

Research on Silver Age Language from the Perspective of “Actively Responding to Population Aging” Strategy: Approach and Prospect

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Abstract

Proactively advancing gerontological linguistics research constitutes a vital component of China's population aging strategy and serves as a strategic initiative to empower the silver economy. This paper examines the developmental trajectory of gerontological linguistics in China, analyzing advancements in research subjects, perspectives, methodologies, and academic communities. The analysis reveals that domestic studies have achieved notable progress in foundational research, providing academic support for elderly care initiatives. However, given the relatively late start of gerontological linguistics in China, challenges persist in research scope, depth, relevance, methodology, and team development. With accelerating aging trends and emerging linguistic diversity demands among seniors, gerontological linguistics demonstrates immense potential and promising prospects. Future efforts should focus on deepening systematic research, emphasizing empirical exploration, addressing new linguistic challenges in the digital age, meeting diverse linguistic needs, and strengthening research teams. These initiatives will further advance the field, unleash its innovative productivity, and maximize its role as a linguistic catalyst in achieving national aging strategies, ultimately contributing to the creation of an age-friendly society.

Keywords: gerontological linguistics, aging, elderly language, progress, direction

1. Introduction

Population aging has become a critical global challenge confronting both present and future generations. Western Europe was the first region to enter an aging society, while China officially recognized its aging society in 2019. That same year, the Central Committee of the Communist Party of China and the State Council issued the “National Medium-and Long-Term Plan for Proactively Addressing Population Aging,” elevating this issue to a national strategic

priority. Subsequent policy documents and major decisions followed in rapid succession. The 20th National Congress of the Communist Party of China emphasized implementing this national strategy, with the Third Plenary Session of the 20th Central Committee mentioning elderly care, aging population, and senior citizens 18 times. Notably, China's first policy document specifically addressing elderly care services was issued in 2025 under the joint name of the CPC Central Committee and the State

Council. These developments underscore the nation's unwavering commitment to tackling aging challenges.

The emergence of new social issues arising from language use in an aging society has gradually drawn academic attention to elderly language, leading to the birth of gerontolinguistics. In 1978, German scholar Lutjen first used the term "gerontolinguistics" (gerontolinguistics), defining it as "the study of language behavior in older adults." In 1979, Cohen proposed "geropsycholinguistics," indicating that early gerontolinguistics evolved from psychological research paradigms. Following the introduction of this concept, research on elderly language behavior rapidly advanced. In 1997, Makoni expanded the scope of gerontolinguistics by using the term "gerontolinguistics" to describe sociolinguistic studies of communication between the elderly and caregivers. Compared to international developments, China's related research started later. Luo Qian and Peng Danling's 2001 study on dementia-related language disorders stands as one of the earliest representative works in Chinese linguistics addressing elderly language barriers. Subsequently, domestic research on elderly language emerged in succession. In 2019, Gu Yueguo first defined gerontolinguistics as "the study of language issues in older adults." Huang Lige (2022) summarized the disciplinary knowledge system of gerontolinguistics as "one body with two wings."

This paper attempts to address the following questions: First, what is the research focus of gerontological linguistics? Second, what are the key perspectives in gerontological linguistics? Third, what are the primary research methodologies in this field? Fourth, what defines the research community in gerontological linguistics? The article reviews the development progress of gerontological linguistics both domestically and internationally, analyzes the achievements and existing challenges in China's gerontological linguistics research, and outlines future research directions.

2. Subjects

The research objects of geriatric linguistics at home and abroad are extensive, mainly including the language ability of healthy elderly and the language ability of special elderly with diseases.

2.1 Research on the Language Ability of Special

Elderly People Based on Illness

Elderly individuals with cardiovascular and neurological disorders often experience pathological language impairment, including speech difficulties. Kempler's (1984) study revealed that Alzheimer's patients predominantly use pronouns and semantically vague terms, with minimal grammatical errors occurring when errors do happen, typically related to intended meanings. Abdalla et al. (2018) demonstrated significant differences in rhetorical structures between Alzheimer's patients and healthy older adults across oral transcription and written discourse. Huang Lige et al. (2019) noted that clinical screening tools and language assessment instruments for Alzheimer's patients lack sufficient coverage of phonetic, syntactic, and pragmatic aspects, indicating inadequate evaluation of linguistic markers. Liu Jianpeng (2019) identified excessive use of functional words as a hallmark of non-noun resource attrition in Alzheimer's patients. Liu Hongyan (2014) analyzed natural speech data comparing two dementia patients with two healthy elderly individuals, revealing that Alzheimer's patients exhibited errors in word selection and fabricated expressions, phenomena absent in healthy controls.

2.2 Language Ability Research Based on Healthy Elderly People

As people age, healthy older adults experience varying degrees of physiological decline in language abilities. Researchers have conducted studies on language deterioration in this population. Linville (2001) investigated the relationship between age-related changes and speech patterns in healthy seniors. Wu Zhenyun et al. (1985) found through testing that total verbal scores significantly decreased after age 80. Liu Chuqun (2016a) surveyed 75 retirees from Jiangxi Normal University, discovering a positive correlation between frequent occurrences of non-fluent speech and the degree of aging. Li Yufeng (2018) analyzed 491 elderly individuals in Jilin Province, revealing that most experienced a decline in verbal expression quantity with advancing age.

In summary, both domestic and international research encompasses studies on healthy elderly populations as well as those with specific health conditions. Current investigations on special elderly groups primarily focus on seniors with neurodegenerative diseases such as Alzheimer's

disease. However, the selection of survey samples remains insufficiently comprehensive and diverse. Significant variations exist in regional locations, educational backgrounds, occupations, and life experiences among different elderly groups, which also affect their language capabilities. Currently, literature sampling predominantly involves elderly populations from first-tier developed cities, while those from central and western¹ regions receive relatively less attention. Occupational perspectives show more emphasis on teachers than on veteran soldiers, farmers, workers, or businesspeople. Regarding living environments, there is limited focus on elderly residents in high-density care facilities. As of the end of 2023, China had 404,000 elderly care institutions with 8.23 million beds. These highly concentrated care facilities, characterized by complex demographics, closed environments, and strict regulations, demonstrate a pressing need for standardized language services. It is evident that domestic elderly language research faces challenges including uneven sample distribution, incomplete coverage of elderly populations, and insufficient representativeness.

3. Research Perspective

The research perspectives of geriatric linguistics at home and abroad have been involved from the description and induction of phenomena to the interpretation of internal mechanisms, and then to the application transformation of geriatric language services.

3.1 External Representation Descriptive Research Perspective

3.1.1 Descriptive Study Based on Language and Language Life of Healthy Elderly People

Researchers employ descriptive research perspectives to objectively document and systematically analyze the linguistic characteristics of healthy elderly individuals in phonetics, vocabulary, syntax, semantics, and pragmatic communication. Nicholas et al. (1985) experimentally demonstrated that reduced performance in naming tests primarily stems from lexical retrieval difficulties. Federmeier et al. (2005) revealed diminished ability among older adults to rapidly utilize contextual information in restrictive sentences. Liu Chuqun's studies (2016b, 2020) on discourse deficits and filler speech phenomena in healthy

seniors showed a clear correlation with age-related decline — these linguistic patterns become more frequent with advancing years. Yang Jingjing et al. (2022) further highlighted cognitive aging and its distinctive manifestations in metaphorical reasoning abilities among elderly populations.

3.1.2 Descriptive Study Based on the Language and Language Life of Elderly People with Special Diseases

Conducting descriptive studies on elderly patients with specific conditions helps analyze pathological cognitive language aging and facilitates the development of assessment systems and language interventions based on linguistic biomarkers. Hoffmann et al. (2010) conducted empirical research on phonological features in speech of older adults with cognitive impairment. Paulino et al. (2018) compared discourse rhetorical structures between seven Alzheimer's disease patients and six healthy elderly individuals, finding that elderly patients exhibited lower density of rhetorical relationships compared to healthy seniors. Alladi et al. (2013) surveyed 648 elderly individuals and discovered that monolingual dementia onset occurred 4.5 years earlier than in bilinguals, while illiterate monolinguals showed a 6-year earlier onset than their illiterate bilingual counterparts.

3.2 Explanatory Research Perspective of Internal Influence Mechanism

3.2.1 Interpretative Study on the Internal Influence Mechanism of Language in Healthy Elderly

Researchers have explored the cognitive and psychological mechanisms underlying speech deterioration in healthy older adults from the perspective of internal mechanisms. Shafto et al. (2014) identified age-related physiological decline and brain tissue degeneration as primary contributors to speech aging in healthy individuals, which impair language processing efficiency. Burke et al. (1991) proposed the "interactive activation model" to explain tongue-tip phenomena. Wu Hanlin et al. (2020) conducted comparative measurements of linguistic indicators between younger and elderly groups, revealing that speech aging results from both specific and non-specific factors, with non-specific factors playing a more significant role. Mao Xiaofei et al. (2019) systematically analyzed the pathogenesis of

¹ See: 2023 National Aging Development Bulletin.

tongue-tip aging.

3.2.2 Interpretative Study on the Internal Influence Mechanism of Language Based on Disease-Specific Elderly

Researchers analyze the cognitive, pathological, and psychological mechanisms underlying speech disorders in elderly patients, particularly those exhibiting age-specific communication difficulties. Cuerva et al. (2001) demonstrated a correlation between theory of mind deficits and pragmatic competence in Alzheimer's disease patients. Teipel et al. (2014) identified brain region damage affecting verbal working memory in Alzheimer's patients. Huang Lige et al. (2021) developed a multimodal research framework using speech acts as units, revealing compensatory speech strategies and multimodal resource utilization among Alzheimer's elderly individuals.

3.3 *Language Application and Transformation Perspective for the Elderly*

From the perspective of language application and transformation for the elderly, the researchers explored bilingual, medical care and nursing language services, and intelligent language services.

3.3.1 Bilingual Service Research

With advancing age, the overall cognitive abilities of elderly individuals tend to decline. Researchers have explored bilingualism and bilingual services as potential strategies to slow this cognitive decline. Valis et al. (2019) found through testing that regular foreign language training can maintain cognitive functions in healthy older adults. Nichols et al. (2020) conducted comparative tests showing bilingual users outperformed monolingual counterparts in one test but showed no significant difference in 11 others. Papageorgiou et al. (2019) evaluated language abilities between monolingual and bilingual seniors, finding nearly identical performance across groups. He Wenguang and Chen Baoguo (2011) noted that while bilingualism delays cognitive deterioration in older adults, it may also cause speech impairments like vocabulary deficits, delayed word naming, and difficulty recognizing speech. Most studies indicate that bilingual experience partially protects cognitive and language abilities in certain elderly populations, delaying disease onset. Bialystok et al. (2007) analyzed 184 dementia patients, finding monolingual individuals developed symptoms 4.1 years

earlier than bilingual counterparts, suggesting bilingualism might delay Alzheimer's disease onset. However, some researchers dispute this conclusion. Clare et al. (2016) used retrospective analysis comparing monolingual and bilingual Alzheimer's patients, revealing minimal differences in disease onset timing. These findings highlight ongoing academic debates regarding whether bilingualism can effectively preserve language capabilities in older adults.

3.3.2 Medical Care Language Service Research

Research on language services during medical care and nursing is a crucial field in the integration of linguistic and medical disciplines, contributing to elderly language welfare and enhancing their health and well-being. Corwin (2018) advocated for enhanced communication training for medical staff to improve verbal interaction environments between healthcare providers and seniors. Creene et al. (1986) found that while doctors focus on physical health issues, elderly patients prioritize psychological concerns. Jiang Yubo et al. (2020) noted that domestic studies on doctor-patient communication conflicts predominantly focus on macro-level research, with few micro-level pragmatic analyses. Wang Ling (2024), through hospital-based interviews and observations, identified communication barriers among healthy seniors during medical visits, attributing these to weak language encoding skills, limited numerical abilities, and insufficient awareness of social language services. She proposed countermeasures from individual, institutional, governmental, and national policy perspectives. Hou Saining et al. (2024) surveyed 464 elderly individuals using a nursing communication evaluation scale and needs questionnaire, revealing emotional perception as the top priority followed by language skills. The study emphasized that effective communication between caregivers and senior patients requires comprehensive consideration of multiple factors including age.

3.3.3 Research on Multilingual Services for the Elderly

With the continuous increase in the aging population, the diversified language needs of the elderly have emerged, attracting attention from the academic community. Chen et al. (2016) confirmed the role of communication technology in enhancing elderly language use and social interaction, thereby increasing

cognitive activities among older adults. Zhuo Xiang et al. (2022) proposed constructing a Chinese-heritage-based elderly language system. Shen Qi and Gu Junyi (2023) analyzed four issues in digital elderly language, including language competence decline, and proposed three solutions: resource integration, service orientation, and information support. Chen Lianwen and Wu Xiaofen (2022) found that rural elderly have weaker language capabilities and underdeveloped emergency language services. Huang Lige et al. (2021) conducted multimodal analysis of elderly product advertising discourse, revealing patterns of identity construction among the elderly and uncovering rhetorical pathways.

In general, domestic and international descriptive research on language aging predominantly adopts an internal linguistic perspective to analyze linguistic deterioration phenomena in older adults. Regarding mechanism interpretation, interdisciplinary approaches involving psychology, neuroscience, medicine, and biology are employed to explain age-related speech disorders. While foreign studies extensively examine phonological, lexical, syntactic, and semantic aspects of elderly language, China's descriptive research in this field remains less systematic compared to international standards. From an applied translational perspective, both domestic and global studies have explored bilingual services, medical-care language support, and diversified elderly language services, establishing a preliminary closed-loop mechanism integrating descriptive research, explanatory studies, and practical applications. However, Chinese research on language services still lacks systematic and comprehensive frameworks. Most studies are conducted individually rather than through organized professional teams, resulting in relatively fragmented research content. Furthermore, insufficient attention has been paid to language services for hearing-impaired elderly populations.

4. Methodology

Geriatric linguistics involves a wide range of disciplines, covers a large number of contents, research dimensions are extensive, and the corresponding research methods are relatively many.

4.1 Ethnographic Approach

Ethnographic methodology, a form of qualitative

fieldwork, combines insider perspectives to document elderly participants' experiences with external analytical approaches to examine language challenges. Guendouzi et al. (2006) conducted ethnographic studies on conversations between two dementia patients. Hymes (1972) proposed analyzing speech events through eight dimensions: context, participants, outcomes, behavioral sequences, tone, mannerisms, conventions, and genre. Divita (2014) documented multilingual competence among three immigrant women. Wu Guoliang et al. (2014) highlighted the method's value in studying language patterns among older adults and communication barriers faced by patients. Fan Juanjuan (2021) conducted a linguistic survey of Beijing's migrant elderly, revealing significant improvements in language proficiency and increased Mandarin usage since their relocation to the capital.

4.2 Case Analysis

Case analysis methodology can be applied to study an elderly individual or a group of older adults. Depending on the temporal dimension, it can be categorized as synchronic or diachronic case analysis. Muller et al. (2008) analyzed dialogue data between a cognitive-impaired senior and a young adult, revealing errors in tense usage and pronoun application among the cognitive-impaired senior. Hamilton (1994) conducted a four-and-a-half-year longitudinal study documenting the progression of language abilities in an Alzheimer's patient. The findings showed that while the elderly individual could articulate their wishes and needs in 1981, they had lost the ability to initiate communication by 1986. Jones (2015) analyzed 70 telephone conversations over two and a half years with an Alzheimer's patient and their family members, demonstrating that communication barriers primarily stemmed from mismatched question-response patterns with the patient's episodic memory. Liu Luqi et al. (2013) compared 10 monolingual and 10 bilingual seniors, revealing significantly poorer numerical memory span among monolingual participants. He Lin and Wang Zhaoyu (2024) interviewed 34 elderly individuals to explore their verbal communication patterns and emotional support needs.

4.3 Controlled Experiment Method

The controlled experiment method typically involves establishing a reference group. After

controlling specific contextual variables, researchers collect data according to predefined parameters, then conduct corpus transcription, analysis, and pattern extraction. Rathel et al. (2004) demonstrated through controlled experiments that while aging doesn't impair older adults' ability to recognize emotional intonation, it negatively impacts their capacity to discern linguistic modulations. Qiu Yixuan and Wang Jingyi's (2014) study revealed that elderly individuals discuss more topics with strangers than with familiar people, reflecting how communication needs and interaction preferences influence their verbal expression.

4.4 Corpus Approach

Corpus studies provide researchers with crucial data foundations for investigating linguistic phenomena and language abilities in older adults. The development of corpus-based research in this field started earlier abroad, with notable examples including the Carolina Conversations Collection (CCC) and DemantiaBank. Pennebaker et al. (2003) discovered through corpus analysis that elderly individuals increasingly use words expressing positive emotions compared to those conveying negative sentiments. Horton et al. (2010) employed corpus studies revealing that aging directly impacts speech rate, pauses, and simple vocabulary frequency. Liu Hongyan (2014) utilized a self-built corpus to compare natural speech patterns between healthy seniors and those with specific chronic conditions, identifying specific categories where elderly patients face particular difficulties in word selection.

In general, ethnographic methods and case study approaches provide a vivid reflection of the impromptu speech patterns of elderly interviewees in real-life contexts, facilitating exploration of their pragmatic competence while highlighting individual differences. However, these methods focus on individual case studies, and due to resource limitations, extending the investigation to broader elderly populations remains challenging, making it difficult to establish universal patterns. Controlled experimental methods offer relatively precise measurements with high efficiency and labor savings, but they exhibit discrepancies with actual elderly language use in daily life. While test results can distinguish between groups, they fail to differentiate specific individual variations. Corpus methods excel in quantitative

description. Internationally, researchers have adopted synchronic analysis combined with diachronic analysis, conducting longitudinal comparisons to examine linguistic states, changes, and underlying mechanisms across one or multiple dimensions. Currently, China lacks long-term longitudinal tracking studies at the diachronic level.

5. Research Teams

A well-trained research team forms the cornerstone for sustainable academic development. Internationally, universities and research institutions with mature gerontological linguistics programs have established dedicated centers, attracting numerous scholars and producing substantial research outcomes that are widely applied in practice. While influential domestic institutions like Tongji University's Center for Geriatric Linguistics and Care Research exist, such specialized organizations remain relatively scarce. Huang Lige (2022) observed that, beyond a few dedicated researchers, China's linguistic community has shown limited interest in elderly language studies. He further noted that Chinese scholars have long neglected the evolving linguistic capabilities of older adults, resulting in inadequate contributions to constructing comprehensive language frameworks across individuals' entire life cycles. Liu Chuqun (2021) emphasized that current linguistic research shows insufficient attention to gerontological language issues, with few domestic scholars exploring this field. Compared to international counterparts, China's research infrastructure in gerontological linguistics remains underdeveloped: specialized institutions are scarce, universities rarely offer dedicated courses, talent development systems lack robustness, and research teams demonstrate insufficient sustainability. These gaps persist despite China's massive elderly population requiring substantial linguistic support.

In summary, China's linguistic research on the elderly has achieved certain results. However, due to its relatively late start, it remains in its initial stage with shortcomings in elderly linguistics. In terms of research scope, studies primarily focus on language disorders among Alzheimer's patients, while those addressing other neurological conditions are scarce. The sample diversity is limited, particularly regarding elderly individuals in nursing homes, those with low educational backgrounds, and

ethnic minority groups. Regarding depth, compared to the long-standing international practice of elderly linguistics, domestic research largely adopts foreign frameworks, emphasizing superficial descriptions of linguistic phenomena and partial pattern summaries, with an underdeveloped localized research system. Theoretical studies dominate while empirical research remains insufficient. Research lacks granularity, with inadequate exploration of language recovery potential and comprehensive analysis of dialectal influences on elderly language abilities. From a humanistic perspective, elderly language as a crucial phase in life development receives significantly less attention than child language acquisition. Despite China's large elderly population, specialized surveys on elderly language usage remain limited, hindering comprehensive understanding of overall linguistic conditions. In the rapidly developing digital age, applications of age-friendly intelligent language technologies for seniors remain underutilized. Research on emergency language services for the elderly during public crises also falls short. Additionally, studies enhancing the value of elderly language resources—such as oral histories and dialect preservation—are still insufficient. In terms of research methodologies, the current approaches lack diversity, with insufficient longitudinal studies on elderly language development that hinder effective exploration of dynamic change mechanisms. Standardized assessment tools for Chinese-native languages, early screening systems for language disorders, and personalized intervention technologies remain underdeveloped. Regarding research capacity, regional disparities exist with most academic resources concentrated in first-tier cities, while central and western regions face limited fieldwork coverage due to weak research infrastructure. The talent cultivation system remains incomplete, as specialized courses in elderly linguistics are scarce in universities. Moreover, interdisciplinary research teams and applied professionals are scarce, with the development of multidisciplinary collaborative groups lagging significantly behind.

6. Future Outlook

China has a large elderly population with a rapidly aging trend. By the end of 2024, the

number of people ¹aged 60 and above in China reached ²310 million. It is projected that by around 2035, this figure will exceed 400 million. Gerontological linguistics emerged to serve major national strategies and address significant social needs. In its future development, it must consistently align with these two focal points, focus on academic frontiers, research and resolve distinctive gerontological language issues in China, adopt multiple measures to advance theoretical and practical innovations, and effectively implement this vital undertaking concerning public welfare. Continuous efforts can be made in the following five aspects.

6.1 Deepen System Research

Given the current imbalances in geriatric linguistics research and insufficient breadth of studies, it is crucial to strengthen the integration of artificial intelligence with linguistic disciplines. Research should be conducted from regional, demographic, and purpose-specific perspectives to enhance data collection, computational efficiency, and analytical capabilities while expanding the scope of geriatric linguistics. From an ontological standpoint, breakthroughs in both theoretical frameworks and practical applications are required. This includes in-depth exploration of linguistic degeneration patterns among native Chinese-speaking elderly individuals, investigating commonalities and differences between Chinese as a logographic and phonetic writing system in relation to age-related language and cognitive decline. Quantitative analysis should be conducted to refine changes in elderly Chinese speakers' speech rate, phonetics, vocabulary, grammar, and pragmatic patterns. Research on rhetorical structure analysis of oral and written language among cognitive-impaired seniors is essential. Considering China's multi-ethnic and multilingual reality, targeted studies should examine the surface-level manifestations and underlying mechanisms of basic language ability decline among elderly individuals using Tibetan, Manchu, Mandarin dialects, and Wu dialects, along with corresponding high-sensitivity linguistic biomarkers. From a

¹ See: https://www.mca.gov.cn/n1288/n1290/n1316/c166200499_9980003505/content.html

² See: <https://baijiahao.baidu.com/s?id=1744455971322229367&wfr=spider&for=pc>

demographic perspective, enhanced research on hearing-impaired seniors is necessary, alongside the development of affordable and user-friendly hearing aids. Institutional elderly care facilities should be utilized as research samples for studying linguistic practices and lifestyles. Special attention should also be given to linguistic research targeting low-education populations, ethnic minority groups, and seniors in central and western regions. It is necessary to conduct research on the characteristics of

language ability deterioration in elderly patients with neurodegenerative diseases other than Alzheimer's disease, its correlation with cognitive function, and underlying mechanisms. For example, language disorder studies should be conducted in patients with Huntington's disease and progressive supranuclear palsy to explore more practical early screening and language assessment indicator systems.

6.2 Focus on Empirical Research

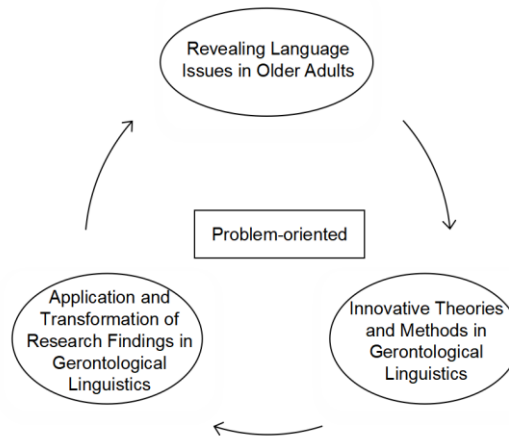


Figure 1.

The phenomenon of language decline in the elderly is characterized by complexity and multidimensionality. Its aging mechanisms involve multiple contributing factors and interdisciplinary connections, necessitating empirical research grounded in data-driven evidence. In such studies, a problem-oriented approach should be adopted to address real-world challenges across domains: understanding the relationship between cognitive aging and linguistic decline in older adults, exploring compensatory mechanisms for language disorders, identifying language biomarkers associated with cognitive impairment, implementing language interventions, addressing emerging linguistic issues in the digital age, and meeting diverse multilingual needs. This methodology forms a problem-driven research paradigm (see figure). For instance, early detection of neurodegenerative disorders like behavioral cognitive impairment through language biomarkers, developing preventive measures to delay language deterioration, and tackling technical challenges in precision diagnosis and rehabilitation training. Continuous efforts

should focus on building multimodal corpora to compare language skill evolution between healthy seniors and those with cognitive impairments. By synthesizing psychological, neurological, and cognitive theories to analyze underlying mechanisms, researchers can better leverage AI technologies for real-time language monitoring, intervention programs, and rehabilitation solutions. Conduct long-term tracking surveys with representative elderly populations using artificial intelligence technology. Develop wearable portable devices to collect multidimensional daily speech interaction data across disciplines and domains, establishing a diachronic corpus to extract long-term dynamic natural speech information from seniors. Conduct in-depth research on the explanatory mechanisms of language aging in older adults. Utilize linguistic features to develop predictive intervention systems for neurodegenerative diseases, cognitive training programs, and rehabilitation diagnostic tools tailored for elderly users. Create language therapy archives and educational logs as service databases, dynamically adjusting language support services. Through linguistic research

and practical applications targeting elderly populations, we aim to address real-world language challenges, enabling seniors to enjoy fulfilling later years while better supporting China's national strategy of aging population development.

6.3 Research and Solve New Language Problems of the Elderly in the Era of Digital Intelligence

The digital wave is reshaping lifestyles, yet seniors remain a vulnerable group in digital language ecosystems. Geriatric linguistics must develop optimized tools for “digital + elderly care”, “digital + healthcare”, “digital + education”, and “digital + tourism” services. Creating affordable, user-friendly smart devices will unlock the potential of senior language services and boost the silver economy. Priority should be given to improving accessibility in public spaces like hospitals and government offices where seniors frequently visit, ensuring clear signage and easy navigation. Establishing standardized operational guidelines and manuals for nursing homes will enhance caregivers' linguistic skills, creating a “standardized + personalized + diversified” service framework that strengthens seniors' sense of belonging and emotional well-being in communal living environments. Research should focus on smart voice-enabled products like senior-friendly wristbands, voice-guided walking aids, and multifunctional voice-controlled bathing chairs. Developing humanoid robots for companionship could provide emotional support. Optimizing eye-tracking input systems allows seniors to complete tasks through natural gaze movements, enhancing convenience. AI-powered language assessment and rehabilitation training require further development. Advancing “digital avatar” technologies helps seniors identify scams and mitigate risks. Continuously upgrading “digital+” language service scenarios will unlock the latent productivity of elderly language skills, driving growth in the silver economy.

6.4 The Research Meets the New Needs of Language Diversity Among the Elderly

The vitality of elderly linguistics lies in the application and transformation of its research achievements. It requires enhanced integration of industry, academia, and research to continuously explore diverse new demands in elderly language use. Given the current lack of

specialized studies on elderly language usage, targeted surveys should be conducted to obtain primary data, providing a basis for formulating language policies for seniors. The unpredictability of emergencies necessitates strengthened research on emergency language service systems and response measures for the elderly during public incidents. Considering China's massive population of home-based elderly care recipients, it is crucial to study how intergenerational communication converses affect linguistic aging. This involves documenting conversation content, establishing corpora, and developing communication techniques and guidelines to mitigate language deterioration through intergenerational interaction. Addressing the incomplete standardization of Mandarin among seniors, research should optimize communication tools, develop age-friendly voice recognition software, and provide dialect alternatives in mobile apps for elderly information technology needs. To tackle language decline, cost-effective rehabilitation kits should be redesigned. For insufficient recreational options, efforts should focus on enhancing accessible language products for seniors' daily lives—developing user-friendly home voice assistants, reading aids with enhanced hearing support, and “caring edition” interfaces featuring voice-over, large fonts, and video content in publications—to enrich their later years.

6.5 Strengthen Research and Application Team

Given the current shortage of applied talents in geriatric linguistics research that fails to meet China's demographic aging demands, it is imperative to strengthen professional talent cultivation, break disciplinary barriers, introduce geriatric linguistics courses in universities, establish interdisciplinary master's and doctoral programs in geriatric linguistics, vigorously cultivate research talents in language and health as well as applied speech therapists, and address talent gaps in the fields of speech pathology and geriatric linguistics. Universities with existing language research institutes should leverage their strengths by establishing specialized geriatric linguistics research task forces, fostering external collaboration and internal coordination, creating geriatric linguistics research bases, and pooling interdisciplinary talents to address practical challenges in geriatric linguistics while advancing related studies. It is necessary to

develop language rehabilitation training materials for on-the-job medical staff and caregivers, enhance the application and transformation of research outcomes, intensify training efforts, and ensure healthcare professionals master methods for screening elderly language cognitive abilities, conducting geriatric language training, and delaying language aging. Participation in global research governance is crucial to transcend geographical boundaries, benchmark against cutting-edge geriatric linguistics research, strengthen international academic collaborations, deepen studies on the unique role of Chinese characters and dialects in cognitive language aging compared to English, contribute original theories, scientific breakthroughs, and technological innovations in Chinese geriatric linguistics to the world, demonstrate China's independent knowledge system in geriatric linguistics, and offer intellectual contributions to academia in this field.

7. Concluding Remarks

As a crucial field in responding to the national strategy of aging, gerontological linguistics research has emerged to serve major national strategies, address significant social needs, and enhance elderly well-being, and will therefore thrive. This paper reviews the progress of gerontological linguistics from aspects such as research subjects, perspectives, methodologies, and research teams, explores existing shortcomings, discusses future approaches, and provides references for in-depth domestic research in this field. Looking ahead, with the continuous intensification of aging, the demand for gerontological language studies will grow more vigorous, the issues in gerontological language research will become more diverse, and the importance of gerontological linguistics research will be increasingly prominent. The prospects for gerontological linguistics research are vast, the tasks are arduous, and there is much potential. It requires adherence to principles while innovating, problem-driven approaches, and sustained efforts in deepening systematic research, emphasizing empirical studies, addressing new challenges in gerontological language in the digital age, meeting diverse emerging demands in elderly language studies, and strengthening research teams. By endowing gerontological linguistics research with Chinese local characteristics, we aim to provide more considerate language

services for the elderly, achieve "language for the elderly, protection for speech," and fully leverage the pioneering role of gerontological linguistics in supporting the realization of national aging strategies.

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