

WELLSO 2015 - II International Scientific Symposium on Lifelong Wellbeing in the World

# Well-being of Pensioners. A Subjective Assessment of the Life's Quality (by the Example of China and Russia)

S.L. Eremina <sup>a,b \*</sup>, Fu Sun <sup>a</sup>, O.V. Kudelina <sup>b</sup>, K.S. Velichko <sup>a</sup>

\* Corresponding author: Eremina S.L., esofia@tpu.ru

<sup>a</sup> National Research Tomsk Polytechnic University, Lenina Ave., 30, Tomsk 634050, Russia, <sup>b</sup> Siberian State Medical University, Moskovski highway, 2, Tomsk 634050, Russia

#### Abstract

### http://dx.doi.org/10.15405/epsbs.2016.02.31

The well-being of pensioners depends on not only objective factors, but also subjective. Subjective assessment of the life's quality occupies an irreplaceable position in the welfare of pensioners. This study is limited by the following restrictions: results of the survey (80 profiles in Russia, 154 questionnaires in China): 18 questions for both objective and subjective assessments; deviation of the quality of life of pensioners in Russia and China; recommendations for improving pension policy (from the standpoint of the interests of the person and the state). We proved hypothesis that, despite the significant differences assessment of the life's quality and welfare of older persons in China and Russia, subjective assessment is important. A key way of the well-being of older persons is a union of state support, personal and corporate resources.

© 2016 Published by Future Academy www.FutureAcademy.org.uk

Keywords: A quality of life, a subjective evaluation, the elderly, a public policy.

### Introduction

The rapid development of social economy, reducing the birth rate and some other factors has led to an acceleration of the aging process. The number of older people in the total population in some countries has increased significantly. Some of them can be attributed to countries with an aging population; others will be referred to later in this category. In other words, programs of Health and Welfare increase number and proportion of senior citizens. This leads to a misbalance in the pension system.

How to provide not only material, but also other kinds of well-being: health, zest for life, psychological health, standard of education and others. Who can provide the welfare of pensioners;



4.0 Unported License, permitting all non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

whether they should rely on the state pension, or should form the assets are of working age, to invest in private pension backgrounds, etc.

The aging of the population is due to the economic, political and cultural spheres. Building a harmonious society is one of the important goals of the country, it is intrinsically linked with the improvement and quality of life of older people and their satisfaction with it. China and Russia are among the ten most not indifferent to older people's countries (Fig. 1), where China is the first line, and Russia - the seventh (The Economist, 2015).

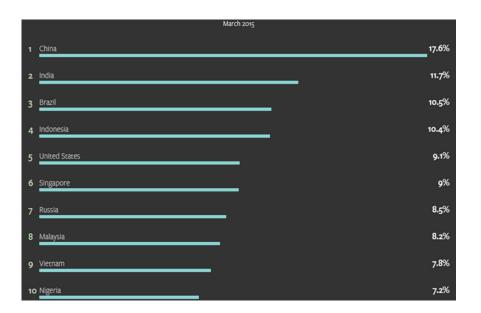


Fig. 1. Ten countries are the most sensitive to older people

The aging of the population is considered as a "demographic dividend" concerning a "demographic liability" (reducing the number of young population in the total population, reduced to the proportion of the older population). If the population at the age of 60 and over equals 10% of the total population or at the age of 65 and over equals 7% of the population, it is an aging society (Jiang, 2013).

According to the United Nations from 1990 to 2020 the average annual growth rate of population aging will be 2.5%; the proportion of the older population will increase from 6.6% in 1995 to 9.3% in 2020. Including in China - from 6.1% growth to 11.5%, which is much higher than the world level (Zhang, 2014). The sixth population census of China showed that in 2010 the number of elderly people has reached 170 million people that account 13.26% of the total population (Yan, 2012); In 2011 they were already 185 million people in 2055 there will be over 300 million (Yan, 2013).

According to the criteria of the UN, Russia's population is also considered to be old. The population of the Russian working age over the past 10 years has increased by 3 million people. Only from 1 January 2012 to 1 January 2013 the number of elderly people increased by 667,000 people, and this trend will continue (http://ria.ru/society/20131001/967023682.htm). In early 2010, nearly one in eight Russians, i.e. 12.9% of the population, was aged 65 years or more. By 2030, the proportion of the population aged 65 and over will increase to 18% (according to the optimistic scenario) and to 19.4% (according to the pessimistic) (http://www.demoscope.ru/weekly/2012/0511/analit03.php).

http://dx.doi.org/10.15405/epsbs.2016.02.31 eISSN: 2357-1330 / Corresponding Author: Eremina S.L Selection and peer-review under responsibility of the Organizing Committee of the conference

There is not an exact definition of "quality of life", different areas of expertise give their definition. For the first time this concept was proposed by American economist Galbraith (JK Galbraith) in 1958. Sharvimaki (Sarvimaki) and others believe that quality of life is a multidimensional concept, which consists of four areas: the objective medium, capacity (including health), life expectancy, psychological state (including life satisfaction) (Sarvimaki, 2001).

Yang Zhong Xin allocates ten sides the quality of life of older people: economic, family, marriage, political, humanitarian, as well as health, education, interests, work, the environment (Yang, 2012). His estimate is close correlated with the quality of life index (quality-of-life index), which links the subjective assessment of life in the country with the objective indicators and includes nine factors (Table. 1).

| Nº | Indicator name                   | Dimension  | Source of information               |
|----|----------------------------------|--|-------------------------------------|
| 1  | Health                           | Life expectancy at birth (years)   | Economist Intelligence Unit         |
| 2  | Family life                      | the divorce rate (in 1000<br>people): 1 (few divorces) to<br>5 (a lot of divorces)   | US Census Bureau                    |
| 3  | Social life                      | "1" - a high level of church<br>attendance or trade union<br>membership in the country<br>to "0" - the lack of<br>attendance | Economist Intelligence Unit         |
| 4  | Material welfare                 | GDP per capita at<br>purchasing power parity   | UN; Euromonitor                     |
| 5  | Security of employment           | unemployment rate, %   | ILO; World Values Survey            |
| 6  | Political stability and security | rating   | CIA World Factbook                  |
| 7  | Climate and geography            | differences in countries with cold and hot climates  | Economist Intelligence Unit;<br>ILO |
| 8  | Political and civil liberty      | From "1" - full to 7 - non-<br>free  | Freedom House                       |
| 9  | Gender equality                  | the difference of the average<br>salary of men and women   | UNDP Human Development<br>Report    |

Table 1. Quality of Life Index

### Methodology

In Russia and China, as in other parts of the world the most important factors in the welfare of pensioners are not only objective factors but also a subjective evaluation. With the help of a questionnaire in Russia and China is expected to prove that:

• welfare of pensioners (quality of life) depends not only on objective but also subjective factors;

• to ensure the well-being more profitable to invest in mental health, social and physical activity than in treatment.

In this study, during the 2014-2015 years there was a conducted survey of subjective evaluation of life's quality in town and country at the age of not less than 55 years (women) and not less than 60 years (men). In the survey there were attended by 80 citizens of Russia and 154 - China. The questionnaire included questions about personal data (gender, age, level of education, and others). Also there were questions about the level of income of the physical and psychological health, marital status, living alone or with the family, the presence / absence of work and another that were grouped and defined response rates (Table. 2).

|    | Table 2. Results of the survey                   |  |   |  |
|----|--|--|---|--|
| Nº | Question   | The proportion of responses, % <b>Russia</b> | China   |  |
| 1  | Your gender                                      | Women (60)                                   | Women (48.7)                                  |  |
|    |  | Men (40)                                     | Men (51.3)                                    |  |
| 2  | Your age, (years)                                | • 55-60 (10)                                 | • 55-60 (51.3)                                |  |
|    |  | • 60-70 (60)                                 | • 60-70 (33.8)                                |  |
|    |  | • more 70 (30)                               | • more 70 (14.9)                              |  |
| 3  | Your education                                   | <ul> <li>secondary (4)</li> </ul>            | <ul> <li>secondary (38.3)</li> </ul>          |  |
|    |  | <ul> <li>secondary technical</li> </ul>      | <ul> <li>secondary technical</li> </ul>       |  |
|    |  | (20)   | (20)  |  |
|    |  | <ul> <li>higher (76)</li> </ul>              | • higher (17.5)                               |  |
|    |  |  | • other (27.9)                                |  |
| 4  | Your pension is on income, %                     | • 100 (26)                                   | • 100 (13.6)                                  |  |
|    |  | • 70-90 (10)                                 | • 70-90 (27.9)                                |  |
|    |  | • 50-70 (7.1)                                | • 50-70 (22.1)                                |  |
|    |  | • less 50 (38)                               | • less 50 (13)                                |  |
| 5  | Do you continue to work                          | No (56)                                      | No (53.2)                                     |  |
|    |  | Yes (53.2)                                   | Yes (31.8)                                    |  |
| 6  | Do you live with your family                     | 84   | 87.7  |  |
| -  | Do you live separately                           | 16   | 11.7  |  |
| 7  | Is your accommodation own                        | 98   | 93.5  |  |
| 8  | Your monthly cost of utilities ranging from      | 5 (8)  | 5 (69.5)                                      |  |
|    | income, %  | 10 (20)                                      | 10 (22.1)                                     |  |
| 9  | Varia and the face of any and iterate from       | more 20 (68)                                 | more 20(8.4)                                  |  |
| 9  | Your monthly food expenditures from<br>income, % | 30 (48)<br>50(48)                            | 30 (50)<br>50(27.9)                           |  |
| 10 | Your monthly visit to the doctor (hours)         | I do not visit a doctor (44)                 | I do not visit a doctor (44.2)                |  |
| 10 | Four montaily visit to the doctor (nours)        | one (32)                                     | one (18.8)                                    |  |
| 11 | Your monthly cost of treatment ranged            | to 20 (50)                                   | to 20 (30.5)                                  |  |
|    | from income, %                                   | to 30 (22)                                   | to 30 (14.9)                                  |  |
|    |  | other (26)                                   | other (52.6)                                  |  |
| 12 | Do you keep your fitness                         | another - sometimes training                 | another - sometimes training                  |  |
|    |  | (48)   | (53.2)  |  |
|    |  | visit dances classes (4)                     | visit dances classes (14.9)                   |  |
| 10 |  | physical activity (36)                       | physical activity (30.5)                      |  |
| 13 | How would you rate your quality of life in       | could be better (46)                         | could be better (8)                           |  |
|    | retirement compared to the period of work        | I have changed nothing (20)                  | I have changed nothing (55.2)                 |  |
| 14 | How do you assess the state support for          | has been better (12)<br>lack (86)            | has been better (37)<br>lack (66.2)           |  |
| 14 | your retirement?                                 | sufficient (14)                              | sufficient (21.4)                             |  |
| 15 | How much do you think (rubles / yuans)           | 5000 (4)                                     | yuan (1 yuan = 7.1 rubles)                    |  |
| 10 | need to increase your pension to your            | 10000 (32)                                   | 700 (20.7)<br>1400 (35.7)                     |  |
|    | quality of life improved?                        | Other (64)                                   |   |  |
|    |  |  | Other (42.8)                                  |  |
| 16 | What you need (preferably) to have for a         | bank deposit for incidental                  | bank deposit for incidental                   |  |
|    | decent standard of living? Select the five       | expenses (80)                                | expenses (70.8)                               |  |
|    | most important for you                           | eat meat, fish or equivalent to              | eat meat, fish or equivalent to               |  |
|    |  | the protein every two days                   | the protein every two days                    |  |
|    |  | (76)   | (72.1)  |  |
|    |  | separate housing (12)<br>Vehicles (42)       | independent housing (69.5)<br>Vehicles (29.9) |  |
|    |  | TV, washing machine, phone,                  | TV, washing machine, phone,                   |  |
|    |  | other household appliances                   | other household appliances                    |  |
|    |  | (68)   | (76.6)  |  |
|    |  | to travel over one week in the               | the opportunity to travel for                 |  |
|    |  | year (66)                                    | one week per year (47.4)                      |  |
| 17 | What should be done to you or your family        | seen with their grandchildren                | seen with their grandchildren                 |  |
|    | for improving quality of life?                   | (46)   | (50.6)  |  |
|    |  | communicate with friends (50)                | communicate with friends                      |  |
|    |  |  | (27.9)  |  |

Table 2. Results of the survey

\_

According to some parameters pensioners Russia and China assess the quality of their lives the same way, but on the other there are revealed significant deviations. Group the results of the survey in the three groups of criteria deviations between Russia and China:

- 1. The deviation does not exceed 10% (Group 1 Fig. 2)
- 2. The deviation is between 10 and 35% (Group 2, Fig. 3)

http://dx.doi.org/10.15405/epsbs.2016.02.31 eISSN: 2357-1330 / Corresponding Author: Eremina S.L Selection and peer-review under responsibility of the Organizing Committee of the conference

3. The deviation exceeds 35% (group 3, Fig. 4)

If the deviation of the responses in terms of "marital status", "own place" and "the cost of a doctor's visit" does not exceed 10%, and, accordingly, included in the first group, "to maintain physical fitness," it exceeds 11% (in Russia 48 % of pensioners support the physical form, and in China - 53.2%) and is the second group. Evaluation of "state support retirement" in China (66.2%) is only 78% of Russia (86%), even more - twice - the difference is recorded in terms of "100% share of pension in total income": in China it is 13.6% in Russian - 26%, which corresponds to the third group.

| Indicators on groups                        |            |   |            |   |            |
|---|------------|---|------------|---|------------|
| Group 1, deflection up                      | percentage | Group 2, the                                    | percentage | Group 3, the  | percentage |
| to 10%                                      | percentage | deviation from 10<br>to 35%                     | percentage | deviation of more<br>than 35%                         | percentage |
| 1 The physical                              | 5 5        |   | 11.2       |   | 41.2       |
| 1. The physical education classes           | 5.5        | 1. Sex (Men)                                    | 11.3       | 1. age (55-60)  | 41.3       |
| 2. The state support is sufficient          | 7.4        | 2. Sex (Women)                                  | 11.3       | 2. Higher<br>education                                | 58.5       |
| 3. Your pension from                        | 3.7        | 3. The pension is                               | 17.9       | 3. It is desirable                                    | 57.5       |
| income is                                   |            | 70-90% of income                                |            | to have a separate housing                            |            |
| 4. Education (college)                      | 3.8        | 4. The pension is<br>less than 50% of<br>income | 25         | 4. The monthly<br>cost of utilities of<br>income (5%) | 61.5       |
| 5. Meet with                                | 4.6        | 5. continue to work                             | 21.4       | 5. The monthly  | 59.6       |
| grandchildren                               | 1.0        | 5. continue to work                             | 21.1       | cost of utilities of                                  | 57.0       |
| grundennaren                                |            |   |            | income (over 20%)                                     |            |
| 6 Have a TV weshing                         | 8.6        | 6. The monthly                                  | 20.1       | 6. retirement   | 38         |
| 6. Have a TV, washing machine, phone, other | 8.0        | food expenses from                              | 20.1       | could be better                                       | 38         |
| household appliances                        | 2.0        | income (50%)                                    | 10.5       | 7   | 25.2       |
| 7. Do not work, retired                     | 2.8        | 7. The monthly cost                             | 19.5       | 7. retirement,  | 35.2       |
|   |            | of treatment of                                 |            | nothing has   |            |
|   |            | income (up to 20)                               |            | changed in  |            |
|   |            |   |            | comparison with                                       |            |
|   |            |   |            | the period of   |            |
|   |            |   |            | work  |            |
| 8. Living with family                       | 3.7        | 8. The monthly cost                             | 26.6       |   |            |
|   |            | of treatment of                                 |            |   |            |
|   |            | income (other)                                  |            |   |            |
| 9. Separate                                 | 4.3        | 9. retirement has                               | 25         |   |            |
| accommodation                               |            | improved in                                     |            |   |            |
| uccommodution                               |            | comparison with                                 |            |   |            |
|   |            | the period of work                              |            |   |            |
| 10. Own housing                             | 4.5        | 10. State support                               | 19.8       |   |            |
| 10. Own nousing                             | 4.5        | for pensions is                                 | 19.0       |   |            |
|   |            |   |            |   |            |
|   | 0.1        | insufficient                                    | 167        |   |            |
| 11. The monthly cost                        | 2.1        | 11. The increase of                             | 16.7       |   |            |
| of utilities from                           |            | pension (5,000                                  |            |   |            |
| income (10%)                                |            | rubles)   |            |   |            |
| 12. The monthly food                        | 2          | 12. The pension                                 | 21.2       |   |            |
| expenses from income                        |            | increase (other)                                |            |   |            |
| (30%)                                       |            |   |            |   |            |
| <ol><li>The bank deposit</li></ol>          | 9.2        | 13. communicate                                 | 22.1       |   |            |
| for incidental expenses                     |            | with friends                                    |            |   |            |
| 14. Do not visit a                          | 0.2        | 14. (preferably) be                             | 18.6       |   |            |
| doctor every month                          |            | able to travel for                              |            |   |            |
| -   |            | one week a year                                 |            |   |            |
| 15. (Optional) eat                          | 3.9        | 15. Education                                   | 34.3       |   |            |
| meat, fish, or the                          |            | (Secondary)                                     |            |   |            |
| equivalent of the                           |            | ( ···· ))                                       |            |   |            |
| protein every two days                      |            |   |            |   |            |
| 16. The monthly cost                        | 7.1        | 16. age (60-70)                                 | 26.2       |   |            |
| of treatment from                           | /.1        | 10. age (00-70)                                 | 20.2       |   |            |
| income (up to 30)                           |            |   |            |   |            |
|   | 5.2        | 17 are (70)                                     | 15 1       |   |            |
| 17. Another -                               | 5.2        | 17. age (70)                                    | 15.1       |   |            |
| sometimes training                          | 0.2        | 10 771  | 12.4       |   |            |
| 18. (preferably) have a                     | 9.2        | 18. The pension                                 | 12.4       |   |            |

Table 3. Deviations subjective assessment of well-being of pensioners in Russia and China

#### eISSN: 2357-1330 Selection & Peer-review under responsibility of the Conference Organization Committee

| bank deposit for | from income                       |      |  |
|------------------|-----------------------------------|------|--|
| incidentals      | (100%)                            |      |  |
|                  | 19. The pension amounts from      | 15   |  |
|                  | income (50-70%)                   |      |  |
|                  | 20. The monthly visit of a doctor | 13.2 |  |
|                  | (one)                             |      |  |
|                  | 21. visit dances classes          | 10.9 |  |
|                  | 22. (preferably)                  | 12.1 |  |
|                  | have a car                        |      |  |

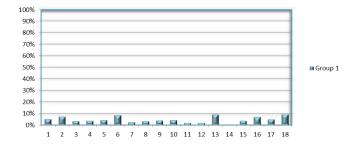


Fig. 2. Subjective assessment of the welfare of pensioners in Russia and China (group 1, 10%)

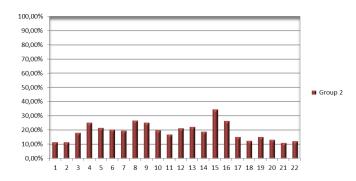


Fig. 3. Subjective assessment of the quality of life of pensioners in Russia and China (group 2, 10 - 35%).

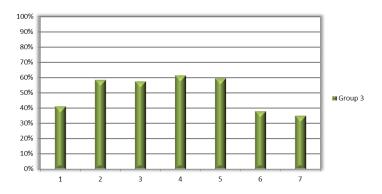


Fig. 4. Subjective assessment of the welfare of pensioners in Russia and China (group 3, more than 35%).

## 3. Rank the responses received by the criterion of the impact factor for the welfare of pensioners

1) The most important factor in well-being, according to the elderly, is a "life satisfaction" as it supports their belief in the future (Wang, 2014).

2) Exercise, proper sports hardening helps regulate metabolism, increase physical activity, disease prevention, and maintenance of body shape and at the same time can slow down the aging process. In May 1987, the World Health Organization for the first time introduced the concept of "Healthy Aging", ie the maintenance in old age physical, mental, economic, social, etc. forms allow you to participate in public life (Kang, 2013).

3) Interests and hobbies. Governments and communities (districts) can create clubs, organize conferences to help for elderly people to have confidence in yourself. Experience, character and environment affect the formation of the psychological status. On the other hand, psychological factors (eg, emotional satisfaction) limit the vital status. According to statistics, from 5.1% to 23% of older people have a number of negative emotions. Not only physical health is a true health (Pan, 2014). With age, physical function of older people begins to degrade; reduced level of social activity, narrowed the scope of interpersonal communication. Optimistic mood and active life promote to physical and mental health of older people.

4) There are 12% of older people in Russia and 37% in China believe that retirement was better than in the period of work, ie, deviation exceeds 3 times (300%).

5) There are 56% of older people continue to work in Russia, and, on the other hand, about 53.2% of the elderly in China is not engaged in labor activities.

6) The majority of older people believe that government support for their life after retirement is not enough: only 26% in Russia and 13.6% in China maintain their income after retirement unchanged.

# 4. Recommendations for improving the pension policy (from the standpoint of the person and the state)

1. The pension system should be more flexible. Despite reaching retirement age (men - 60 years, and women - 55) (Wang, 2012), it is necessary to allow the continuation of employment. Attention is drawn to two problems (Gu, 2012):

• an employment of young to balance supply and demand in the labor market;

• a unity of the pension and social security to reduce the pressure on the pension system.

2. Development of pension models: for example, reliance on family, on the part of pension funds, financial assets, as well as the union of personal and corporate resources.

3. Expansion of regional systems of pension insurance, which is especially important in China. In China, some regions are lagging in economic development, the state of transport, level of education, and others. Accordingly, the thinking of people in those regions lag from the thinking of citizens. Part of the elderly believes that their children should support, but due to changes in the social structure pensioners have to look for other sources of income, not only family (Zhang, 2013).

4. There are some areas of state support human life after retirement (Guo, 2012):

• Production;

- Development of tourist programs;
- Improving services, health etc ...

Immaterial support is equally important. For example, the establishment of universities for the elderly; rates of interest; participate in group activities, etc. It is advisable to join efforts to support the elderly in retirement.

### Conclusion

Global population aging is one of the major challenges which face humanity in the 21st century. Aging population includes different areas: economic, political, cultural and social area. With the acceleration of the aging process, the older population is growing; well-being of older people has become an important research topic in the world. In order to improve the quality of life of older people should focus on assessing the impact of the subjective factors of quality, well-being and life satisfaction. In Russia and China subjective assessment of life's quality is the most meaningful way to assess the well-being of pensioners.

### Acknowledgements

This work is done on the basis of the Ministry of Education and Science of the Russian Federation within the project in Evaluation and enhancement of social, economic and emotional wellbeing of older adults under the Agreement No.14.Z50.31.0029

### References

The Economist. Available at: http://www.eiu.com/home.aspx; top 10 most viewed countries March2015//

- Jiang S.Y. (2013) Sustainable pension security reform under the background of an aging population, *Da Guan Weekly*. No.14, 1673-5811
- Zhang J. (2014) Talk about the feasibility of delayed retirement. Chinese e-commerce. No.19, 1009-4067
- Yan A. (2012) A Study of the Chinese Elder's Quality of life from the View of Harmonious Society. Academic journal of Guangdong University of Technology: Social Sciences. 12 (2), 1671-623X
- Yan S.J., Liu Li, Shi Lin, et al. (2013) Research progress on life satisfaction of the elderly in China Chinese Nursing Research. 27 (9C), 1009-6493, doi:10.3969/j.issn.1009-6493.2013.27.003
- More than 65% of the elderly live in Russia only at the expense of pension. RIANOVOSTI. Available at: http://ria.ru/society/20131001/967023682.htm
- The issue of an aging population in Russia. Demoscope Weekly, No. 511-512, 2012. Available at: http://www.demoscope.ru/weekly/2012/0511/analit03.php
- Sarvimaki A, Stenbock-Hult B. (2000) Quality of life in old age described as a sense of well-being, meaning and value. *Journal of Advanced Nursing*. 32 (4) DOI: 10.1046/j.1365-2648.2000.01568.x//http://www.ncbi.nlm.nih.gov/pubmed/11095244
- Yang X.S., Ma J., Li X.P., Sun Y.X. (2012) Progress Evaluation and influencing factors of quality of life of older persons. *Chinese Journal of Gerontology*. 32, 1005 • 9202{2012}23-5339-03; doi10.3969/j.issn.1005-9202.2012.23.134
- Wang K., Jia H.L., Xu E.S., Yin X.K., Duan G.X. (2014) Analysis of correlation and present situation of subjective happiness and depth of leisure for old people in communityin. *Chin J Prac Nurs*, 30 (17), DOI: 10.3760/cma.j.issn.1672-7088.2014.17.016.
- Kang Z.W., Zhang Y. (2013) Effect of Daily health guidance on promoting the quality of life of the elderly community. *Nursing Practice and Research*, 10 (1) doi: 10.3969 / j.issn.1672-9676.2013.01.079.

Progress of factors affecting the quality of life of older people. Xin jiang Medical, Volume 44, 2014

Pan Y.F., Sun C.H., Zhu G.C., Guo L.X., Li Z.Y. (2014) Thoughts on Our Aged Care Work. *Chinese Community Doctors*, 30 (13), doi:10.3969/j.issn.1007-614x.2014.13.100.

Wang M.Y. (2012) Pension system and high pressure related research. Business Forum No. 21.

Gu G.A. (2012) Thoughts and Suggestions on flexible retirement system. *Chinese Circulation Economy* No. 10. Human Resource Management, 1007-8266, 10-0108-05 http://dx.doi.org/10.15405/epsbs.2016.02.31 eISSN: 2357-1330 / Corresponding Author: Eremina S.L Selection and peer-review under responsibility of the Organizing Committee of the conference

Zhang Y.X., Gui Y., Zou Y., Ran W.L., Ma J., Li X.P. (2013) The quality of life of older people and influencing factors contrast different regions of China. *Chinese Journal of Gerontology*. Vol. 33, doi:10.3969/j. issn. 1005-9202. 2013.18.064

Guo Tai (2012) On the Improvement of China's pension system. Modern Business No.28.