

## Socio-economic condition and mental anxieties among empty-nest rural elderly

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### Abstract

The number of empty-nest elderly is increasing day by day. They are facing different kinds of problems. In this study, efforts have been made to investigate the socio-economic condition and mental anxieties among the empty-nest rural elderly. The method used in this research was the quantitative approach, using a survey and questionnaire methods. Data have been collected from 32 empty-nest elderly both males and females aged 60 and above. In this study, researchers have selected three villages in Shaikupa Upazila under the district of Jhenaidah in the division of Khulna, Bangladesh. Three villages are- Ananto Badalsho, Badalsho, and Aushia. Data were collected using informed consent from June 14, 2017 to June 29, 2017. In this study, the highest of the respondents' socio-economic conditions are satisfactory. All of the respondents feel lonely. A majority of the respondents suffer from mental anxieties. The main causes of their mental anxieties are their children live far from them and they have serious health problems. Since their children live so far from them, their children cannot look after them during their illness. This time they depend on either neighbors or others.

**Keywords:** empty-nest; mental anxieties; rural elderly; socio-economic condition

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## Introduction

The issue of aging has been recognized as a major social problem in a global society. In developed countries, the elderly face several social problems such as high rates of physical illness, emotional difficulties, low status, and lack of meaningful roles in society. Similarly, in developing countries like Bangladesh, the elderly also faces serious problems such as mental anxiety, social, economic, and health-related problems. Rani and Imtiaz (2022) studied in the Naogaon district and showed that the socio-economic condition of the rural elderly was not satisfactory. A majority of the respondents' yearly family income was less than 589 USD. Decker (1980:209) said, "There is a natural movement of individuals from the family of orientation to the family of procreation and this movement represents the beginning of a new generation." The aged population is defined in this paper as defined by the Bangladesh Association of Gerontology (2003) -- "the group of the population who belong to the age group of 60 years or more." McNicoll (2002) studied that since 1950 the number of old age (60+) population has trebled in 50 years, and it is anticipated to treble again by 2050. In 2017, the population of Bangladesh was 165 million but in 2050 it will be 202 million (United Nations 2017).



Gong et al. (2012) studied that rural people may have closer neighborhood relationships than urban people, which may help alleviate the psychological pressure on rural elders. Gao et al. (2017) showed that an empty nest also had an indirect influence on empty nest elders' health through living resources, availability of medical treatment, and social activities. The highest number of older people in Bangladesh suffer from some elementary human problems, such as poor senile diseases, economic support, exclusion, negligence, deprivation, socio-economic insecurity, and deficiency of proper health care and medicine facilities (Nath & Islam 2009; Islam & Nath 2012; Rhaman 2000).

Empty nest families mean that the elderly does not live with their children or do not have a child (Hesketh et al. 2005). Chen et al. (2012) indicated that the appearance of depression in empty-nest elderly is higher than that in non-empty-nest elderly. Xie et al. (2010) found that the determined appearance of depression was up at 74.46 percent, much higher than that of non-empty-nest elderly. Loneliness is very common among the empty-nest elderly. It was found that the empty-nest elderly had stronger feelings of loneliness (Liu & Guo 2007; Wang et al. 2011). Loneliness was prevalent among the empty-nest elderly in rural Anhui Province (Wu et al. 2010).

The previous research in this field mostly focused on African, global, or Asian contexts. There is no study on the empty nest elderly in the South-West region. Nonetheless, sociological research on the socio-economic condition and mental anxieties of the empty-nest rural elderly in Bangladesh is scant. No comprehensive research on this topic was found in the Jhenaidah district. In modern times, because of a lack of adequate family support, older people are now seeking substitute economic and health care support from the government. They also faced mental anxieties. The present study would be a good resource for the government and non-government policymakers considering the economic support, counseling on mental refreshment, national elderly policy, and others like microcredit, health, population sector program, and community empowerment. Nevertheless, this study has focused on socio-economic and mental anxieties among empty-nest rural elderly in the Jhenaidah district only, which covers a specific area of Bangladesh, and therefore, findings cannot be generalized to all areas of Bangladesh.

## **Methods**

In this study, researchers have selected three villages in Shailkupa Upazila under the district of Jhenaidah in the division of Khulna, Bangladesh (see Figure 1). Three villages are- Ananto Badalsho, Badalsho, and Aushia.

In this research work, the survey method was used to collect data. In this research area criterion-based population size was 32. To identify the respondents, some inclusion criteria have been identified by the researchers. Such as the respondents must be aged 60 or above; the respondents must be empty-nest. In this study, empty-nest elderly means older adults who have no children or whose children have already left home and thus live alone or with their spouses. Data have been collected from all (32) of the elderly who have fulfilled these criteria. A semi-structured interview schedule containing both open and closed-ended questions was used to collect the data from June 14, 2017 to June 29, 2017. Firstly, the questionnaire was prepared in English. But at the time of data collection, the questions were translated into Bengali. Each interview lasted for 20-25 minutes to complete in a face-to-face situation, initiated with rapport build-up. For any logical error or incompleteness, the collected data were checked by the authors. Descriptive statistical methods have been used for tabulating and analyzing all data. Statistical procedures have been used, such as tabulation, frequency distribution, percentage, mean, ratio and graphs.



**Figure 1.**

Shaikupa Upazila

Source: banglapedia.org

## Results and Discussion

### The socio-economic condition of empty-nest rural elderly

Table 1 points out that 43.75 percent of the elderly belonged to the age range 60-65 years, where male elderly was one and female elderly was 13. Almost one-fourth (25%) of the elderly belonged to the age range 65-70 years, where the number of male elders was seven and the female elderly was one. Almost 22 percent of the elderly belonged to the age range of 70-75. However, in the age range of 75-85 years, the male elderly was three and none of the female elderly was the age of 75-85 years. Table 1 shows that a majority of the respondents were young. The quantity of male and female elderly was the same.

**Table 1.**  
Age ranges of the elderly respondents

Age of the respondents	Frequency of the male respondents	Frequency of the female respondents	Total number of the respondents	Percentage
60-65	1	13	14	43.75
65-70	7	1	8	25.00
70-75	5	2	7	21.88
75-80	1	0	1	3.12
80-85	2	0	2	6.25
Total	16	16	32	100.00

Table 2 portrays that 21.88 percent of elders were illiterate where male respondents were two and female respondents were five. On the other hand, most (37.50%) elders completed primary education, where male elders were five and female elders were seven. About 32 percent of the respondents completed secondary education, 3.12 percent completed higher secondary education and 6.25 percent completed tertiary education, where male elders were nine and female elders were four. By analyzing Table 2, we can say that the highest number of female elders were illiterate or primary educated and the highest number of male elders were primary or secondary educated.

**Table 2.**  
Educational qualifications of the respondents

Educational qualification	Frequency of the male respondents	Frequency of the female respondents	Total number of the respondents	Percentage
Illiterate	2	5	7	21.88
Primary	5	7	12	37.50
Secondary	7	3	10	31.25
Higher secondary	1	0	1	3.12
Tertiary	1	1	2	6.25
Total	16	16	32	100.00

Table 3 points out that a majority of the respondents (62.50%) were Hindus and the rest were Muslims.

**Table 3.**  
The religion of the respondents

Religious belief	Number of the respondents	Percentage
Hindu	20	62.50
Muslim	12	37.50
Total	32	100.00

Table 4 indicates that the greatest number of respondents were housewives (46.88%) and farmers (34.38%). Another 9.37 percent of elders were service holders, 6.25 percent were doctors and only 3.12 percent of elders were religious workers.

**Table 4.**  
Occupation of the respondents

Occupation	Total number of the respondents	Percentage
Farmer	11	34.38
Housewife	15	46.88
Service	3	9.37
Doctor	2	6.25
Religious work	1	3.12
Total	32	100.00

Table 5 shows that four (12.50%) of the respondents' houses were made of clay, two (6.25%) were made of corrugated iron (CI) sheets, and 18 (56.25%) were terraced houses, eight (25%) were brick-built houses. Thus, a majority of the respondents' houses were terraced.

Besides researchers have collected data on the sanitary system. Here they show that the highest number of (81.25%) respondents used sanitary latrines and the rest 18.75 percent used non-sanitary latrines.

**Table 5.**  
Type of house

Type of house	Number of respondents	Percentage
Made of clay	4	12.50
Made of CI sheets	2	6.25
Terraced house	18	56.25
Brick built	8	25.00
Total	32	100.00

Table 6 portrays that most 15 (46.88%) respondents had 6-10 bighas of cultivable land, 11 (34.37%) respondents had 1-5 bighas of cultivable land, and only six (18.75%) had 11-above bighas of land. Thus, we find that a majority of the respondents had 6-10 bighas of cultivable land. Very few of the respondents had 11-above bighas of land.

**Table 6.**  
Amount of cultivable land

Amount of cultivable land	Number of respondents	Percentage
1-5 Bighas	11	34.37
6-10 Bighas	15	46.88
11-above Bighas	6	18.75
Total	32	100.00

Table 7 portrays that 18.75 percent of the respondents' children were sons, 6.25 percent were daughters and 75 percent were both sons and daughters.

**Table 7.**  
Number of respondents' children

Respondents' children	Number of respondents	Percentage
Son	6	18.75
Daughter	2	6.25
Both son and daughter	24	75.00
Total	32	100.00

Table 8 shows that a majority of 50 percent of the respondents opined that their source of income was both cultivable land and sons' job, 6.25 percent was business, 25 percent of respondents' source of income was only cultivable land, 6.25 percent was cultivable land, business and sons' job respectively. By analyzing these data, it is clear that the highest of the respondents' socio-economic conditions were satisfactory. Although their socio-economic condition was satisfactory, the highest number of respondents 28 (87.50%) opined that they had no economic savings and only 4 (12.50%) respondents had economic savings. This data indicates that they were not aware of their future life and the tendency of economic savings among empty-nest rural elderly is very few.

**Table 8.**  
Source of respondents' income

Source of respondents' income	Number of respondents	Percentage
Cultivable land	8	25.00
Business	2	6.25
Cultivable land and sons' job	16	50.00
All of the above	2	6.25
Total	32	100.00

Table 9 finds out that a majority of the (62.50%) respondents used only simple mobile phones as modern technology, 25 percent used both television and mobile phone, and 12.50 percent used television, mobile phone, and smartphone respectively.

**Table 9.**  
Use of modern technology by the respondents

Use of modern technology	Number of respondents	Percentage
Mobile phone	20	62.50
Television and mobile phone	8	25.00
Television, mobile phone and smartphone	4	12.50
Total	32	100.00

### Mental anxieties among empty-nest rural elderly

In this study, the highest of the 24 (75%) respondents felt mental anxieties and the rest 25 percent did not feel mental anxieties. Table 10 points out that among 24, 16.67 percent of respondents' cause of mental anxiety was their children living outside of the home, 8.33 percent of respondents' causes were their children living outside of the home. They had economic misery, most 41.67 percent of respondents' causes were their children living outside of the home. They had a serious health problem and 33.33 percent opined that the cause of their mental anxieties was all of the above causes. This data indicates that they had no peace of their mind. All of the respondents performed prayer. All of them opined that they got somewhat mental peace by performing prayer.

**Table 10.**  
Cause for mental anxieties

Cause for mental anxieties	Number of respondents	Percentage
Children live outside	4	16.67
Children live in outside and economic misery	2	8.33
Children live outside and serious health problems	10	41.67
All of the above	8	33.33
Total	24	100.00

Table 11 shows that the highest of the 30 (93.75%) respondents mitigated their mental anxieties by gossiping with neighbors, and 24 (75%) mitigated by performing religious activities. About 12 (38%) were mitigated by watching TV, 8 (25%) were mitigated by reading books or newspapers, and 18 (56.25%) respondents mitigated their mental anxieties by talking with children on the phone.

**Table 11.**  
Ways to alleviate respondents' mental anxieties

Ways to alleviate respondents' mental anxieties	Number of respondents	Percentage
By talking with children on the phone	18	56.25
By performing religious activities	24	75.00
By watching TV	12	37.50
By reading book or newspaper	8	25.00
By gossiping with neighbors	30	93.75

\*Respondents were asked to mention the ways to alleviate their mental anxieties (multiple responses accepted).

Table 12 indicates that during their illness the highest number of (43.75%) respondents got service from their neighbors, 12.50 percent got service from daughters-in-law and servants respectively. About nineteen percent got service from neighbors and kin, 12.50 percent got service from servants and neighbors, and another 6.25 percent got service from neighbors and husbands. By analyzing Table 12, we can say that neighbors have played an important role as service providers during their illnesses.

**Table 12.**  
During the illness of the respondents, the person providing the service

Service provider	Number of respondents	Percentage
Daughter-in-law	2	6.25
Servant	2	6.25
Neighbor	14	43.75
Neighbor and kin	6	18.75
Servant and Neighbor	4	12.50
Neighbor and husband	2	6.25
Others	2	6.25
Total	32	100.00

UNFPA Representative Eoken (2008) mentioned that the elderly population of Bangladesh suffers from manifold problems concerning health and socio-economic issues. In the present study, the highest of the elderly were very unhealthy and suffered from different kinds of health-related issues. But respondents' socio-economic condition was satisfactory. A majority of the respondents were at least primarily educated, the highest 56.25 percent of respondents lived in terraced houses, the greatest number, 81.25 percent of respondents used sanitary latrines, most of them had 1-10 bighas of cultivable land and all of them used mobile phone. But the tendency of economic savings among empty-nest rural elderly was very few. They were not aware of their future life.

In the patrilineal joint family, sons are regarded as the preserver of parents in old age (Ghuman & Ofstedal 2004). Nevertheless, over the last few decades the traditional joint family structure in rural Bangladesh has been breaking down because of poverty, attitudes of self-interest, quarrels, and maladjustment (UNESCO 1992). Since in the present study all of the respondents lived in empty-nest (empty-nest elderly means older adults who have no children or whose children have already left home and thus live alone or with their spouse) nuclear families, the present study resembles the study of Ghuman and Ofstedal (2004) and UNESCO (1992). Family provides care to elderly persons by helping them with different physical works such as bathing, dressing, giving medication, and feeding (Morgan & Kunkel 2006). During disasters, sickness, and old age, adult children (especially sons) are thought to be the major source of security and financial support to their parents (Cain 1986). The present study rejects the study of Morgan and Kunkel (2006) and Cain (1986). In the present study, the empty-nest families' children lived so far from their parents. That is why their children could not

take care of their parents. The present study shows that during respondents' illness the highest number of (43.75%) respondents got service from their neighbors, and 12.50 percent got service from daughters-in-law and servants respectively. About nineteen percent got service from neighbors and kin, 12.50 percent got service from servants and neighbors, and another 6.25 percent got service from neighbors and husbands. The findings of the present study fully support the findings of the study carried out by Saha (2005) and Mason (1992). Saha (2005) found that the trend of taking care of the elderly at the family level was declining. Mason (1992) showed the traditional family-based systems of care for older people seem likely to erode in Asian countries. Rahman (2000) found that 44.3 percent of older people get involved in beggary to maintain their living expenses and family needs. The present study is not similar to the study of Rahman (2000). In the present study, none of the older people get engaged in beggary.

Some studies have found that an empty nest has a protective effect on elders' health (Sibai et al. 2007; Liu & Guo 2011) and that living alone provides a great opportunity for elders to enjoy their leisure time (Dennerstein et al. 2002; White & Edwards 1990). Some researchers have shown that empty nest elders have better health conditions than elders who live with their children (Waite & Hughes 1999; Walter-Ginzburg et al. 2002; Sun et al. 2011). The findings of the present study do not support the study of Sibai et al. (2007), Liu and Guo (2011), Dennerstein et al. (2002), White and Edwards (1990), Waite and Hughes (1999), Walter-Ginzburg et al. (2002), and Sun et al. (2011).

Rahman et al. (2004) and Kharicha et al. (2007) showed that it has a strong negative relationship between the empty nest and elders' health. Chen et al. (2012) indicated that the appearance of depression in empty-nest elderly is higher than that in non-empty-nest elderly. Xie et al. (2010) found that the determined appearance of depression was up at 74.46 percent, much higher than that of non-empty-nest elderly. Loneliness is very common among the empty-nest elderly. It was found that the empty-nest elderly or rural elderly had stronger feelings of loneliness (Liu & Guo 2007; Wang et al. 2011). Loneliness was prevalent among the empty-nest elderly in rural Anhui Province (Wu et al. 2010). A study from China showed that empty nest elders had worse self-care ability and lower mental health scores (Wu et al. 2010). The results showed that empty nests had a significant adverse influence on elders' physical health, cognitive ability, and psychological health (Gao et al. 2017). The empty nest elderly is vulnerable to different disadvantageous situations and experience problems associated with old age, such as health problems and an irreversible decrease in functional capacity (Lv et al. 2013).

On the other hand, the empty nest elderly has to strive to cope with psychosocial problems including loneliness, anxiety disorders, and depression: the so-called "empty nest syndrome" (Su et al. 2012; Wang et al. 2013; Liu & Guo 2007; Fahrenberg 1986; Wang et al. 2011; Zhai et al. 2015; Xie et al. 2010). One of the most common factors among the elderly is loneliness (Tomstad et al. 2012). The present study resembles their studies. In the present study, all of the respondents suffer from loneliness. The highest number of the respondents felt mental anxieties. A majority of the respondents' cause of mental anxiety was their children living outside of the home and having serious health problems. They wanted to get mental peace by performing prayer. To mitigate their anxieties, they select different ways. The highest of the 30 (93.75%) respondents mitigated their mental anxieties by gossiping with neighbors, and 24 (75%) mitigated by performing religious activities. About 12 (38%) were mitigated by watching TV, 8 (25%) were mitigated by reading books or newspapers, and 18 (56.25%) respondents mitigated their mental anxieties by talking with children on the phone.

## **Conclusion**

The most important findings of this study are that the majority of the respondents' socio-economic condition was satisfactory. They had sufficient cultivable land and lived in terraced houses.



Moreover, their sanitary system was developed. All of them used mobile phones. All of the respondents felt lonely. The highest of the respondents' suffered from mental anxiety. The main causes of their mental anxieties were that their children lived far from them and they had serious health problems. Since their children lived so far from them, their children could not look after them during their illness. This time they depended on either neighbors or others. Most of the time, neighbors played an important role as service providers. As a means of alleviating mental anxieties, they gossiped with their neighbors or performed religious activities. The elderly are an asset to a country. It is the responsibility of everyone to take care of them and to utilize this asset. Besides, more explorative studies should be conducted covering the entire rural society of Bangladesh to delineate their condition. In this research work, some policy recommendations have been derived from the analysis of the researchers for the welfare of the empty-nest elderly. GOs should build up adult recreation centers so that they can remove their loneliness and should provide special care for the empty-nest elderly; GOs and NGOs should build up old homes at the Upazila level to take care of the empty-nest elderly; we should train elderly persons on the use of modern technology (such as Facebook, WhatsApp, Messenger, Skype, and others) so that they can communicate with their children with video and audio calls; we should increase the participation of elderly persons in different kinds of socio-cultural activities. That will mitigate their mental anxieties; we should build up voluntary organizations for providing instant health care services for the empty-nest elderly. If the above-mentioned steps are implemented, we can expect that the rate of mental anxiety among empty-nest rural elderly will reduce and they will get a peaceful life.

## References

- Bangladesh Association of Gerontology (2003) *The Elderly: Contemporary Issues*. Dhaka: Bangladesh.
- Cain M (1986) The consequences of reproduction failure: Dependence, mobility, and mortality among older people of Rural South Asia. *Population Studies* 40:375-388.
- Chen Y, Hicks A, & While AE (2012) Depression and related factors in older people in China: A systematic review. *Reviews in Clinical Gerontology* 22 (1):52-67.
- Decker DL (1980) *Social Gerontology: An Introduction to the Dynamics of Aging*. Boston, USA: Little Brown and Company (Canada) Limited.
- Dennerstein L, Dudley E, & Guthrie J (2002) Empty nest or revolving door? A prospective study of women's quality of life in midlife during the phase of children leaving and re-entering the home. *Psychological Medicine* 32 (3):545-550.
- Eoken A (2008) Aging of population of the 21<sup>st</sup> Century. *Bangladesh Journal of Geriatrics* 43:94-104.
- Fahrenberg B (1986) Coping with the empty nest situation as a developmental task for the aging female--an analysis of the literature. *Zeitschrift fur Gerontologie* 19 (5):323-335.
- Gao M, Li Y, Zhang S, Gu L, Zhang J, Li Z, ... & Tian D (2017) Does an empty nest affect elders' health? Empirical evidence from China. *International Journal of Environmental Research and Public Health* 14 (5):463.
- Ghuman S & Ofstedal MB (2004) *Gender and Family Support for Older Adults in Bangladesh*. PSC Research Report No. 04-563. <https://www.psc.isr.umich.edu/pubs/rr04-563de49.pdf?i=908685848784154962559509913&f=rr04-563.pdf>.
- Gong P, Liang S, Carlton E J, Jiang Q, Wu J, Wang L, & Remais JV (2012) Urbanization and health in China. *The Lancet* 379 (9818):843-852.
- Hesketh T, Lu L, & Xing ZW (2005) The effect of China's one-child family policy after 25 years. *New England Journal of Medicine* 353 (11):1171-1176.
- Islam MN & Nath DC (2012) A future journey to the elderly support in Bangladesh. *Journal of Anthropology*:1-6. <https://doi.org/10.1155/2012/752521>.

- Kharicha K, Iliffe S, Harari D, Swift C, Gillmann G, & Stuck AE (2007) Health risk appraisal in older people: Are older people living alone an 'At-Risk' group?. *British Journal of General Practice* 57 (537):271-276.
- Liu LJ & Guo Q (2007) Loneliness and health-related quality of life for the empty nest elderly in the rural area of a Mountainous County in China. *Quality of Life Research* 16 (8):1275-1280.
- Lv XL, Jiang YH, Sun YH, Ren CZ, Sun CY, Sun L, ... & Zhao X (2013) Short form 36-item health survey test result on the empty nest elderly in China: A meta-analysis. *Archives of Gerontology and Geriatrics* 56 (2):291-297.
- Mason KO (1992) Family change and support of the elderly in Asia: What do we know?. *Asia Pacific Population Journal* 7 (3):13-32.
- McNicoll G (2002) World population ageing 1950-2050 by United Nations Population Division. *Population and Development Review* 28 (4):814-815.
- Morgan LA & Kunkel SR (2006) *Aging, Society and the Life Course* (5th ed.). New York: Springer Publication.
- Nath DC & Islam MN (2009) New indices: An application of measuring the ageing process of some Asian countries with special reference to Bangladesh. *Journal of Population Ageing* 2 (1-2):23-39.
- Rahman A (2000) Beggary on aging: An analysis (Bangoli). *Dhaka University Patrica* 66:89.
- Rahman O, Menken J, & Kuhn R (2004) The impact of family members on the self-reported health of older men and women in a rural area of Bangladesh. *Ageing & Society* 24 (6):903-920.
- Rani E & Imtiaz SM (2022) Familial and social security for the rural elderly: A study of Shatoil Village in Naogaon District. *Khulna University Studies* 19 (1):116-127. <https://doi.org/10.53808/KUS.2022.19.01.2115-s>.
- Rhaman AASM (2000) The characteristics of old age in Bangladesh. *Bangladesh Journal of Geriatrics* 37:14-15.
- Saha S (2005) Family care-giving to the elderly in Bangladesh. *Social Science Journal* 10:225-235.
- Shailkupa Upazila (2021) [Accessed September 19, 2022]. [https://en.banglapedia.org/index.php/Shailkupa\\_Upazila](https://en.banglapedia.org/index.php/Shailkupa_Upazila).
- Sibai AM, Yount KM, & Fletcher A (2007) Marital status, intergenerational co-residence and cardiovascular and all-cause mortality among middle-aged and older men and women during wartime in Beirut: Gains and liabilities. *Social Science & Medicine* 64 (1):64-76.
- Su D, Wu XN, Zhang YX, Li HP, Wang WL, Zhang JP, & Zhou LS (2012) Depression and social support between China's rural and urban empty-nest elderly. *Archives of Gerontology and Geriatrics* 55 (3):564-569.
- Sun X, Lucas H, Men Q, & Zhang Y (2011) Associations between living arrangements and health-related quality of life of urban elderly people: A study from China. *Quality of life research* 20 (3):359-369.
- Tomstad ST, Soderhamn U, Espenes GA, & Soderhamn O (2012) Living alone, receiving help, helplessness, and inactivity are strongly related to risk of under nutrition among older home-dwelling people. *International Journal of General Medicine* (5):231-40.
- UNESCO (1992) *The Changing Family in Asia*. In: *Social and Human Sciences in Asia and the Pacific*. Bangkok: RUSHSAP Series on Monographs and Occasional Papers 35.
- United Nations (2017) *World Population Prospects: The 2017 Revision*. [Accessed July 1, 2022]. <https://www.un.org/development/desa/publications/world-population-prospects-the-2017-revision.html#:~:text=The%20current%20world%20population%20of,Nations%20report%20being%20launched%20today>.
- Waite LJ & Hughes ME (1999) At risk on the cusp of old age: Living arrangements and functional status among black, white and Hispanic adults. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 54 (3):S136-S144.

- Walter-Ginzburg A, Blumstein T, Chetrit A, & Modan B (2002) Social factors and mortality in the old-old in Israel: The CALAS study. *The Journals of Gerontology Series B: Psychological Sciences and Social Sciences* 57 (5):S308-S318.
- Wang G, Zhang X, Wang K, Li Y, Shen Q, Ge X, & Hang W (2011) Loneliness the rural older people in Anhui, China: Prevalence and associated factors. *International Journal of Geriatric Psychiatry* 26 (11):1162-1168.
- Wang Z, Shu D, Dong B, Luo L, & Hao Q (2013) Anxiety, disorders and its risk among the Sichuan empty-nest older adults: A cross-sectional study. *Archives of Gerontology and Geriatrics* 56 (2):298-302.
- White L & Edwards JN (1990) Emptying the nest and parental well-being: An analysis of National Panel Data. *American Sociological Review* 55 (2):235-242.
- Wu ZQ, Sun L, Sun YH, Zhang XJ, Tao FB, & Cui GH (2010) Correlation between loneliness and social relationship among empty nest elderly in Anhui Rural Area, China. *Aging and Mental Health* 14 (1):108-112.
- Xie LQ, Zhang JP, Peng F, & Jiao NN (2010) Prevalence and related influencing factors of depressive symptoms for empty-nest elderly living in the rural area of Yong Zhou, China. *Archives of Gerontology and Geriatrics* 50 (1):24-29.
- Zhai Y, Yi H, Shen W, Xiao Y, Fan H, He F, ... & Lin J (2015) Association of empty nest with depressive symptom in a Chinese elderly population: A cross-sectional study. *Journal of Affective Disorders* 187:218-223.