

The New Pension Scheme in China and its Effect on the Quality of Life of Government and Enterprise Employees in Nanning City

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Abstract

This paper is a part of research on "The new pension scheme and its impacts on the quality of life: a comparative analysis of government and enterprise employees in Nanning City, the People's Republic of China." A quantitative method was employed to collect data from 400 government and enterprise employees in Nanning City. Descriptive and inferior statistics were used to analyze the data. The findings show that some differences in personal data affected the quality of life, i.e., financial situation, spirituality, freedom and life control, social relationships, responsibility for a family, and living in good surroundings. Recommendations include The Chinese government should develop a new pension system by reducing the pension insurance payment rate of the enterprise from 20% to 15%. The enterprise annuity should be changed from "voluntary" to "semi-mandatory." The next research should be expanded to big cities like Shanghai, Beijing, Shenzhen, and Guangzhou.

Keywords : New pension scheme in China, Nanning city, Quality of life, Social Security

Introduction

China has one of the fastest-growing aging populations in the world. Due to longer life expectancy and declining fertility rates, the proportion of people over 60 years old in China is projected to reach 28% by 2040. This huge demographic shift presents many new challenges and opportunities for public health and socioeconomic development (WHO, Ageing, and Health in China: Online). The rapid aging process is not only changing the makeup of society, but it is also dramatically impacting China's future economic growth prospects

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and putting huge pressure on government finances (Hongxin Li & Marcel Merette, 2005).

The pension system in China plays a critical part in the social security system. Due to complex historical reasons, the basic pension system consists of two parts: a pay-as-you-go (PAYG) component and a mandatory individual account, managed by a government entity (Yuande Zhu, 2009). However, this policy did not cover other workers from government institutions, such as private and joint-venture enterprises. Another pension system is only for workers from government departments and institutions. Individuals working in government departments or institutions pay nothing for the pension system, but after retirement, their pensions are much higher than those of other retirees in enterprises where individuals and enterprises both need to make contributions of up to 8% of their basic wages, along with employer contributions of 20% of the enterprise's pre-tax wage bill. Currently, the pension system in China has two elements: one is the individual account, which is directly linked to one's contribution, and the other is the social pooling fund, which differs from various pension projects. A pensioner might find it difficult or even impossible to transfer his or her own parts of social pooling from one project to another. This becomes a big obstacle for labor force movements Yvonne Sin, 2008).

The Chinese government conducted a reformation in 2015 to merge two different types of pension insurance systems. The goal of this reformation is to unify the different pension systems. As a result, two different types of systems will be merged into only one pension insurance system which means nearly 40 million workers within government or institutions are starting to make contributions to the pension system as employees in enterprises. It promotes fair pension treatment, the optimal allocation of talent, and social stability. As a result, everyone must make contributions to the pension system, and then enjoy the same pension treatment according to the new pension scheme.

Nanning City is the capital city of Guangxi Zhuang Autonomous Region, located in South China. The total population is 7.51 million. According to Nanning City National Economic Development Statistics Bulletin, in 2016 Nanning City had an annual GDP of 370.339 billion Chinese Yuan.

Guangxi is the only coastal autonomous region in southern China. As of the end of 2016, the region's resident population of 48.38 million people, under the jurisdiction of 14 prefecture-level cities. Located in the center of the China-ASEAN Free Trade Area, it is the combination of the Eastern coastal economic circle, the Western economic circle, and the

China-ASEAN economic circle. It has the advantages of the coastal, along the river, and along the border. At present, Guangxi has 10 roads connected with Vietnam, the railway directly to the coastal port, and connected with the Trans-Asian Railway, Nanning to Hanoi only 418 km. The coastal ports of Guangxi are the nearest distance to ASEAN 9 countries. This research focuses on China's pension system and its effects on the quality of life, comparing government and enterprise retirees, and focusing on Nanning City.

Objectives

This research has two objectives as follows:

1. To study the effect of a new pension scheme on the quality of life of government and enterprise employees.
2. To inquire about the suggestions for improving the new pension scheme for a better quality of life for the government and enterprise employees in Nanning City.

Literature Review

There are related theories that are relevant to the research article as follows:

1. Quality of Life Concept

Quality of life is discussed widely in different scientific fields. In sociology, quality of life is understood as the subjective understanding of well-being considering individual needs and understanding. In economics it is the standard of living, in medicine, it is a ratio of health and illness with the factors influencing healthy lifestyle.

The term quality of life is understood in many ways. There is no universally accepted definition of quality of life. Usually, it is referred to the definition by the World health organization introduced in 1995 Quality of life is an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, values, and concerns incorporating physical health, psychological state, level of independence, social relations, personal beliefs and their relationship to salient features of the environment (World Health Organization Quality of Life WHOQOL Group, 1995).

Based on academic research, the following 8 dimensions have been defined as an overarching framework for the measurement of well-being. Ideally, they should be considered simultaneously, because of potential trade-offs between them (Quality of life indicators-

measuring quality of life): (1) life overall, (2) health, (3) social relationships, (4) family, (5) freedom of life, (6) neighborhood, (7) financial situation, and (8) psychological.

2. Social security

Social security refers to social insurance, social services, and social assistance. It aims to improve quality of life through an effective application of the social welfare system in order to reduce people's vulnerability to poverty and deprivation.

Social security is recognized as a fundamental human right by the international community. The right to social security can guarantee human dignity for all persons when they are faced with difficult circumstances that deprive them of their capacity to fully realize their covenant rights.

In addition, social security is a human right to promote social justice and equity. Issues of economic inequality and social justice have come to dominate global debates, together with rising levels of social unrest and worldwide discontent. Further, unstable economic conditions and increased globalization have intensified the necessity of social security. Social security has attracted global attention to prevent, reduce and eliminate economic and social vulnerabilities related to poverty and deprivation (Srivastava, 2013).

Social security can play various critical roles, such as acting as an effective automatic stabilizer in times of economic crisis and supporting the well-being and quality of life of aging populations (Julie, 2016).

There are several different conceptual approaches to analyzing social security objectives and impacts. Devereux and Sabates-Wheeler (2004) provide the most used types of social security:

1. Social Insurance is to mitigate risks associated with unemployment, ill health, disability, work-related injury, and old age, such as pension insurance.
2. Social Services are a range of public services provided by government, private, and non-profit organizations, which are currently focused on social work. It aims at the effort to enhance social functioning and overall well-being.
3. Social Assistance is when resources, either cash or in-kind, are transferred to vulnerable individuals or households with no other means of adequate support, including single parents, the homeless, or the physically or mentally challenged.

In summary, social security is concerned with protecting and helping those who are poor and vulnerable, such as children, women, older people, people living with disabilities,

the displaced, the unemployed, and the sick. Social security is commonly understood as all public and private initiatives that provide income or consumption transfers to the poor, protect the vulnerable against livelihood risks, and enhance the social status and rights of the marginalized; with the overall objective of reducing the economic and social vulnerability of poor, vulnerable and marginalized groups. Social security is usually provided by the state; it is theoretically conceived as part of the 'state-citizen' contract, in which states and citizens have rights and responsibilities to each other.

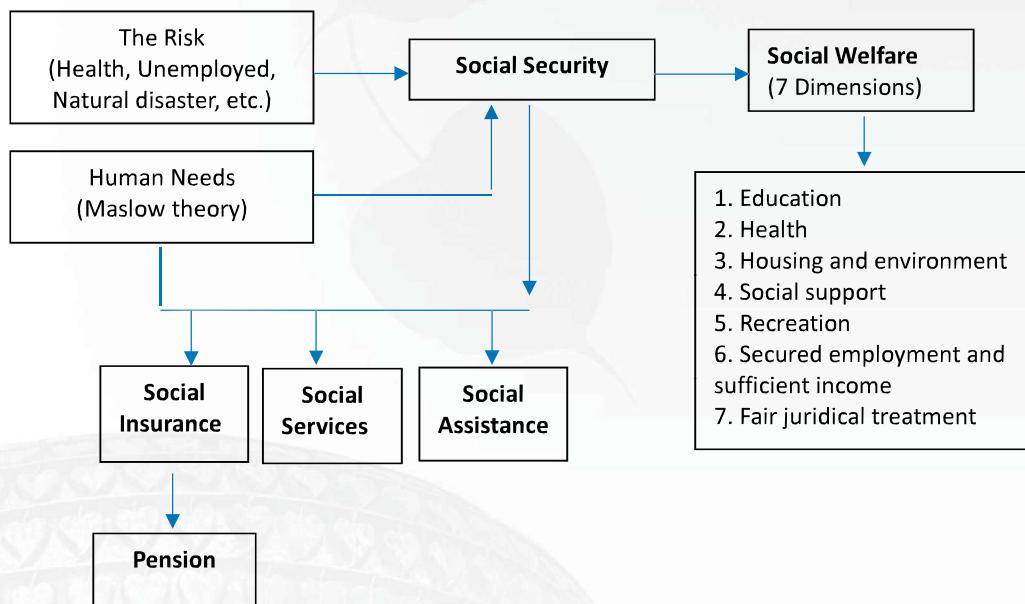


Figure 1 The relationship of social security, social welfare, social insurance, and pension

3. Concepts, laws, and regulations concerning pension in China

Zhang Chun'e, and Zhang Shuya (2014) conducted a pension insurance system in China and pointed out that the old-age insurance system is not perfect, and is fragmented seriously, not only part of some institutions and enterprises implement inconsistent systems even part of some joint-stock enterprises and private enterprises did not implement the pension insurance system, but the old pension system also showed plate pattern (Liu Yue, 2011) revealed that the enterprise units according to the nature of the household registration and the different units, the provisions of the pension insurance rate and the proportion of individual accounts are also different. A study on the issues of the pension system of government departments, the system caused many problems, not adapting to the

development of current society, Chinese scholars generally think that the following problems: (a) Lack of the relevant laws and regulations (b) The huge gap of the treatment, pension system treatment gap is too large, triggering a lot of unfair phenomena. (c) The inequality of rights and obligations, etc.

Conceptual framework

To respond to the objectives of the research, the researcher formulated a Conceptual framework as follows:

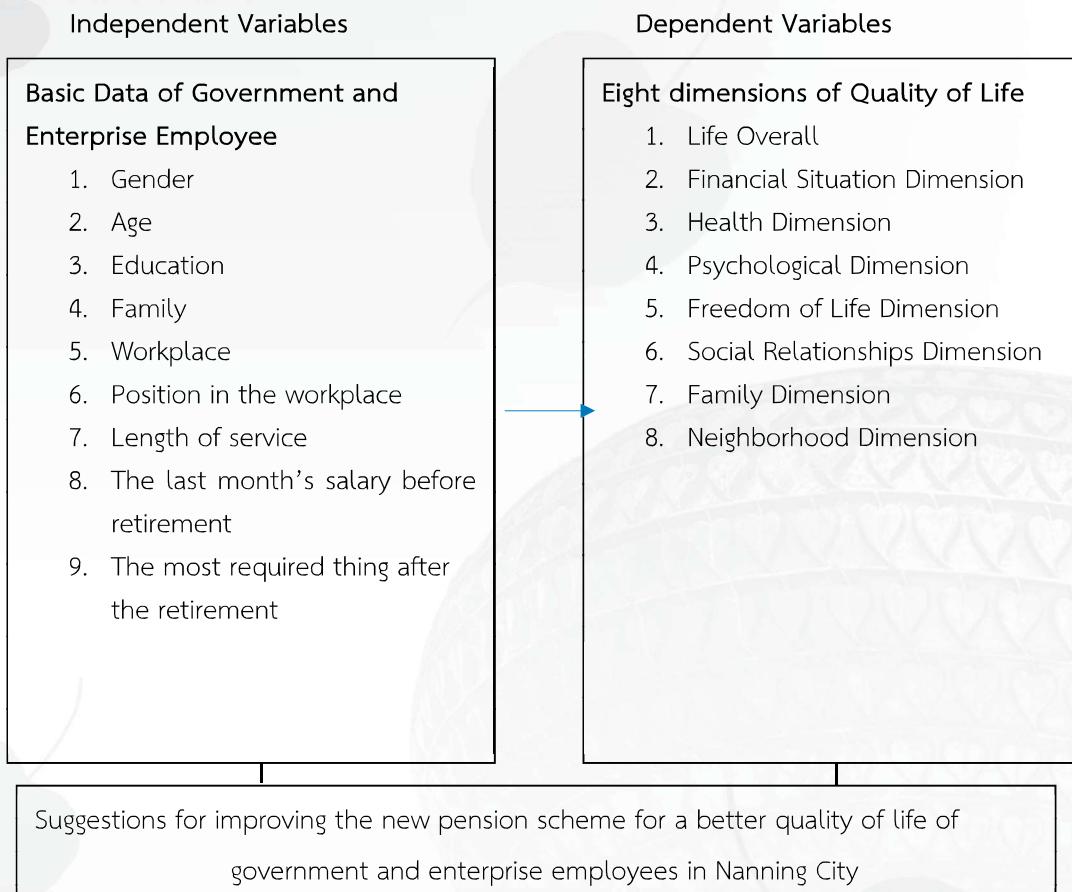


Figure 2 Conceptual Framework

Methodology

This research employed a quantitative method to study the effect of a new pension. The population of the research is composed of retired employees in government and

enterprise sectors in Nanning City, Guangxi province. According to the information from the Nanning Municipal Bureau of Statistics, there were approximately 288,000 retired employees in the government and enterprise sector in 2017.

Sampling selection

This study will use the figures from the Nanning Municipal Bureau of Statistics for the year 2017 to calculate the sample size. Yamane Taro (1973) will be used as a tool for this calculation, as shown below:

$$n = \frac{N}{1 + Ne^2}$$

Where n = sample size

N = population size = 288,000

e = error (0.05) reliability level 95%

As a result, the sample size is 400.

Research instruments

The questionnaire contained a combination of closed and open-ended questions, which comprised 3 sections as the following:

Section 1: Independent variables

There are 12 questions in this part related to some personal information about the respondents. These are checklist questions that consist of gender, age, education, marital status, type of family, workplace before retirement, position before retirement, length of service, last month's salary before retirement, after retirement, and after implementation of the new pension scheme, the most important thing that the respondents care about, and the most important thing that they expect their children or grandchildren can do for the respondents.

Section 2: Dependent variables

There are eight quality-of-life indicators composed of 60 questions to be asked of the respondents. The answer is assigned five levels of agreement: strongly agree, agree, neither agree nor disagree, disagree, strongly disagree, and strongly disagree.

Section 3: Any data or information that the respondents need to tell the researcher.

Data Analysis

1. Descriptive statistics, i.e., frequency and percentage, were used for describing the personal information of respondents.

The mean was used for describing the rank of the agreement by using the five-point Likert scale, which is used to allow the individual to express how much they agree or disagree with the indicators of quality of life as the following:

- 5 points = strongly agreed.
- 4 points = agreed.
- 3 points = neither agree nor disagree.
- 2 points = disagree.
- 1 point = strongly disagrees.

The range is calculated by $(5 - 1 = 4)$ and then divided into five. The length of the cells is determined below:

- 1.00-1.80 = strongly disagree.
- 1.81-2.60 = disagree
- 2.61-3.40 = don't agree or disagree.
- 3.41-4.20 = agreed.
- 4.21 - 5.00 = strongly agreed.

2. Inferior Statistic. In this research, the T-test and one-way analysis of variance (ANOVA) was used to determine whether there were any statistically significant differences between the quality of life of government and enterprise-retired employees.

Result of research

1) Personal information of the respondents

The findings revealed that most respondents of government-retired employees were male (51%), while most enterprise-retired employees were female (49%). The age between 61-70 years old accounted for most of the government-retired employees (54%), but most of the enterprise employees retired at age 55-60 years old (52.5%). For education, 39.5% of government employees completed college while 40.5% of enterprise employees completed undergraduate. Most government employees (94.0%) indicated that they were married, while 91% of enterprise employees were married. The position before the retirement of the government was workers (76.5%) while the enterprise was workers as well (61.5%) (Table 1).

Table 1 Personal information of the respondents by Demographic details

Demographic Details	Category	Government/		Enterprise	
		n	%	n	%
Gender	Male	102	51.0	98	49.0
	Female	98	49.0	102	51.0
Age (Year)	55-60	83	41.5	105	52.5
	61-70	108	54.0	83	41.5
	71-80	5	2.5	10	5.0
	> 80	4	2.0	2	1.0
		Min = 55		Min = 55	
		Max = 86		Max = 81	
		Mean = 62		Mean = 61	
Highest Education	Postgraduate	21	10.5	6	3.0
	Undergraduate	56	28.0	81	40.5
	College	79	39.5	43	21.4
	Others	44	22.0	70	35.0
Marital Status	Single	12	6.0	18	9.0
	Married	188	94.0	182	91.0
Position before retirement	Worker	153	76.5	123	61.5
	Manager	28	14.0	62	31.0
	Senior manager	19	9.5	15	7.5

The length of service of government-retired employees was 36-40 years (40%), while most enterprise-retired employees were 36-40 years as well (37%).

Last month's salary before retirement of most respondents of government retired employees was 16,794 – 23,142 Baht while most enterprise retired employees were lower than 16,794 Baht (37.5%).

The most required thing after the retirement of government-retired employees was healthy (44.5%) while the most required thing of enterprise-retired employees was healthy as well (47%).

The most required thing after the implementation of the new pension scheme for government-retired employees was the improvement of their pension (78%) while most enterprise-retired employees were the same as government-retired employees (64%).

Table 2 Length of Service, last month's salary before retirement, and the most required thing after the retirement

Demographic Details	Category	Government/ Institution		Enterprise	
		n	%	n	%
Length of Service	<26	0	0.0	21	10.5
	26-30	52	26.0	33	16.5
	31-35	55	27.5	47	23.5
	36-40	80	40.0	74	37.0
	> 40	13	6.5	25	12.5
		Min = 26		Min = 15	
		Max = 46		Max = 44	
		Mean = 35		Mean = 35	

Table 2 Length of Service, last month's salary before retirement, and the most required thing after the retirement (continue)

Demographic Details	Category	Government/ Institution		Enterprise	
		n	%	n	%
The last month's salary before retirement (Bath)	under 3500	31	15.5	75	37.5
	3500-4823	81	40.5	29	14.5
	4824-6000	67	33.5	31	15.5
	6001-8000	9	4.5	12	6.0
	8001-10000	8	4.0	19	9.5
	10001 and over	4	2.0	34	17.0
The most required thing after the retirement	Healthy	89	44.5	94	47.0
	Pension	46	23.0	69	34.5
	Traveling	6	3.0	10	5.0
	Family	59	29.5	24	12.0
	Other	0	0.0	3	1.5
The most required thing after the implementation of the new pension scheme	Whether the gap becomes narrowing	35	17.5	60	30.0
	Whether their pension	156	78.0	128	64.0
	improvement				
	Other	9	4.5	12	6.0

Most government retired employees want their children/grandchildren to stay with them (32%). while most enterprise retired employees want their children/grandchildren to come back to see them (34.5%).

Financial management after the retirement of government-retired employees did not mind gradually reducing the amount of money in their savings and investments if the money is required to maintain their standard of living (41.5%) while most enterprise-retired employees think the same as government-retired employees (52.5%) (Table 3).

Table 3 The most needs from children/grandchildren, and financial management after retirement

Demographic Details	Category	Government/ Institution		Enterprise	
		n	%	n	%
The most needs from children/ grandchildren	Traveling with them	31	15.5	59	29.5
	Support living cost	11	5.5	15	7.5
	Come back to see them.	57	28.5	69	34.5
	Phone me	36	18.0	18	9.0
	Stay with me	64	32.0	36	18.0
	Other	1	.05	3	1.5
Financial management after retirement	You try to increase the amount of your savings and investments each year, by either saving money or not withdrawing some of the earnings on your savings and investments.	56	28.0	46	23.0

Table 3 The most needs from children/grandchildren, and financial management after retirement (continue)

Demographic Details	Category	Government/ Institution		Enterprise	
		n	%	n	%
You try to maintain the amount of your savings and investments each year, by living only off the earnings on these savings and investments and other sources of income.		61	30.5	49	24.5
You do not mind gradually reducing the amount of money in your savings and investments if the money is required to maintain your standard of living.		83	41.5	105	52.5
Total		200	100	200	100

Hypothesis testing

Hypothesis was tested by using a T-test and one-way analysis of variance (ANOVA), to determine whether there are any statistically significant differences between the independent variables and dependent variables, the following are the findings:

1. Gender

In the government sample group, there is a significant difference in gender and quality of life at 0.05 level on the financial situation dimension ($p = 0.002$) and Neighborhood &

environment dimension (p -value = 0.012), while in the enterprise group has no difference significantly.

It is indicated that different genders of government retired employees have different quality of life in the financial situation dimension, including differences in neighborhood and environment dimensions. Therefore, the result of statistical hypothesis testing accepts only 2 dimensions, i.e., the financial situation dimension and Neighborhood & environment dimension.

2. Age

In the government retired employee group, there is a significant difference in age and quality of life in 4 dimensions, i.e., financial situation ($p = .032^*$), Healthy ($p = .000^{**}$), Freedom and life control ($p = .003^*$), and Neighborhood & environment ($p = .002^*$). While in the enterprise group is no difference significantly. It is revealed that the different age of the government retired employee has different quality of life in financial situation, health, freedom and life control, neighborhood, and environment. Therefore, the result of statistical testing accepted the hypothesis only 4 dimensions, i.e., financial situation, Healthy, Freedom and life control, and Neighborhood & environment.

3. Highest Education

In the government retired employee group, there is a significant difference in education and quality of life in 5 dimensions, i.e., financial situation ($p=.031^*$), Psychological and spiritual achievement($p=.004^*$), Social relationships($p=.017^*$), Family($p=.000^{**}$), Neighborhood and environment ($p=.010^*$).

The sample group of enterprise retired employees found the statistical significance of education and quality of life, including Life overall($p=.000^{**}$), Psychological and spiritual achievement($p=.018^*$).

4. Marital Status

In the government retired employee group, there is a significant difference in marital status and quality of life in 6 dimensions, i.e., Life overall (.000**), Healthy (.000**), Psychological and spiritual achievement (.008*), Social relationships (.000**), Family (.000**), Neighborhood and environment (.008*).

The sample group of enterprise retired employees found the statistical significance of marital status and quality of life, including financial situation (.040*), Healthy (.000**), and Family (.000**).

5) Position before retirement

In the government retired employee group, there are significant differences in position before retirement and quality of life in 4 dimensions, i.e., Life overall (.000**), Financial situation (.031*), Healthy (.002*), Family (.003*).

The sample group of enterprise retired employees found the statistical significance of position before retirement and quality of life, including Life overall (.000**), Neighborhood, and environment (.029*).

6) Length of service

In the government retired employee group, there are significant differences in length of service and quality of life in 7 dimensions, i.e., Life overall (.001*), Financial situation (.000**), Psychological and spiritual achievement (.000**), Freedom and life control (.011*), Social relationships (.050*), family (.000**), Neighborhood and environment (.000**).

The sample group of enterprise retired employees found the statistical significance of the length of service and quality of life, including Life overall (.050*), Financial situation (.011*), Freedom, and life control (.018*).

7) The last month's salary before retirement

In the government retired employee group, there is a significant difference in financial last month's salary before retirement and quality of life in 5 dimensions, i.e., financial situation (.002*), Healthy (.018*), Psychological and spiritual achievement (.000**), Freedom and life control (.008*), Neighborhood and environment (.000**).

The sample group of enterprise retired employees found the statistical significance of the last month's salary before retirement and quality of life in all dimensions, including Life overall (.017*), Financial situation (.000**), Healthy (.002*), Psychological and spiritual achievement (.002*), Freedom and life control (.008*), Social relationships (.001**), Family (.007*), Neighborhood and environment (.000**).

8) The most required thing after the retirement

In the government retired employee group, there is a significant difference in the most interest after retirement and quality of life in 7 dimensions, i.e., Life overall (.000**), Healthy (.000**), Psychological and spiritual achievement (.006*), Freedom and life control (.000**), Social relationships (.001**), Family (.000**), Neighborhood and environment (.001**).

The sample group of enterprise retired employees found the statistical significance of the most interest after retirement and quality of life, including Life overall (.035*), Financial

situation (.003*), Healthy (.004*), Psychological and spiritual achievement (.002*), Freedom and life control (.001**), Social relationships (.000**), Family (.001**), Neighborhood and environment (.000**).

9) The most interest after the implementation of the new pension scheme

In the government retired employee group, there are significant differences of the most interest after the implementation of the new pension scheme and quality of life in 6 dimensions, i.e., Life overall (.000**), Healthy (.000**), Freedom and life control (.000**), Social relationships (.038*), Family (.000**), Neighborhood and environment (.001**). While in the enterprise group is no difference significantly.

10) The most needs from children/grandchildren

In the government retired employee group, there is a significant difference in the most needs from children/grandchildren and quality of life in 6 dimensions, i.e., financial situation (.000**), Healthy (.006*), Psychological and spiritual achievement (.000**), Freedom and life control (.000**), Social relationships (.000**), Neighborhood and environment (.014*).

The sample group of enterprise retired employees found the statistical significance of the most needs from children/grandchildren and quality of life, including Life overall (.000**), Financial situation (.014*), Freedom, and life control (.049*).

11) Financial management after retirement

In the government retired employee group, there are significant differences in financial management after retirement and quality of life in 5 dimensions, i.e., Life overall (.015*), Financial situation (.000**), Healthy (.018*), Family (.001**), Neighborhood and environment (.039*).

The sample group of enterprise retired employees found the statistical significance of financial management after retirement and quality of life, including Life overall (.001**), Freedom, and life control (.026*).

Conclusion and Discussion

Based on findings, most respondents (60.8 percent) are satisfied with their quality of life, and those who care are in the top 2 for health and wealth. This finding is the same as the research of Kim & Moen, (2001) found that the two major factors considered when making a retirement decision were wealth and health.

The finding that China the new pension system provides the widest coverage to

China's retirees, but the basic pension fund's payment pressure will keep rising from this year as the aging population's impact, is similar to the point of view of Barry Bosworth and Gary Burtless (2004) argue that economic growth is slow and the problems posed by population aging increase the burden on state finances, and Orszag, Peter R.; Stiglitz, Joseph E. (2001) suggested to rethinking pension reform to the new ideas toward sustainable pension systems in the 21st century. The introduction of supplementary pensions for public officials can reduce the burden on government finances, strengthen the rational flow of talent and build a more equitable pension system. The findings also in accordance with Robert Holzmann, (2009), suggested that pensions should be closed to the coverage gap among retired employees.

These findings are relevant to the literature review on "A Theory of Human Motivation", This hierarchy suggests that people are motivated to fulfill basic needs before moving on to other, more advanced needs.

Finally, the findings on the personal information of the respondents and the hypothesis testing by using a T-test and one-way analysis of variance (ANOVA), to determine whether there are any statistically significant differences between the personal information of the government retired employee and the enterprise retired employee, the quality of life of the government retired employee was better than the enterprise retired employee in all dimensions.

Suggestions

Policy suggestions

1. The government should improve the basic old-age insurance and basic medical insurance systems to set up annuity and supplementary medical insurance programs.
2. The government should improve the basic old-age pension insurance system for enterprise employees.
3. The government should improve the unemployment insurance system and make a basic livelihood guarantee system for laid-off enterprises.

Management suggestions

1. Development of the industrial injury and childbirth insurance systems should be accelerated.
2. The acceleration of community building and the socialization of social security should be promoted.

3. The government should explore diverse forms of social security and push it forward including improving policies concerning social relief, social mutual aid, special care, placement system, social welfare, and safeguarding the legal rights and interests of women, minors, the elderly, and the handicapped.

Academic suggestions

1. There should be more research on the effect of the new pension scheme in big cities in China.
2. To understand the pension scheme of China deeply, there should be a comparison study on regulations, strengths, and weaknesses between China and Western countries.

Research ethics

The Huachiew Chalermprakiet University Research Ethics Committee issued certification #655/2561 on the 4th of February 2018 approving this research. Before collecting data, the researcher explained the purpose of the research, the methodology, and the outcomes, including safety, consequences, and the right to terminate participation at any time.

References

CFA Institute Centre for Financial Market Integrity. (2022). *Pension Fund Reforms in China: An Opportunity to Promote Codes of Conduct and Standards of Best Practice.*
Retrieved June 2, 2022, from <https://www.cfainstitute.org/-/media/documents/support/advocacy/china-pension-fund-reform.ashx>.

Huoyun, Z., and Alan, W. (2018). Pension system reform in China: Who gets what pensions? *Social Policy Administration Journal*, 52(7), 1275-1460.

Maslow, A. H. (1943). *Maslow's Hierarchy of Needs Theory*. Retrieved June 2, 2022, from <https://www.simplypsychology.org/maslow.html>.

Robert, H., David A. R., and Noryuka, T. (2009) .*Closing the Coverage Gap: The Role of Social Pensions and Other Retirement Income Transfers.*
Retrieved June 2, 2022, from
<https://openknowledge.worldbank.org/handle/10986/2651>.

World Bank. (2013). *GDP per capita, PPP (current international \$)*. Retrieved June 2, 2022 from The world bank Website:
http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD?order=wbapi_data_value

2013?wbapi_data_value&sort= desc.

World Health Organization (WHO). (2013). *Life expectancy at birth and Healthy life expectancy at birth*. Retrieved June 2, 2022, Website <http://apps.who.int/gho/data/node.main.688?lang=en>. Accessed 25 Oct 2015.

World Health Organization (WHO). (2014). Preventing suicide: A global imperative (pp. 80–87). Geneva: WHO. http://apps.who.int/iris/bitstream/10665/131056/1/9789241564779_eng.pdf. Accessed 20 Oct 2015.

Yamane, T. (1973). *Statistics*. New York: New York Harper and Row, Ltd.