	***SD***	**χ^2 / *F* / *t***
Personal attributes									
Age [b, d]	71.72	8.25	70.70	8.82	75.42	9.02	71.53	8.13	7.92***
Female (%) [b, c]	50.49	–	10.00	–	59.15	–	51.77	–	35.64***
Married (%) [b, c, d]	61.68	–	8.00	–	49.30	–	64.92	–	70.45***
Educated (%)	32.76	–	24.00	–	23.94	–	32.76	–	4.72
Income (RMB) [c]	2372.16	4227.76	1134.43	2702.02	1731.43	2976.80	2468.42	4339.81	3.20*
Functional health difficulties (0 – 30)	3.95	6.85	3.82	6.79	5.02	6.71	3.89	6.86	.93
Number of children (0 – 8)	3.63	1.62	–	–	–	–	3.97	1.32	–
Family relations									
Live alone (%) [b, c]	21.98	–	78.00	–	28.17	–	19.04	–	98.66***
Live with children (%)	20.61	–	–	–	29.58	–	20.04	–	3.71
Live with people other than children (%)[d]	59.80	–	–	–	42.25		60.92		9.67**
Have monthly contact with at least one child (%) [d]	69.42	–	–	–	32.39	–	71.80	–	48.80***
Total monetary support from children (RMB)[d]	2400.34	3180.50	–	–	822.04	1118.42	2501.94	3243.00	6.48***
Received instrumental support from anyone (%)	54.00	–	42.00	–	50.70	–	54.76	–	3.47

Note: ANOVA tests were conducted to compare group differences in age, income, and functional health difficulties. T-tests were conducted to compare elder with one child and elders with multiple children in the amount of monetary support from children. Chi-square tests were conducted to compare group differences in the rest of the variables.

[a] Descriptive statistics related to children (i.e. "*Live with children*", "*Live with people other than children*", "*Have monthly contact with at least one child*", and "*Total monetary support from children*") were provided by parents with children only (n = 1174).

[b] Significant differences between childless older adults and older adults with one child

[c] Significant differences between childless older adults and older adults with multiple children

[d] Significant differences between older adults with one child and older adults with multiple children

*$p < .05$;

***$p < .001$.

Table 2

Unstandardised Regression Coefficients Predicating the Depression of the Older Adults in the Anhui Study (N=1,224)

	Model 1		Model 2		Model 3		Model 4	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
Constant	8.92***	.54	6.84***	1.2	7.03**	1.19	7.93***	1.26
Parental status [a]								
Having one child	−1.30	.70	−1.48*	.64	.24	.68	.49	.83
Having multiple children	−2.95**	.55	−2.64***	.52	−.27	.63	−.02	.78
Personal attributes								
Age			.03	.02	.02	.02	.02	.02
Female			−.10	.22	−.01	.21	−.01	.21
Married			−.42	.24	.01	.31	−.01	.31
Education			−.55*	.23	−.57*	.22	−.82	.59
Income (ln +1)			−.08**	.03	−.08**	.03	−.23**	.08
Functional health difficulties			.22***	.02	.22***	.02	.15**	.05
Family relations								
Live with children					−1.07**	.32	−1.41	.92
Live with people other than children					−.92**	.34	−.90	.75
Have monthly contact with at least one child					−.11	.21	−.11	.22
Monetary support from children (ln+1)					−.29***	.05	−.46***	.11
Received instrumental support					.22	.20	.25	.20
Interactions								
Monetary support from children × Education							.04	.08
Monetary support from children × Income							.02*	.01
Monetary support from children × Functional health difficulties							.01	.01
Monetary support from children × Live with children							.04	.13
Monetary support from children × Live with people other than children							−.01	.10
R^2	.03		.27		.31		.31	

Notes:

[a] Reference category is childless families

* $p < .05$;

** $p < .01$;

*** $p < .001$.

Table 3

Unstandardised Regression Coefficients Predicating the Life Satisfaction of the Older Adults in the Anhui Study (N=1,224)

	Model 1		Model 2		Model 3		Model 4	
	B	**SE**	**B**	**SE**	**B**	**SE**	**B**	**SE**
Constant	2.16***	.33	2.64**	.80	2.46**	.79	1.62*	.83
Parental status [a]								
Having one child	1.49**	.43	1.64***	.43	.38	.45	.01	.55
Having multiple children	2.44***	.34	2.42***	.34	.85*	.42	.40	.51
Personal attributes								
Age			−.01	.01	−.00	.01	−.00	.01
Female			.12	.14	.07	.14	.08	.14
Married			−.22	.16	−.31*	.20	−.29	.20
Education			.36*	.15	.37*	.15	.52	.39
Income (ln +1)			.07**	.02	.06**	.02	.21***	.05
Functional health difficulties			−.10***	.01	−.10***	.01	−.05	.03
Family relations								
Live with children					.67**	.21	1.32*	.61
Live with people other than children					.29	.22	.39	.50
Have monthly contact with at least one child					−.10	.14	−.11	.14
Monetary support from children (ln+1)					.22***	.03	.39***	.08
Received instrumental support					.00	.14	−.02	.14
Interactions								
Monetary support from children × Education							.02	.06
Monetary support from children × Income							−.02**	.01
Monetary support from children × Functional health difficulties							−.09	.09
Monetary support from children × Living with children							.01	.07
Monetary support from children × Live with people other than children								
R^2	.05		.17		.21		.22	

Notes:

[a] Reference category is childless elders

* $p < .05$;

** $p < .01$;

*** $p < .001$.