

The Chinese Aging Society and Wisdom Pension in the Digital Age

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Abstract: With the rapid development of digitalization, the elderly is facing increasing difficulties in keeping up with the pace of the digital era. In this paper, the concepts of aging, aging population, and aging society are analyzed, along with their impacts on economy, society, culture, and technology. The big changes that need to be made in an aging society about wisdom pension are also discussed. As China has the largest elderly population in the world, it is necessary to study the aging society and develop solutions to ensure the health and well-being of the elderly population. This paper also points out the shortcomings of China's research in the field of Smart Senior Care, indicating that the research themes are relatively single, the research perspective is too generalized, and insufficient attention has been paid to differences in living standards among the elderly. This paper suggests that more attention should be paid to the spiritual needs of the elderly, and more targeted countermeasures should be proposed to address different practical problems in different regions.

Keywords: aging society, wisdom pension, China, digital divide

1. Introduction

At present, the total number of elderly people in China is huge, and while the level of digitalization continues to develop, the problem of the digital divide is becoming increasingly prominent. More and more countries have become greying societies along with the burgeoning of digital devices [1]. In this rapid digitalization process, due to the restriction of technical system culture and their factors, the elderly are easier to obtain the information gap than other groups, and the digital technology ability of the elderly group is not as good as that of other young groups, which is called the digital divide problem of the elderly. The digital divide is a term originally used to describe the gap in access to new technology which exists between different groups of people [2]. Especially since the COVID-19, the risk of physical and mental health of the elderly has increased due to social distance and blockade policy. The digital divide research is mainly limited to sociodemographic and socioeconomic determinants, such as income, age, educational level, ethnicity, and urbanization level [3].

Under the dual background of the increasing aging of the population and the increasing level of digitalization, the digital divide has brought many difficulties to the elderly group, such as the elderly

do not have mobile phones, cannot show the “health code” and are excluded from public places like hospitals which affecting their normal medical needs. Or the elderly cannot apply some mobile phone functions such as “scan code payment”, mobile phone reservation or ticket purchase, they are restricted in shopping, travel, entertainment etc. So how to ensure that the elderly keep up with the pace of the digital era, enjoy the digital development, and feel the convenience of life is an issue that needs to be paid attention to.

This paper wants to study the digital divide faced by the elderly in an aging society in China, aiming at promoting the wisdom of the elderly and improving their happiness. This paper is divided into several parts: section 1 mainly introduces the problems faced by the elderly in the digital age. Section 2 mainly puts forward the necessity of studying the digital gap of the elderly based on previous studies. Section 3 analyzes the problems faced by the elderly in China using the data of the Internet. Section 4 and section 5 discuss the causes and solutions of the problems in the intelligent old-age care, with a view to offering suggestions for the intelligent old-age care.

2. Literature Review

It is very important to study in aging population in China due to the rapidly increased of aging population and low birth rates. This literature review will explain the status of aging society in China in three main points. Analysis of the concepts of aging, aging and aging society; The reason and necessity to study the aging society; the big changes that need to be made in an aging society about wisdom pension.

2.1. The Reason and Necessity to Study the Aging Society

As China is the fastest growing population, elderly people become one part of people that we should take care of. During the time when technology improve, elderly people is often left behind and having mentally or negative impact on the younger generation. This is having a huge impact on the health of elderly individuals and their relationships with younger generations. Overall, it is difficult to satisfy the desires of elderly people based on their past experiences, so finding solutions is critical for ensuring the health and well-being of elderly population. This research paper will contribute and focus on developing solutions.

With the development of society, the overall life span of human beings continues to extend, at the same time, the fertility rate continues to decline, making the proportion of elderly population increasingly high, has become an inevitable trend. According to the 7th National Census, China’s population over the age of 60 has reached 264 million. According to the 48th Statistical Report on Internet Development in China by the China Internet Network Information Center, as of June 2021, the number of Internet users in China reached 1 .011 billion, and 12 .2% of Internet users aged 60 and under were online, according to which it is estimated that nearly half of the elderly does not have access to the Internet. It is necessary to study the aging society, which will have a prediction and protection for all aspects of our future, such as the imbalance of the society caused by the rapid increase of the elderly population, and the gender gap between the elderly men and women. An aging population also poses challenges to social health, social security, and environmental security [4]. Moreover, the emergence of the aging society has brought about all-round changes in economy, society, culture, science and technology, system and other aspects. It is necessary to study these changes in order to better cope with the challenges of the aging society [5].

2.2. Analysis of the Concepts of Aging, Aging and Aging Society

Aging is one type of population which their age exceed a certain standard; aging population refers to the proportion rate of increase in aging population among human; aging society refers to these

population form another type of society. The concepts of aging and aging population are critical before understanding aging society. China now has a lower birth rate, so aging society in the future will highly involve in our community. For deeper understanding of aging population, the effect on economy, society, culture, and technology are significant. (Aging population has over 300 millions people which are age 60 or over by 2023 [6]. Only 28% of them use internet and 40% of them benefits from digital health technology [7].

There are variety of impacts of an aging society on the economy. Firstly, the demand for consumption of the elderly will significantly increase, so driving the market or industry to increase, more outstanding in developed city such as Beijing. Industries like healthcare or elderly care will benefit from that high demand. Secondly, the increase of aging population will cause a shortage of labor force and labor supply to the market affecting an increase in wages or labor prices. This will change the variable and fixed costs of a product or product costs of enterprise thus affecting economic growth. Government will take more pressure and need to formulate policies to address these issues or challenges. For example, by encouraging birth, flexibility in the labor market or raising retirement ages [8].

Aging population in society is profound. First and foremost, the increasing elder population will cause the family structure to change. As they need more care in their daily lives, family members will bear more responsibilities on giving cares, as they spend energy taking care of them, they also need income for living. Driving tiredness or mental issue for younger generation. Secondly, an aging society will attach importance to the social security. The government needs to develop new policies to breakthrough these challenges. Another very important thing is that in China, elderly people usually have a higher status. This is a principle that has been passed down for thousands of years among Chinese people, and the younger generation must respect it. In the past, elderly people in China were the happiest group of people, but with the rise of the aging population, the status of the elderly in China will gradually decline, which will also lead to their dissatisfaction and affect their physical and mental health.

They will have their own special needs and culture. For example, the inheritance of traditional culture, and the cultural communication or diet. The government will need to spend more time satisfying the aging society, which is time-consuming. On the other hand, this group of people will also take up most of the resources that the government can spend on developing technological society as an opportunity cost. As more elderly people grow older, their status in society will decrease, which may influence their health or mental problems and lead the government to spend more time on addressing these issues. China has one of the fastest-growing populations of elderly citizens, with an estimated 300 million people aged 60 or over by 2023. Unfortunately, only 28% of them use the internet and just 40% benefit from digital health technology, which has a significant impact on their health and relationships with younger generations. Despite efforts to introduce new technology to elderly populations, it remains difficult to satisfy their needs and desires based on past experiences.

2.3. Wisdom Pension

The origin of the concept of Smart Senior Care (Wisdom Pension) actually comes from the British Life Trust Fund , which specifically means that the elderly can enjoy high- level old-age services with the help of modern information technology means, and are not bound by time and space .Although China's Smart Senior Care started late, its development rapidly, and after analysis, it can be clearly seen that this field and economic management, medical care, information technology and other different disciplines cross-research, to the development of China's Smart Senior Care has brought great improvement .However, despite the rapid development of Smart Senior Care and fruitful research results:

The research has many shortcomings. The first characteristic of an aging society is “fracture”. We know that from an adult-type society to an aging society, the West has gone through hundreds of years, while China has only taken a few decades. This grand narrative of Chinese transformation may be less than 20 years old. In 2016, we had more than 16.7% of people over 60 and more than 10.8% of people over 65, making us the country with the largest elderly population in the world. Under the influence of such a large elderly population, a revolutionary urbanization movement has taken place, and most of the elderly population is difficult to enter the city, which makes this era highlight a strong fracture characteristic. The fracture manifests itself in double ways. One way is a fracture between children and parents, and the other way is fracture between the city and the countryside.

The second characteristic is the shrinking workforce population. The number of labor force caused by the aging population continues to decline, and the traditional “Made in China” labor base is gradually disintegrating. In order to improve China’s aging development caused so many problems, such as old age, structural imbalance and other accompanying increased financial burden, insufficient labor supply and other problems, which not only affect corporate profits, the output of goods and services, but also bring serious impact on the overall economic welfare level. Therefore, it is of great significance to study the current situation of population aging in China for the sustainable development of China’s economy and society.

China’s research theme is relatively single, the scope of research is not wide enough, and the research hotspots in recent years mainly revolve around a few basic keywords, and there has not been too much innovation and breakthrough. And too much attention is paid to the basic needs of the elderly, such as daily care and medical care, and not enough attention is paid to the spiritual needs of the elderly; Second the research perspective is too generalized and ignoring regional differences, there are also have insufficient attention has been paid to differences in living standards among the elderly. Many of the countermeasures proposed are difficult to implement and not sufficiently targeted to different practical problems in different regions. In the end, the current research is more theoretical expansion and ignoring empirical research, the resulting in many achievements of Smart Senior Care have not been truly implemented. Now the Smart Senior Care is still in an immature stage, there is still a lot of space for development.

3. Method & Results

This paper investigates the digital divide problem of the elderly in China’s aging society. The digital divide is becoming increasingly prominent due to the restriction of technical system culture and their factors. This paper data mainly comes from the Seventh Population Census in China about the elderly and the proportion of them surfing the Internet.

After entering the 20th century, due to the continuous development of society and the continuous improvement of economic level, such as economy, technology, cultural life, medical and health care, the birth rate has decreased and the average life expectancy has been prolonged, and the proportion of the elderly population in the total social population has been increasing. At present, the domestic population aging presents the following characteristics:

(1) The scale of population aging is large: by 2019, the number of elderly people over 65 in China reached 1,760.3 million, accounting for 13% of the total population.

(2) The degree of population aging is deep: from 2010 to 2019, the aging population rose from 118.94 million to 176.03 million in the past decade, an increase of 57.09 million.

(3) Rapid population aging: In 2010-2011, the population aging increased by 3.94 million, and in 2011-2012 and 2012-2013, it increased by 4.26 million and 4.47 million respectively. In 2013-2014, it increased by 5.29 million. In 2014-2015 and 2015-2016, they increased by 6.31 million and 6.17 million respectively. In 2016-2017 and 2017-2018, the corresponding increase was 8.28 million and

8.27 million. In 2018-2019, the population aging increased the most, with 9.45 million. From 2010 to 2019, the aging population is increasing at a rapid rate every year.

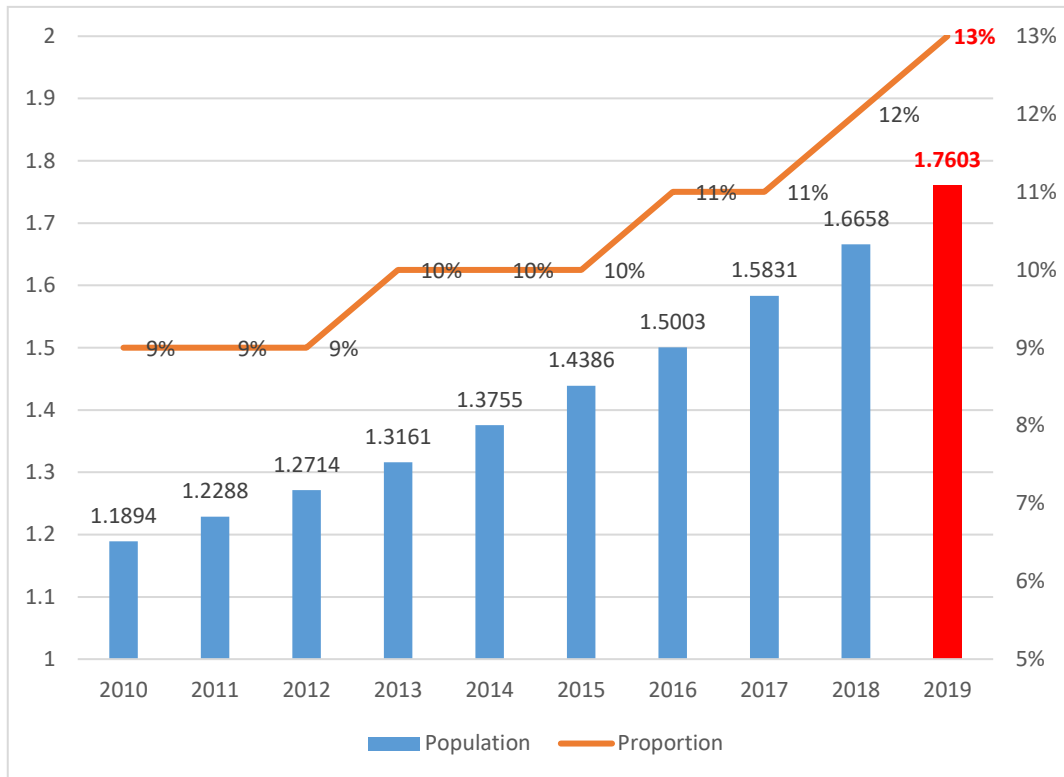


Figure 1: Population aged 65 and over (one hundred million).

Table 1: Age structure of netizens.

Age group	Percentage
20-29years old	17.2%
30-39years old	20.3%
40-49years old	19.1%
50years old and above	25.8%

According to the survey on the age distribution of netizens, as of June 2022, the number of netizens over 50 years old in China is the largest, accounting for 25.8%, accounting for more than 1/4 of the total. Secondly, netizens aged 30-39, accounting for 20.3%. The number of netizens aged 20-29 and 40-49 is small, accounting for 17.2% and 19.1% respectively. The research shows that the elderly group is gradually accepting the changes brought by the Internet, and the Internet is constantly infiltrating into the elderly group. With the youngest generation growing up on the Internet, netizens aged 20-29 account for the lowest proportion. From the age distribution of netizens, it shows that the age of netizens is gradually changing from younger to older.

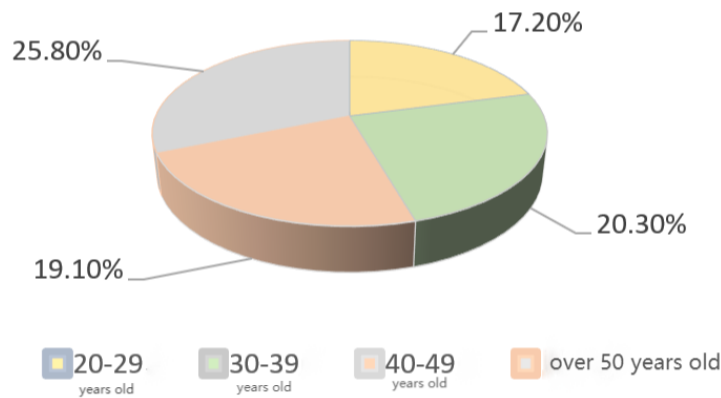


Figure 2: Age structure of netizens.

4. Discussion

This document discusses the issue of the digital divide among the elderly in China and the challenges they face in keeping up with the pace of technological advancement. As the elderly population continues to grow, it is important to find solutions to these issues and ensure that the elderly can enjoy the benefits of digital development and feel the convenience of life.

Mental problems are one significant issue the government needs to deal with, for example, they can design some specific products for this group of people, such as health management systems, monitoring vital signs machines. The government can provide some strategies, encourage scientific and technological enterprise research and development for elderly technological devices and applications. Not only can this promote the establishment of diplomatic ties between elderly groups and different social groups in society, but it can also help old people learn about and benefit from the new generation and the benefits of science and technology on people's lives.

The study of aging societies in China is critical due to the significant impact of aging populations on various aspects of the economy, society, culture, technology, and the environment. The government needs to develop new policies, encourage scientific and technological enterprise research and development for elderly technological devices and applications, and find better solutions to improve the lives of the elderly. By only talking about elderly society. They have facing lots of challenges accepting new generation thinking or technology improvement. Learning technology or accepting them is a big challenge, also the mental and health problem can be one of the problems causing them difficulty learning how to use technology. So the government needs to find better solutions for making them a part of the group to improve their lives.

5. Conclusions

In conclusion, the issue of the digital divide among the elderly in China is becoming increasingly prominent due to the rapid pace of technological advancement and the increasing aging of the population. Elderly people still play a minor role in research on information needs and usage patterns of Internet users [9, 10]. As the elderly population continues to grow, it is crucial to find solutions to these issues and ensure that the elderly can keep up with the pace of the digital era and feel the convenience of life. The study of aging societies in China is important due to the significant impact of aging populations on various aspects of the economy, society, culture, technology, and the environment. To address these challenges, cultural feedback can be adopted to improve this situation, so young people need more patience to guide the elderly to use digital products, and young people give more care and love to the elderly. The government needs to develop new policies, encourage

scientific and technological enterprise research and development for elderly technological devices and applications, and find better solutions to improve the lives of the elderly.

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Dongchu Xie, Yiyuan Zhang, Hongjia Zhao contributed equally to this work and should be considered co-first authors.

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