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# Analysis of Media Competence Enhancement and Community Mutual Assistance Mechanism for Elderly Groups in Urban and Rural Areas of Guangdong under the Intervention of AI Technology

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**Abstract:** With the rapid development of artificial intelligence, many areas of life have begun to be transformed by it. Given the aging population in urban and rural areas of Guangdong, improving the media literacy of older people is necessary to help them live in the digital age and improve their quality of life. This paper explores how to strengthen the media literacy of older adults in urban and rural areas of Guangdong Province with the help of artificial intelligence (AI) technology, analyzes the current conditions, studies the relationship between the two, and puts forward specific measures to help older people better adapt to digital life and promote the construction of community mutual-assistance systems.

**Keywords:** AI technology; Rural and urban areas of Guangdong; Elderly population; Media literacy; Community mutual assistance mechanism

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## 1. Introduction

AI technology has changed many parts of society in recent years due to the Information Age. Improving the media literacy of older people will help them live comfortably in the digital age. There are considerable regional and cultural differences between the urban and rural areas of Guangdong, and older people face many problems in accessing and using media. Therefore, there is an urgent need to study how to improve the media literacy of older adults and the community mutual-assistance system with the help of artificial intelligence. This is about the health of older people in our society and the good life of our neighborhoods.

## 2. AI technology involvement and the current situation of elderly groups in Guangdong

### 2.1. The development trend of AI technology in society

Artificial intelligence technology is now being applied to a large number of places in society and daily life. Intelligent voice control, intelligent recommendations and AI convenience service tools are gradually being used by the general public in daily life and work. Applications of AI in various media continue to develop and improve, changing how people get information and live in many areas, such as government services, daily life, health care and social entertainment. Digital services are now frequently enhanced with artificial intelligence to add new functions, and the general ways and places people consume media have also changed. Although technology will bring some convenience for people, new problems related to digital literacy will also arise. The elderly are a large part of society, and as the media environment has changed due to AI, they need to adapt to the new ways of using media in the age of technology [1].

### 2.2. Demographic characteristics of elderly groups in urban and rural areas of Guangdong

The internal structure of the elderly population in urban and rural areas of Guangdong has different regional characteristics. The age structure, living style and family life of older people in cities and the countryside of the province are not the same. Most older adults live in cities, some have reached the age of retirement and secured social insurance, and most of their socialising takes place in community public areas. Most rural elderly groups live in county-level villages and towns, and their family care situations and ranges of life activities are different from those of urban elderly groups. The physical and mental conditions of older persons at different ages are clearly different. Younger older adults are in better health, and the decline in physical function among older older adults is more pronounced. The various characteristics of the population directly affect the actual conditions for older people to access and use AI-driven digital media, and also pose all sorts of practical problems for follow-up work to enhance media literacy.

### 2.3. Basic conditions of media contact for elderly groups in urban and rural areas of Guangdong

With the progress of digitalisation, the way older people in cities and the countryside of Guangdong contact the media has also changed. Traditional radio and television are still the main sources of information for most older people, but the proportion of mobile media, such as smartphones, is continuously rising. Older people in urban areas have more access to mobile intelligent devices and often use them for simple daily needs, such as calling and texting, looking up online information, etc. However, some older people in the countryside still rely on traditional media for their information needs, and they generally do not use intelligent devices very often. Many older people can perform some basic operations on media, but they are generally unfamiliar with the frequently updated AI-powered functions and vary in their fundamental conditions for using media. The necessary conditions for the application of media in urban and rural areas are not the same.

### 2.4. Penetration degree of AI technology in elderly groups in urban and rural areas of Guangdong

AI applications have started to appear in the daily lives of older people in urban and rural areas of Guangdong. Intelligent voice customer service, AI health screening, intelligent video push and smart

community services have gradually been introduced into the lives of older people. The number of smart elderly care devices and AI convenience service terminals in urban communities is relatively large, and urban elderly people have more opportunities to come into contact with AI media products. The implementation progress of AI-related services in the vast rural areas is relatively slow, and most AI tools are still only built-in functions of mobile phone software; there is a shortage of physical intelligent service facilities. In short, most elderly people are still using AI technology passively; only a small number have begun to use AI-driven media tools in their daily lives and experience the convenience of these services firsthand [2]. The actual application of technology in the lives of older people is still at a relatively early stage.

## 3. Demands and obstacles for media capability improvement of elderly groups in urban and rural areas of Guangdong

### 3.1. Intrinsic demands for media capability improvement of elderly groups

Given the development of AI-driven digital media, the elderly in urban and rural areas of Guangdong have begun to express certain needs for better media services. Older people hope to learn some basic operations of intelligent media so that they can manage daily life independently, such as using the online government service centre, registering for online medical services and paying bills online, etc. At the same time, older adults also wish to expand their social circles via digital media, obtain all kinds of information and entertainment, and enrich their spiritual and cultural lives. With the various kinds of online content produced by artificial intelligence, older people need to strengthen their ability to distinguish between reliable and unreliable information and avoid online harm. The first is that older people want to live independently and have a good quality of life; therefore, media literacy education can help them live comfortably.

### 3.2. Different demands brought by regional differences in Guangdong

The different development conditions of urban and rural areas in Guangdong Province have led to various actual demands for the improvement of media services for older adults. Older people in cities have had more exposure to various media over the years, so their demands are becoming more varied, particularly focusing on advanced applications of AI tools, discrimination in online information, and the prevention of online fraud. The main demand of older people in rural areas is for the basic operation of intelligent devices, and thus most of their problems with media use are relatively simple, such as scanning codes and online communication. Urban older adults have relatively rich learning materials and wish to experience life in the digital age spiritually; rural older adults hope to use media to improve the efficiency of their lives. Given that the actual circumstances in urban and rural areas are different, the work of improving media capabilities cannot be carried out in a uniform manner and should consider regional differences and provide targeted guidance [3].

### 3.3. Obstacles to improvement caused by factors within the elderly population

The physical and mental condition of older people, as well as their basic cognitive abilities, are internal limitations on the development of media functions. As they get older, some elderly people experience reduced vision and hearing, poor memory, and difficulty understanding and remembering the functions of complex AI media. Some older people are afraid of intelligent technology and subjectively refuse to try new media tools because they fear accidental operation and property damage. There are also some older people

who have formed a long-term habit of acquiring information and are more trusting of traditional information channels; they lack the desire to learn about AI-related media functions. Different people have different physical conditions, psychological cognition and willingness to learn; thus, some older adults may find it difficult to improve their media skills through self-study.

### 3.4. Limitations of external environment on the improvement of media capabilities

Several real conditions of the external environment also limit the development of media skills in older people in urban and rural areas of Guangdong. In some rural areas, there is a shortage of digital equipment and no regular classes in digital literacy for older people. AI media learning resources for older people are relatively scarce, and most of the online tutorials are for young people; their content presentation and frequency of use do not meet the needs of older people. Younger generations in the family are busy with their daily lives and do not have much time for patient media teaching for older people at home. Most of the publicisation activities of media science for older adults at the social level are brief lectures and do not offer extended or continuous learning support. In light of the above reasons, strengthening the media literacy of older people has become increasingly necessary.

## 4. The role of community mutual assistance mechanisms in the improvement of media capabilities of the elderly population

### 4.1. Connotation and characteristics of community mutual assistance mechanisms for the elderly

Community mutual assistance for older adults is based on the community and builds a model of mutual assistance with the internal human resources of the community. They can fully mobilise the internal human resources of the community, strengthen the mutual support relationship among older people, and also connect older persons with community volunteers. The basis of this mode is the familiar social environment of the community, and assistance is provided according to the actual conditions of familiarity and trust among neighbours. It is not a brief, centralised training session organised by an outside company. Community mutual assistance is close to the people's lives, has a low barrier to entry and is always available. By placing assistance scenarios in the daily lives of older people, we can continuously address the problem of fragmented media use for older persons and provide a regular platform for media learning for this group.

### 4.2. The incentive effect of the community mutual assistance mechanism on the elderly group

The community mutual-assistance mechanism can give older people in the group some positive psychological motivation to learn about new media without feeling anxious about learning intelligent media. In the relaxed environment of neighbourhood mutual assistance, older people do not have to face a strange teaching environment and are thus relieved of psychological pressure. When peers learn about the media together, the feeling of inferiority caused by the slower learning speed of older people will also be reduced. Mutual encouragement among peers can continuously motivate the will to learn for all students. In a good-neighbourly environment, if older people are confused about how to use AI intelligent media, they can ask their neighbours for help at any time to quickly resolve learning difficulties, gain some experience, and thus develop a positive attitude towards continuous learning and application of this new technology.

### 4.3. The way community mutual assistance mechanism promotes resource sharing

A community mutual-aid system can mobilise the dispersed human resources and learning materials of the community for the elderly group, achieve resource interconnection and sharing, etc. Elderly people with good skills in intelligent media operation and community youth volunteers can work together to pass on their knowledge of media use to older adults who find it difficult to learn. A mutual-aid model will address the shortage of teaching materials in single-teacher classes and share teaching resources among all teachers and students in the school. At the same time, through mutual assistance and communication, older people can share all kinds of problems and solutions that they have encountered in their daily lives with AI media, create a practical experience database customised for the local conditions of older persons living alone, and then spread and reuse this database within the community.

### 4.4. The sustainability of the community mutual assistance mechanism in the improvement process

Compared with short-term special lectures, the community mutual-assistance model can be based on the existing organisation of the community and neighbourhood relations and is more practical. Most of the training activities organised by outside organisations are one-off events, and the support ceases immediately after these activities are over. Although the mutual assistance is based on daily life in the community, the leaders of mutual assistance and elderly learners live in the same community and can respond to problems in media operation faced by older people at any time. As long as the enthusiasm for mutual assistance participation in the community is maintained, fragmented media assistance can be continuously provided, adapting to the scattered learning rhythm of the elderly, and long-term follow-up can be made on the growth of the media skills of the elderly group, thus offering a sustainable path for improving the media literacy of the elderly group in the AI era.

## 5. Strategies for community mutual assistance to promote the improvement of media skills of rural and urban elderly groups under AI intervention

### 5.1. Optimizing the community mutual assistance model based on AI technology

Introduce artificial intelligence to improve and expand the old model of community mutual aid, integrate intelligent tools with neighbourhood mutual-aid services, etc. Use convenient AI voice-assisted tools to reduce the operating threshold for older people, and based on the key application points of AI media tools, develop teaching materials for mutual-assistance leaders. AI voice-to-text can be used to create short, simple teaching videos and basic learning materials in line with the habits of older people, and then spread them in community mutual-help groups. Use the community intelligent terminal to collect common problems in mutual assistance, help solve frequent confusion about the application of AI media, and assist the leaders of mutual assistance in identifying important teaching points. AI tools should be employed as auxiliary instruments; the principle of neighborhood mutual assistance should not be ignored, and by reducing the teaching burden on the leader of mutual assistance, the form of implementation can be improved [4].

### 5.2. Building a community mutual assistance system with multiple participants

Build a community mutual-assistance system with many participants and integrate the efforts of low-aged elderly leaders in the community, community staff, youth volunteers and local social organisations. Clarify

the division of labour among the different parties in the mutual assistance system, use the advantage of younger seniors' familiarity with the psychological characteristics of older adults, and provide one-on-one practical assistance every day. The community staff should take the lead in general organisation and coordination and plan the operation arrangements of the mutual-aid groups. Young volunteers and social organizations can organise special sharing sessions regularly to add new subjects, such as the risks of AI media, etc. Fully mobilize all forces to avoid placing too much reliance on the mutual assistance work of a few people, and form a complementary and collaborative mutual assistance pattern that is in line with the actual conditions of urban and rural communities in Guangdong.

### 5.3. Conduct targeted training activities through community mutual assistance

Build a network of community mutual-help groups and organise different training activities in urban and rural areas according to their specific needs. Design Learning Content Based on the Actual Needs of Urban and Rural Older Adults. Cooperation activities in urban communities focus on AI fraud detection and the advanced operation of intelligent applications; in rural communities, the main content of basic media operation teaching is code scanning and online communication. Stop uniform teaching content and create practical cases based on the real AI media problems faced by older people in their daily lives. Organise some hands-on practice activities at the same time. The goal of training is not to spread a large amount of knowledge at once. According to the rhythm of memory for older adults, address the actual problems in media use faced by older adults in a fragmented, multi-session manner. Mutual-assistance groups can also gather new problems that older people have encountered after the training, add these common problems to the course materials for the next round, and thus reduce the cognitive gap in learning AI media for older people in urban and rural areas. Continuously update the training content in line with the actual life situations and needs of older people in the community to enhance the practical effect of the mutual-assistance training.

### 5.4. Improve the guarantee measures of the community mutual assistance mechanism

Strengthen the foundation for good governance to promote the continuous development of the community mutual-assistance system. The community will provide a fixed place and some basic materials for the activity, such as a simple projector, and mutual tutoring can still be held normally. Organise an honouring ceremony or another modest material award for the leaders of the mutual-assistance communities to motivate more people to take the initiative and participate. Promote the sharing of experiences between urban and rural communities and transmit good models of mutual assistance from cities to the countryside. At the same time, monitor the results of mutual assistance activities, adjust the content of mutual assistance according to feedback from the elderly's learning, and prevent mutual assistance practice from becoming a mere formality. Enable continuous mutual assistance among the community to strengthen the media functions of urban and rural elderly groups. At the same time, cooperate with the street-level cultural and tourism departments to provide policy-level support and guidance, open up resource transfer channels, alleviate the resource shortage in rural communities, build multi-level support for the smooth operation of the community mutual assistance model, and thus consolidate the practical results of improving the media literacy of the elderly group [5].

## 6. Conclusion

In short, with the development of AI technology, enhancing the media literacy of older adults in urban and

rural areas of Guangdong Province and improving the system of community mutual aid are both necessary and sufficient. Based on our study of the relationship and functions of the two, we have identified some existing problems and deficiencies. In the future, more resources will be added to promote the effective operation of the community mutual-assistance mechanism innovatively, help the elderly population bridge the digital divide, achieve integration and development in the digital era, and drive the overall progress of urban and rural communities in Guangdong.


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## Disclosure statement

The author declares no conflict of interest.

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