

Future Trends of Population Aging

Dihan Yu

Dushi Road, Minhang District, Shanghai

Abstract

Population aging is an important issue related to social development, and promoting balanced population development is an important part of global population work. Population aging is an inevitable trend of social development and an important embodiment of human social progress. We must face up to the problem of population aging and take active action. This paper mainly analyzes the percentage distribution of the population of each age group in China, the United States and India. The population percentages of different age groups were calculated using the population Division of the United Nations Department of Economic and Social Affairs in 2024, which published the total population of each country in different age groups.

Keywords

Population aging; Percentage of population; Development of society.

1. Introduction

My research question is "Future trends of population aging: a comparative analysis of China, America and India". I chose this topic because population aging is a major problem facing society today, and it is also a problem that many sociologists are studying and hoping to solve. Looking ahead, the aging of the population is a very serious problem, which will put great pressure on social welfare. The reason why I chose this topic is that I am currently studying A2 courses and I have chosen three courses, namely economics, accounting and mathematics. In the courses of studying these particular subjects, I showed great interest, and at the same time I was reading literature and books on sociology, including but not limited to <Brief History of Humankind>, <Guns, Germs, and Steel: The Fates of Human Societies> and so on. I think these books played a very important role in my sociological enlightenment. I showed great interest in reading these books and learning about these specific subjects, and I want to continue to pursue the knowledge that interests me. In addition, for the university study I will face, I hope this research can help me better face other different studies in the university. By doing this project, I think it can help me better understand the knowledge in the field of sociology.

The main themes and areas that I will explore in the project include: First, what is population aging and what are the main causes of population aging. In addition, I will compare the population distribution and aging degree of China, the United States and India in the three major time points of 2024, 2035 and 2050. The three time points 2024, 2035 and 2050 were chosen because 2024 is now, and we need to calculate the percentage of population distribution present to compare the other time points. China's goal in 2035 is to achieve basic modernization while China's goal in 2050 is to achieve full modernization. The main reason for choosing India is that it is now the most populous country and has a high fertility rate, while the main reason for choosing the United States is that it is now the most developed country in the world and has a relatively high representation. Finally, my goal is to propose some effective policies to solve the problem of population aging and to face the challenges of population aging in the future.

In order to answer all my questions and complete my project, I will mainly use the data published by the United Nations and the Chinese census yearbook for research, because I think the data I have chosen are authoritative and reliable enough. Therefore, in order to find this

credible and reliable information, I will use websites or software such as Google and excel to research papers and related information.

2. Literature References

The characteristics and trends of population aging have been widely discussed and studied in the 21st century. Population aging can be traced back to Population Aging and its socio-economic Consequences issued by the United Nations in the middle of the 20th century. The research on population aging in China can be roughly divided into: a separate study on the status quo and causes of population aging in China (Liu, 2022), a study on population aging in the world (Yuan , 2020), and a comparative study on the process and prospects of population aging in China and the world (He, 2023). According to different research perspectives on population aging, the research issues can be divided into the causes of population aging (Chen, 2010) and the methods to deal with population aging (Mu, 2024).

In conclusion, we find that existing research has fully demonstrated the principles, effects and solutions of population aging. However, due to the possible lag of the above research, and the rapid population aging worldwide, it is necessary to make accurate predictions of the future, respond to this and properly design policy instruments.

3. Discussion

The definition and principle of population aging

Population aging refers to the dynamic growth of the proportion of the elderly population in the total population due to the decrease of the number of young people and the increase of the number of old people caused by the decrease of the fertility rate and the extension of the average life expectancy. Two meanings: one is the process of the relative increase of the elderly population, the proportion of the total population is rising; The second is that the social population structure presents an old state and enters an aging society. The direct cause of population aging is the decrease of fertility and mortality, but the root cause is the development of social productive forces. With the advancement of science and technology, the improvement of medical level, first the mortality rate is reduced, the life expectancy of people is extended, and then the fertility rate is decreased. The process of population transition from a relatively high level to a relatively low level is called population transition, and the result of population transition can be manifested as either a younger population or an aging population. The focus of my research this time is population aging.

Sample analysis and interpretation

If we want to talk about population aging, we must first look at the percentage change in population distribution. Here I use projections of the future provided by the department of economic and social affairs population division of the United Nations.

I first analyzed the percentage change in China's population distribution. In 2024, Chinese citizens aged 50-64 will account for almost 20% of the entire Chinese population. We can look at the chart above, which shows that from the top down, the percentage of Chinese citizens' population distribution shows a downward trend. In 2035, the population of Chinese citizens aged 70-95 years will increase significantly, especially the percentage of people aged 70-80 years. As for the speed of aging, the growth rate of the 60-70 age group is rising sharply, and the proportion of the 60-70 age group in the total population is increasing sharply. The total population of the 60-70 age group is about 200 million. Looking from the top down, China's labor force in 2035 shows a clear downward trend. Many age groups are significantly lower than in 2024, such as 0-4, 5-9, 10-14, 15-19, and other age groups that can be employed in the labor force. It is foreseeable that China will certainly face the problem of inadequate social

security in the future. The total number of people in the 45-65 age group in 2035 is significantly higher than the total number of people in the near-retirement age group in 2024, while the percentage of people in the 14-35 age group in 2035 is much lower than that in 2024. Workers in the 14-35 age group are significantly more innovative than those in the 45-65 age group. China has gradually entered the aging population, and now it is inevitable to enter the acceleration period of the aging society. As a result, China may face a lack of innovation in 2035. We can look at the chart above, which shows that in 2050, China's 60-64 age group will have the highest percentage change of all age groups, accounting for almost 10% of the total population. On the contrary, the percentage of the population aged 0-29 has fallen off a cliff compared to the percentage of the population aged 30-90, which may result from the continued decline in fertility rates after 2020. And it is foreseeable that after 2050, China's pension problem in 2050 will become more difficult than that in 2035. In 2050, the proportion of the population in the 80-100+ age group will increase significantly compared to the 80-100 population in 2024, which may be due to the popularization of basic medical facilities and the continuous increase in the level of medical care. So far, China's population has been negative growth, it's predictable that China's population structure in the future is a very urgent problem that needs to be properly solved.

We can look at the chart above, which shows that in 2024, the 30-34 age group in the United States has the largest percentage of all age groups, accounting for 7% of all age groups. The proportion of the population aged 25-49 is still very high, and there is no need to worry about inadequate social security at present. However, it is important to consider that as health care has improved, the percentage of the U.S. population in the 65-84 age group has increased significantly compared to the percentage of the population in the 85-94 age group. There is also a downward trend in the percentage of the population in the 0-14 age group, which may need to be considered for future social security issues.

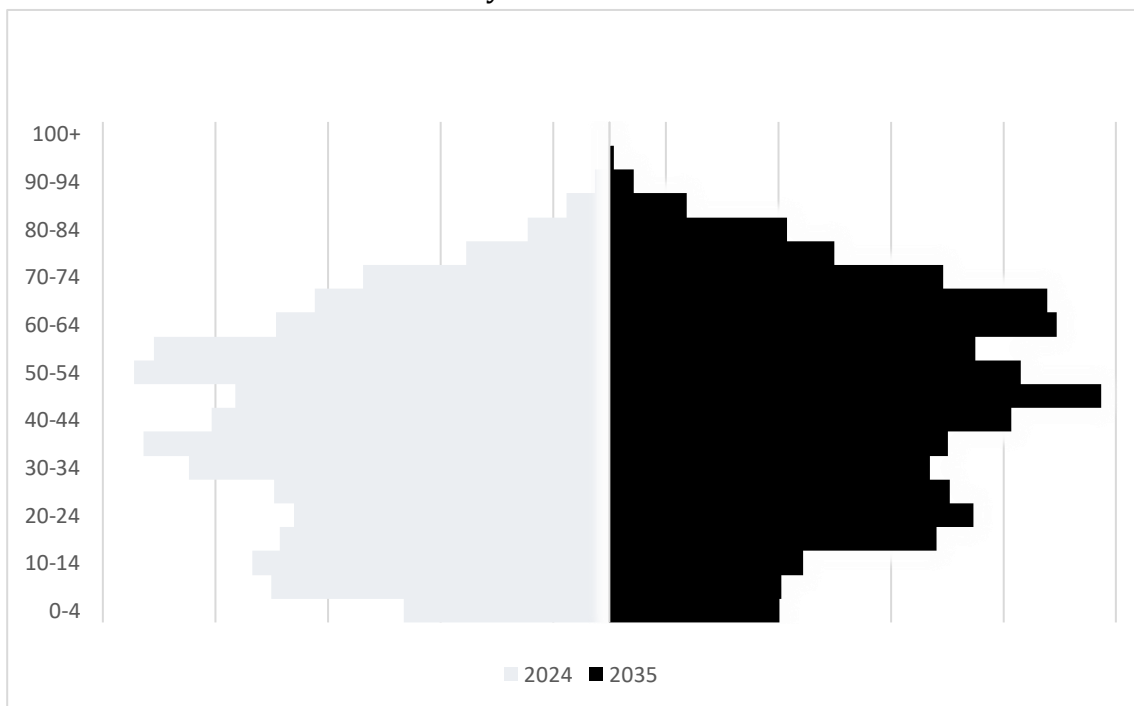


Figure 1: The percentage change of total population in China, both sexes combined (thousands)

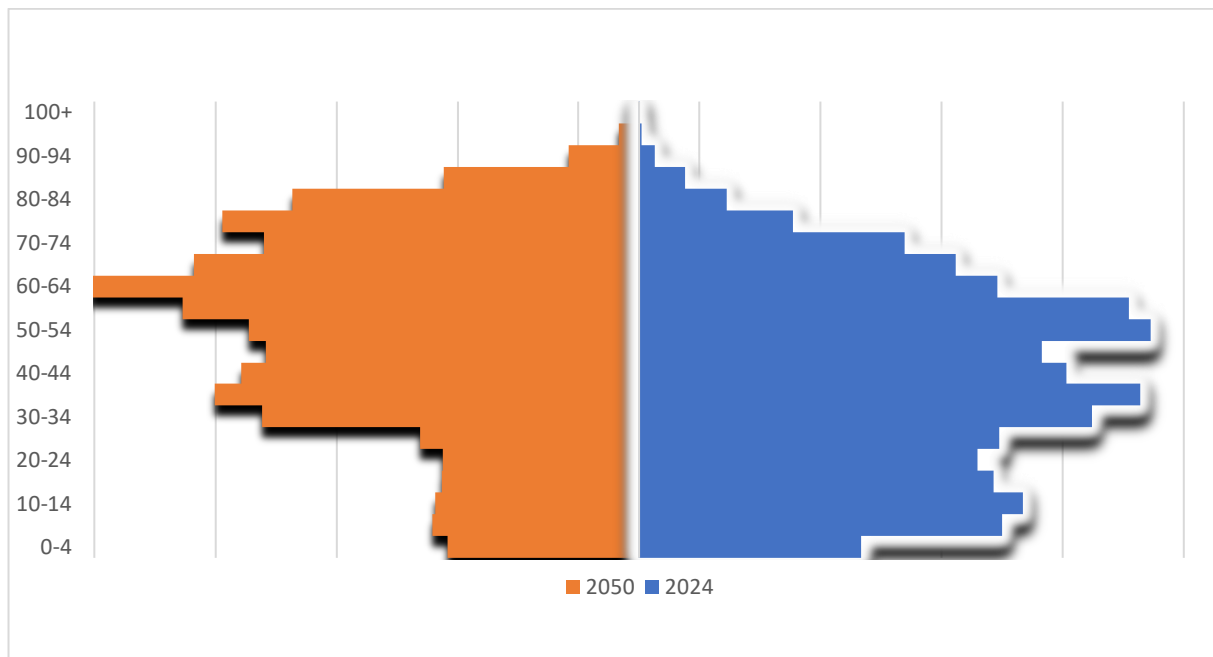


Figure 2: The percentage change of total population in China, both sexes combined (thousands)

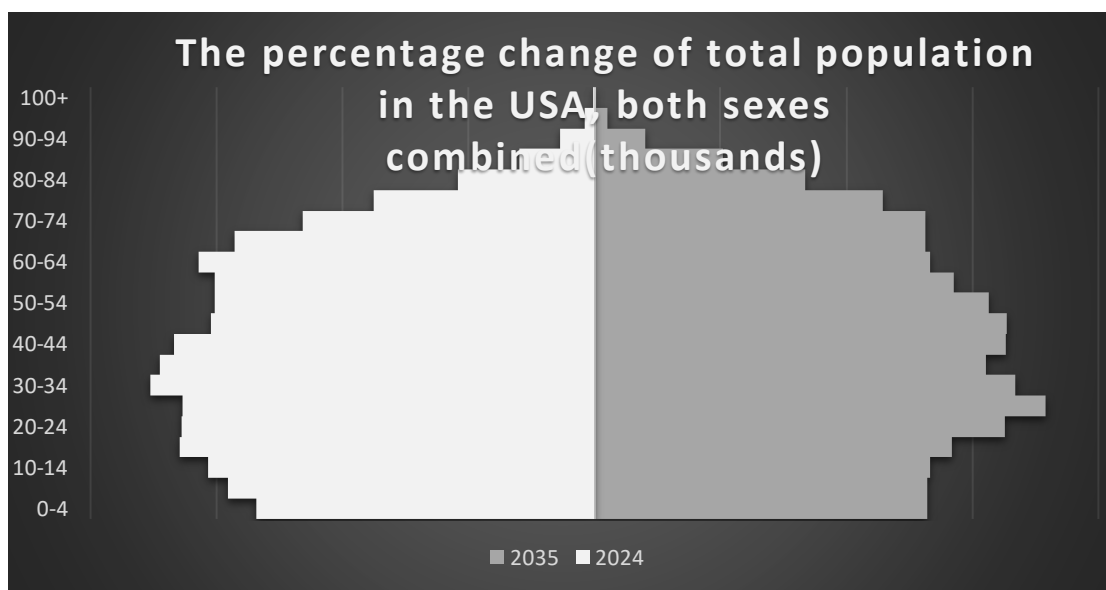


Figure 3: The percentage change of total population in the USA, both sexes combined (thousands)

In 2035, the United States will have the highest percentage of 25-29 age group, accounting for 7.2% of all age groups. From the current point of view, the current retirement age in the United States is 66-67 years old, and the percentage of people in the 65-100 + age group accounts for 21.1% of the total age group, while the percentage of people in the labor force age group is 15-65 years old is 69%, but the percentage of people in the 0-14 age group will decrease slightly compared with the percentage of people in the 15-25 age group. Overall, the projected demographic structure of the United States in 2035 is stable.

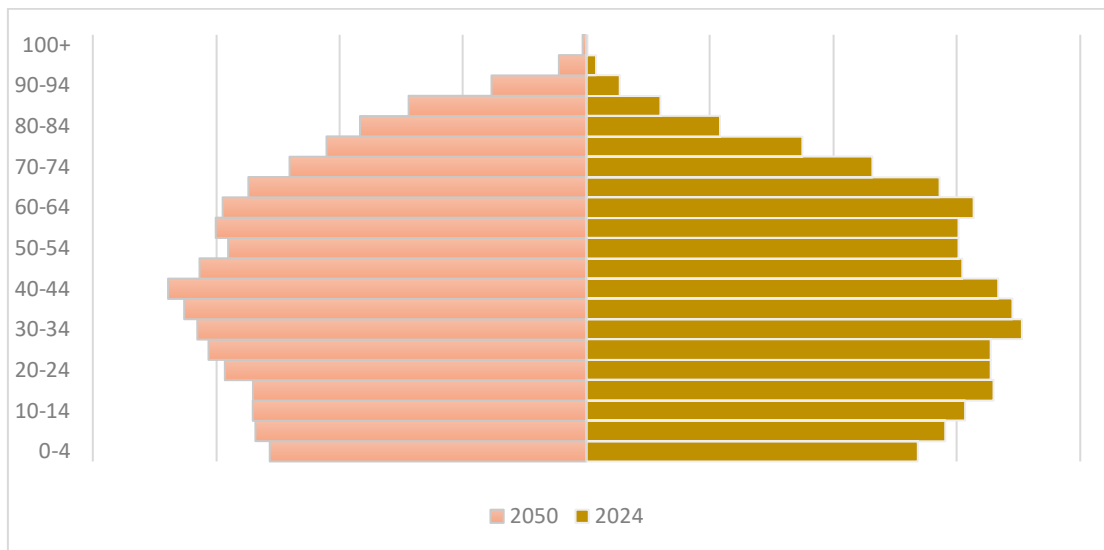
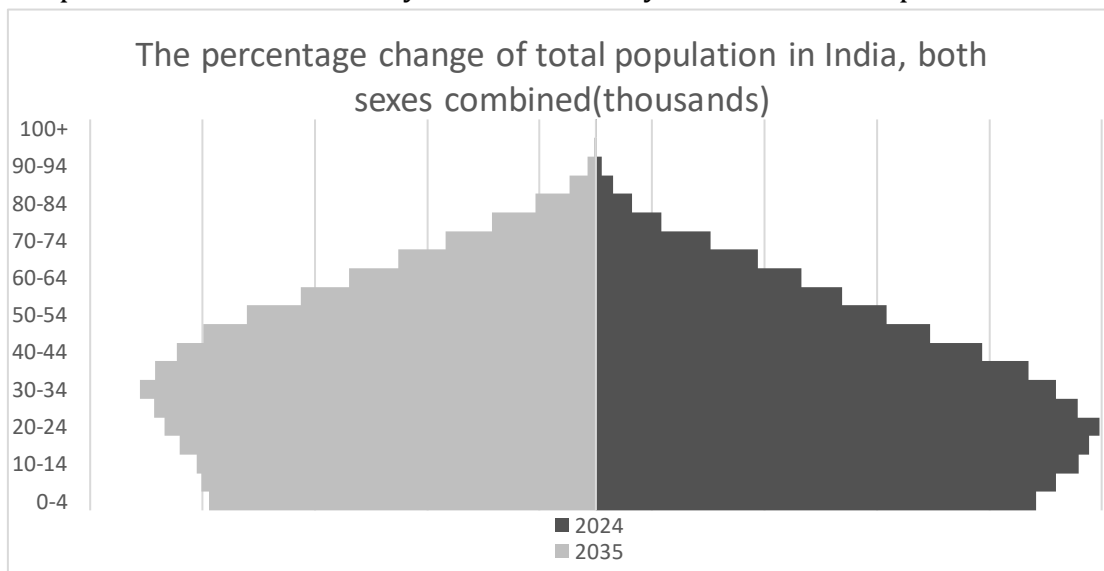


Figure 4: The percentage change of total population in the USA, both sexes combined (thousands)

We can look at the chart above, which shows that in 2050, the 40-44 age group in the United States will have the highest percentage of all age groups, accounting for 6.7% of all age groups, and it is clear that, 40-44 age groups are less innovative than 25-29 age groups. The total number of people in the 0-14 age group in 2035 will be almost the same as the total in 2024, but the younger the age group looks down from 44, the smaller the proportion of the population, and the percentage of the population in the 65-100+ age group has increased significantly compared to 2024. Taken together, the United States is likely to face reduced innovation and increased pressure on social security in 2050. And may exacerbate these problems in the future.



The percentage change of total population in India, both sexes combined (thousands)

Figure 5: The percentage change of total population in India, both sexes combined (thousands)
 We can look at the chart above, which shows that in 2023, India has surpassed China to become the most populous country in the world, so I think it is necessary to analyze India's demographic structure to help us better understand the population percentage.

In 2024, India's total population has reached 1.57 billion, with the highest percentage of people in the 20-24 age group at 9%. From the age of 25 up, India's population structure presents a ladder, in rapid decline. Looking down from the age of 24, the percentage of the population in the 0-20 age group is slowly decreasing. As you can see, most of the population in India is concentrated in the age of 20-40, which is a very healthy demographic structure. In conclusion,

the structure of India's population pyramid in 2024 is excellent, but the gradual decline of 0-14 population is not good. India's workforce is innovative enough, and there is little need to worry about social protection.

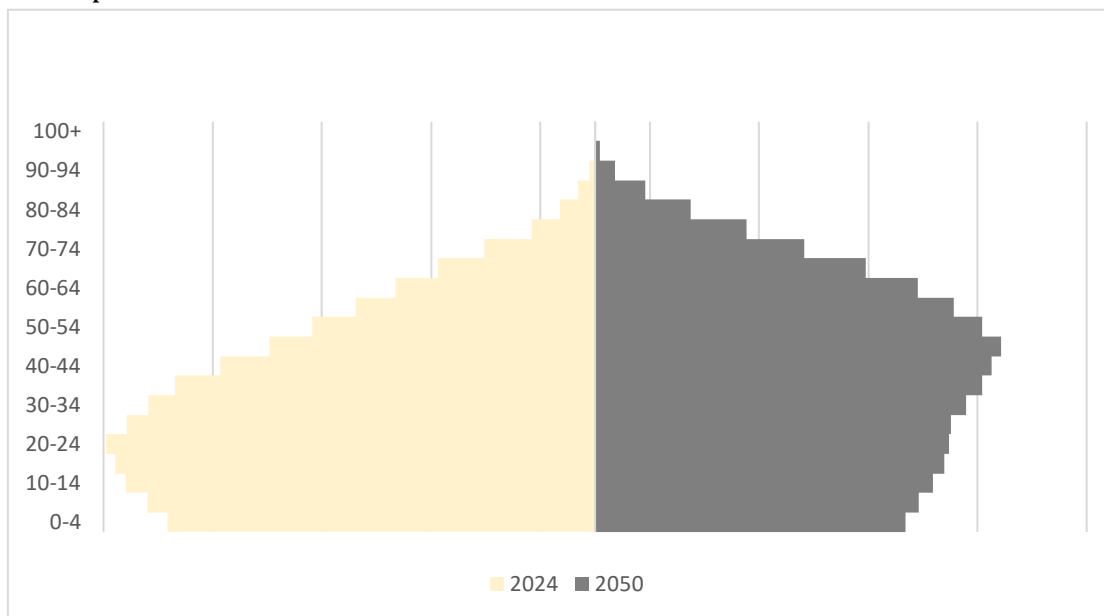


Figure 6: The percentage change of total population in India, both sexes combined (thousands). We can look at the chart above, which shows that in 2050, India's population density will be concentrated in the 30-54 age group, accounting for 35.5% of the total population. The retirement age in India is 60. In 2024, the percentage of India's population in the age group of 60-100+ will be 10%, while in 2050, the percentage of India's population in the age group of 60-100+ will be 20%. The aging of the population will increase by nearly 10% compared to 2024. This has greatly increased the survival rate of the elderly, which in turn has put a lot of pressure on India's social security. In contrast, the percentage of the population aged 0-14 was 17.6 percent, compared with 24.4 percent in 2024, a decrease of 6.8 percent. In terms of quantity, the total number of people aged 0-14 in 2024 will be 357,277 thousand, and the total number of people aged 0-14 in 2050 will be 298,817 thousand, a decrease of 58,460 thousand. What can be concluded is that the number of births in India is falling across the board, both in number and proportion. In sum, India similarly faces an ageing population in 2050, and because of its large population base, India may face a different crisis in other ways.

Challenges and policies to cope with an ageing population

So far, in order to cope with the increasingly serious problem of population aging, various countries have introduced policies in line with their national conditions according to different countries.

In 1935, the US Congress issued the Social Security Act, which is mainly based on pension insurance. It is intended to let the American elderly detract a certain amount of pension from their salary every month when they are working, but there is a slight difference in the amount of pension that each state has to contribute, hoping to build a social security safety net for the elderly. At the same time, the US government has set up many agencies to manage the aging problem, including but not limited to the Administration on Aging, the Government Advisory Board on Aging, the Social Security Administration and other community security units set up by local governments. The United States implements the insuring-funded social security system. If you want to enjoy the right of social security, you need to pay. This policy may not be able to protect the social security of low-income people and will widen the gap between the rich and the poor.

The Indian government formulated the National Policy for the Elderly (NPOP) in 1999, hoping to improve the quality of life of the elderly by increasing income security, health and nutrition, housing, education, welfare and other different perspectives. The Indian government has clearly pointed out that it is neither realistic nor desirable to rely on the government alone to achieve the social security problem, and other social institutions such as families, companies and communities must work together to ensure the social security problem of the elderly and improve the social environment.

China's social pension burden is relatively heavy, due to the continuous reduction of the total supply of labor and the surge in the proportion of the elderly population, the burden of social pension continues to increase. From 1989 to 2018, the expenditure of China's basic pension fund for urban workers increased 378 times, from 11.8 billion RMB to 446.49 billion RMB, part of which may be due to the impact of inflation. In 2020, the Chinese government put forward the "14th Five-Year Plan", part of which plans to improve the level of elderly care and care services, gradually build a elderly care service system that is coordinated with home and community institutions and combined with medical care and health care, improve the three-level elderly care service network connecting counties and villages, and constantly develop and improve the care service system. We will build a comprehensive elderly care service system from point to point.

4. Conclusion

To sum up, I believe that although many sociologists have studied population aging thoroughly, put forward many good and effective policies, and governments of various countries have introduced policies related to population aging. However, due to the uncertainty of the future and the limitations of history, sociologists still need to draw conclusions and suggestions in line with the current social situation through active and continuous research and observation. Governments also need to constantly adjust their policies to cope with the uncertainties that may occur in the future. For sociologists, population aging is a great research direction worth exploring and has a great impact on society, because the study of population aging can help the progress and development of human society. I believe that in the future, sociologists will be able to put forward more valuable and influential theories to help society solve more types of social problems and make human beings happier.

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