

Measuring Active Ageing: A Scoping Review and the Applicability to the Situation in China

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Background and Purpose: Ageing has become one of the major global public issues and active ageing has become a global goal. Accurate and reproducible assessment tools are a prerequisite for robust and reliable measurement of active ageing and policy formulation. However, a broad scoping review describing the characteristics and heterogeneity of assessment tools for active ageing is lacking. This study aims to comprehensively portray current active ageing assessment tools and their features.

Methods: We conducted a scoping review, focusing on the Active Ageing Assessment Tool, and searched seven databases: CNKI, WanFang, PubMed, Embase, Web of Science Core Collection, Medline, and Proquest. The research process adhered to the methodological framework of Arkey and O'Malley and the PRISMA-ScR specification. More so, we registered the research program with the Open Science Framework.

Results: Ultimately, we included twenty-two pieces of literature. The development of the active ageing assessment tool predominantly occurred between 2012 and 2023, with a focus on foreign countries (16 studies). All included literature presented multidimensional Active ageing assessment tools. Eighteen studies examined active ageing assessment tools at the macro level, while four studies focused on the individual level. Also, fourteen out of the twenty-two studies were based on the World Health Organization's Theoretical Framework for Active Ageing. The literature contained only two active ageing assessment tools designed for specific subgroups of older people.

Conclusion: Future development of active ageing assessment tools should integrate more comprehensive concepts and social theories of active ageing. Additionally, there is a need to explore active ageing measurement tools tailored for diverse subgroups of the older adults at various levels.

Keywords: ageing, active ageing, healthy ageing, scope review

Introduction

Advancements in medicine and public health have led to a global challenge of population ageing, marked by decreasing mortality rates and increasing life expectancy.¹ Furthermore, the world's older adults population is growing in both number and proportion across all nations, with projections estimating that by 2050, the population aged 60 years or older will soar to 2.1 billion, while those 80 years or older will triple to 426 million.² Therefore, developing regions are expected to bear the brunt, concentrating 70% of the older adults population by mid-century.³ Notably, in China, the largest developing nation globally, the proportion of individuals aged 60 years or older has surged from 13.32% in 2010 to 18.73% in 2020.⁴ China's seventh national census underscored this trend, revealing a by 5.44% increase in the population aged ≥ 60 years compared to the previous census.⁴ This rapid and extensive population ageing poses significant challenges to social development worldwide, necessitating effective strategies to alleviate the burdens of ageing and enhance the quality of life for the older adults population.

The traditional perception of ageing often frames it as an irreversible decline, while overlooking their potential for mobility and social contribution.⁵ In 2002, the World Health Organization (WHO) formally introduced the concept of active ageing, which redefines ageing as a process where the quality of life in old age is enhanced by optimizing the

health, participation, and security of older individuals as they age.⁶ The theory of active ageing advocates instead for the recognition of older people's rights and the utilization of their full potential and strengths.⁷ By transforming the growing older adults population into a valuable resource for families, communities, economies, and societies at large, active ageing empowers older individuals to achieve physical, social, and psychological well-being throughout their lives, facilitating their participation in society based on their needs, aspirations, and abilities. This not only enhances the well-being of older individuals but also reduces healthcare costs and societal burdens, thereby mitigating the challenges associated with population ageing.

Analogously, the concept of active ageing frequently serves as the theoretical underpinning for policy frameworks aimed at enhancing the well-being of older individuals. That said, assessing active ageing plays a pivotal role in shaping public health policies geared towards improving the quality of life for the older adults and tackling the challenges posed by global ageing. Recognizing the need for a tool to measure and track active ageing, the World Health Organization (WHO) has advocated for its development. One such tool is the 2012 United Nations Economic Commission for Europe (UNECE) Index of Active ageing, crafted by experts and aligned with the WHO's definition of active ageing. Comprising 22 indicators across 4 domains, the Active Ageing Index (AAI) aims to gauge the realized potential of older individuals in contributing to both the economy and society.⁸ Widely acknowledged as a policy development instrument, the AAI identifies areas necessitating enhancement to foster active and healthy ageing.⁹ Its application has extended beyond Europe, encompassing countries such as China and Thailand.^{10–12}

Although Despite the widespread utilization of the AAI, its development was grounded in the selection of indicators sourced from disparate questionnaires and secondary data, raising concerns regarding the tool's reliability and validity of the tool.¹³ Taken together, discord persists among various experts and institutions regarding a precise operational definition of active ageing and suitable assessment tools.¹⁴ While numerous measurement tools for active ageing exist, their development within diverse cultural contexts across different nations precludes the identification of a definitive gold standard, contributing to ambiguity among researchers and healthcare professionals when selecting the most suitable tool.

Han et al conducted a systematic review using the Consensus-based Standards for the Selection of Health Measurement Instruments (COSMIN) methodology to identify and assess the psychometric properties of patient-reported outcome indicators of active ageing in older adults from a quantitative perspective.¹⁵ Unlike systematic reviews, scoping reviews do not prioritize evaluating methodological quality and risk of bias of studies but rather facilitate the identification of broader literature.¹⁶ Given the absence of a universally recognized assessment tool for active ageing and the importance of an accurate and reproducible instrument for robust and reliable results. Meanwhile, there is a lack of scoping reviews of active ageing assessment tools. Therefore, we undertook a scoping review to elucidate the scope, diversity, and characteristics of evidence about assessment tools for active ageing from a qualitative perspective. We conducted a scoping review to help clarify the breadth, diversity, characteristics, and applicability of evidence related to the active ageing assessment tool to the older adult population in China. This study aims to uncover heterogeneity, identify research gaps, and furnish researchers and policymakers with a scientifically sound tool for assessing active ageing, thereby providing a theoretical foundation for the application and development of active ageing measurement tools.

Materials and Methods

Study Design

We undertook a scoping review to identify existing tools for measuring active ageing in older individuals. Scoping reviews serve to map, organize, and summarize the available literature on a given topic, aiding researchers in understanding the nature and extent of current research evidence.¹⁷ Adhering to the reporting specifications outlined in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) in Supplementary File ([Table S1](#)), this study aimed to enhance the study's precision.¹⁸ Following Arksey and O'Malley's methodological framework for scoping reviews, we executed the study across five distinct phases.¹⁹ This framework proved suitable due to its broad conceptual scope, facilitating the analysis of various relevant studies and their

characteristics, as well as heterogeneity.²⁰ To promote transparency and prevent study duplication, the scoping review protocol was registered with the Open Science Framework (<https://osf.io/bm6hr>).

Identifying the Research Question

This scoping review aims to address inquiries concerning the tools and characteristics utilized in measuring active ageing among older people. Specifically, the following questions guide our investigation: 1) What tools are currently employed, both nationally and internationally, for assessing active ageing in older populations? 2) What are the defining characteristics of these existing tools? 3) How are active ageing assessment tools applied within the context of China?

Identifying Relevant Studies

We conducted searches across seven databases—CNKI, WanFang, PubMed, Embase, Web of Science Core Collection, Medline, and Proquest—spanning from January 1, 2002, to January 28, 2024, with the latest search conducted on March 11, 2024. We chose 2002 as the starting year for our search, aligning with the WHO's introduction of the active ageing definition in that year. A postgraduate nursing student, trained in literature retrieval systems, devised the comprehensive search strategy, which was subsequently refined by the research team. While employing a snowballing technique for citation tracking, we opted not to explore grey literature. In addition, Management of English and Chinese literature was facilitated through NoteExpress (V 3.7) and EndNote X9, respectively. Details of the search strategies employed across selected databases are presented in [Table 1](#).

Study Selection

Inclusion criteria comprised: 1) Older individuals aged >60 years; 2) Original literature addressing the development, validation, or localisation of active ageing assessment tools; 3) Quantitative or qualitative research; 4) Journal papers, dissertations, and books. While exclusion criteria included: 1) Duplicate entries; 2) Unavailable full text; 3) Non-Chinese and English literature; 4) Conference abstracts, editorials, letters, and official websites. Given the occasional conflation of healthy ageing with active ageing in some studies,²¹ solely active ageing assessment tools were considered. Likewise, duplicate literature screening was executed via literature management software, where the first and second authors independently screened titles, abstracts, and full texts, with any discordant opinions resolved by the research team.

Charting the Data

Following adherence to the inclusion and exclusion criteria, the full texts of qualifying literature were imported into EndNote. To ensure completeness and accuracy, a structured data extraction form was devised, facilitating the extraction of key information essential for addressing the research questions. Data elements extracted encompassed: assessment tool, developer, publication date, country/region, theory, number of items, dimensions, year of data, sample size, reliability, validity, macro-level or individual level. Two authors independently extracted relevant data, with any disparities resolved by a third party, and subsequently, the data were compared and synthesized.

Table 1 Partial Search Strategy and Results

Database	Keywords	Articles	Access Date
CNKI ^a	(SU = “积极老龄化”) AND (SU = “工具” + “量表” + “指数” + “问卷”)	140	March 11, 2024
PubMed	#1 “active aging” [MeSH Terms] OR “active ageing” [MeSH Terms] #2 “active aging” [Title/Abstract] OR “active ageing” [Title/Abstract] #3 “Tool” [Title/Abstract] OR “Scale” [Title/Abstract] OR “Instrument” [Title/Abstract] OR “Index” [Title/Abstract] OR “questionnaire” [Title/Abstract] #1 AND #2 AND #3	171	March 11, 2024

Abbreviations: ^aCNKI, China National Knowledge Infrastructure; SU, subject terms.

Collating, Summarizing and Reporting Results

This study provides a descriptive summary of the fundamental information gleaned from the included studies, alongside a narrative synthesis detailing the characteristics of the Active Ageing Assessment Tool for Older People, its utilization in China, and identified research gaps.

Results

The initial search identified 25,723 titles. Following the application of the exclusion criteria and removal of duplicates, 32 documents underwent full-text analysis. Relevant resources were acquired from cited references. Ultimately, 22 studies met the inclusion criteria for this scoping review, as depicted in the PRISMA flowchart (refer to [Figure 1](#)) illustrating the screening process.

Among the 22 included studies, 17 focused on the development and localized application of active ageing assessment tools, while four addressed the construction of active ageing models, and one centered on establishing an active ageing evaluation index system. Spanning from 2012 to 2023, most studies concentrated on the years 2012–2023, with five publications in 2022, four in 2012, and three each in 2017 and 2019. Additionally, two studies each were published in 2014, 2018, and 2023, while one study was published in 2022. Geographically, the studies were predominantly situated in China (6), followed by Bangladesh (2), Thailand (2), Portugal (2), Vietnam (2), and one each in Australia, Spain, Iran, Finland, Austria, Pakistan, Brazil. The EU countries have jointly carried out a study on the Active Ageing Index. Besides, all included literature presented multidimensional active ageing assessment tools, as detailed in [Table 2](#). Detailed information is provided in the supplementary material. (See Supplementary File: [Table S2–S4](#)).

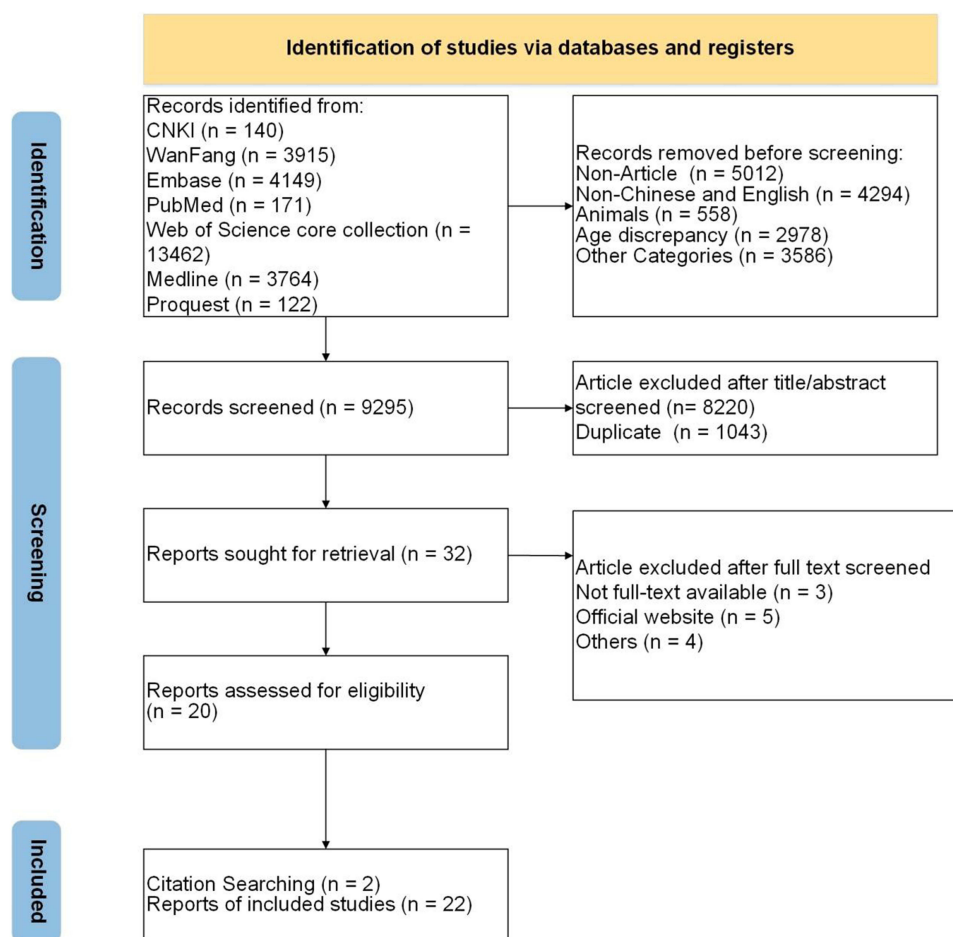


Figure 1 PRISMA flow diagram for the scoping review process.

Notes: Adapted from Page MJ, McKenzie JE, Bossuyt PM, Boutron I, Hoffmann TC, Mulrow CD et al. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ*. 2021;372:n71. Creative Commons.²²

Table 2 Chronological Overview of Oral Health Assessment Tools

Tool	Country/Region	Author, Year	Dimensions/Factors
The Elderly Active Ageing Assessment Questionnaire ²³	Chinese	Hu, (2012)	Four dimensions: Health; Life satisfaction; Community involvement; Family support
The Australian Active Ageing ²⁴	Australian	Buys and Miller, (2012)	Ten dimensions: Paid and voluntary work; Learning; Social; Spiritual; Emotional; Health; Vision; Home; Life events; Demographics
Active Ageing Index ⁸	Europe	Zaidi et al, (2012)	Four dimensions: Employment; Participation in society; Independent; healthy and secure living; Capacity and enabling environment for active ageing
WHO Active Ageing Model ²⁵	Portuguese	Paúl et al, (2012)	Four dimensions: Health; Psychological; Cognitive; Biological; Social relationship; Personality
Active Aging Index ²⁶	Bangladeshi	Tareque et al, (2014)	Three dimensions: Health; Community participation; Security dimension
Active Aging for Thai Adults ¹²	Thai	Thanakwang et al, (2014)	Seven factors: Being self-reliant; Being actively engaged with society; Developing spiritual wisdom; Building up financial security; Maintaining a healthy lifestyle; Engaging in active learning; Strengthening family ties to ensure care in later life
A Model of Active Ageing ²⁷	Spain	Marsillas et al, (2017)	Ten dimensions: Health; Functionality; Cognitive status; Affective status; Social status; ICT use; Lifelong learning; Employment; Social participation; Leisure activities; Coping styles; Life satisfaction; Socio-demographic
Chinese Version of the Active Ageing Index ²⁸	Chinese	Zhang, (2017)	Seven dimensions: Self-care ability; Active learning and integrate into society; Build economic security; Develop spiritual wisdom; Maintain a healthy lifestyle; Actively contribute to society; Pass on filial piety by example
The Selfie Aging Index ²⁹	Portuguese	Gonçalves et al, (2017)	Three domains: Biological domain; Psychological domain; Social domain
Active Aging Measurement Instrument ³⁰	Iranian	Mohammadi et al, (2018)	Six factors: Social-institutional participation; Active mind maintenance; Social contacts; Agent attitude; Productive engagement; Physical-functional activity
Indicator system for active ageing ³¹	Chinese	Yang, (2018)	Four dimensions: Social participation; Independent, Healthy and safe living; Active ageing environment; Competence
The University of Jyväskylä Active Aging Scale ³²	Finland	Rantanen et al, (2019)	Four dimensions: Goals; Ability; Autonomy; Activity
Taiwan's Active Aging Index ³³	Chinese	Hsu et al, (2019)	Four dimensions: Employment; Participation in Society; Independent, Healthy, and Secure Living; Capacity and Enabling Environment for Active Aging
Active Ageing Model ³⁴	Chinese	Xie, (2019)	Four dimensions: Health; participation; security
Active Ageing Measurement Tool ³⁵	Chinese	Li, (2020)	Four dimensions: Healthy; Participatory; Safe; Supportive Environment
Vietnam's version of the Active Aging Index ¹³	Vietnam	Pham et al, (2020a)	Four dimensions: Voluntary; Politics; Affordability; Well-being
Vietnam's version of the Active Aging Index ³⁶	Vietnam	Pham et al, (2020b)	Four dimensions: Employment; Social participation; Independent, healthy, and secure living; Capacity and enabling environment for active aging
SHARE-Active-Ageing-Index ³⁷	Austria	Steinmayr et al, (2020)	Nine dimensions: Subjective well-being; Abilities; Social networks; Physical health; Participation in society; Lifelong learning; Money; Housing; Employment
A Structural Model of Active Ageing ³⁸	Brazil	Oliveira, (2020)	Six factors: Behavioral; Personal; Physical environment; Social; Economic; Social and health services
Active Aging Index ³⁹	Bangladesh	Haque, (2022)	Three dimensions: Health dimension; Participation Dimension; Security dimension
The Active Aging Scale-Pak ⁴⁰	Pakistan	Bibi et al, (2023)	Seven dimensions: Being self-reliance; Learning, integrated into society; Healthy lifestyle; Developing spiritual wisdom; Economic security; Strengthen family ties; Contribution to society
Self-Active Aging Index ⁴¹	Thailand	Keeratisiroj et al, (2023)	Nine factors: mental/subjective health; physical health; health behavior and chronic disease; vision and hearing; oral health; social participation; stability in life; financial stability; Secure living

From a research perspective, 18 of the 22 studies investigated active ageing assessment tools at the macro level, while four examined them at the individual level. Thirteen studies were grounded in the theoretical framework provided by the WHO for active ageing, while the remaining nine studies formulated active ageing assessment tools based on alternative theoretical foundations. Additionally, the literature encompassed only two active ageing assessment tools tailored to subgroups of older individuals, specifically concerning gender, gender, and age. Notably, none of the remaining studies delved into the characteristics of subgroups of older individuals experiencing positive ageing. These findings are summarized in Table 3.

Table 3 Characteristics of Included Studies

Author, Year	Study Level	Theoretical Foundation	Subpopulations of the Elderly
Hu, (2012) ²³	Macro-Level	Active Ageing Interaction Model	/
Buys and Miller, (2012) ²⁴	Macro-Level	The World Health Organization's theoretical framework	/
Zaidi et al, (2012) ⁸	Macro-Level	WHO policy framework on "active ageing"; and the innovative addition of a fourth dimension of supportive environments in conjunction with the expert group.	/
Paúl et al, (2012) ²⁵	Macro-Level	The World Health Organization's theoretical framework	/
Tareque et al, (2014) ²⁶	Macro-Level	The Active Aging Taskforce of the Western Australian Government and the determinants of active aging by WHO	/
Thanakwang et al, (2014) ¹²	Macro-Level	Conducting focus groups and in-depth interviews to identify dimensions of active ageing	/
Marsillas et al, (2017) ²⁷	Individual Level	Social domain	/
Zhang, (2017) ²⁸	Macro-Level	Thanakwang's Positive Ageing Scale	/
Gonçalves et al, (2017) ²⁹	Individual Level	The Biopsychosocial Assessment Model	/
Mohammadi et al, (2018) ³⁰	Macro-Level	The study was based on the grounded theory of qualitative research aimed at achieving the native theoretical model of active aging	/
Yang, (2018) ³¹	Individual Level	The World Health Organization's theoretical framework	/
Rantanen et al, (2019) ³²	Macro-Level	The Activities and Participation categories of the International Classification of Functioning, Disability and Health	/
Hsu et al, (2019) ³³	Macro-Level	The Active Aging Index of the European Union	/
Xie, (2019) ³⁴	Macro-Level	The World Health Organization's theoretical framework	/
Li, (2020) ³⁵	Macro-Level	Based on the results of the evaluation of the framework design, indicator setting and construction methodology of the Active Ageing Measurement Instrument globally	/
Pham et al, (2020a) ¹³	Macro-Level	The World Health Organization's theoretical framework	/
Pham et al, (2020b) ³⁶	Macro-Level	The World Health Organization's theoretical framework	/

(Continued)

Table 3 (Continued).

Author, Year	Study Level	Theoretical Foundation	Subpopulations of the Elderly
Steinmayr et al, (2020) ³⁷	Individual Level	The World Health Organization's theoretical framework	Gender group
Oliveira, (2020) ³⁸	Macro-Level	The World Health Organization's theoretical framework	/
Haque, (2022) ³⁹	Macro-Level	The World Health Organization's theoretical framework	/
Bibi et al, (2023) ⁴⁰	Macro-Level	Thanakwang's Active Ageing Scale	/
Keeratisiroj et al, (2023) ⁴¹	Macro-Level	The World Health Organization's theoretical framework	Gender and age group

Abbreviations: WHO, World Health Organization; UNECE, United Nations Economic Commission for Europe; AAI, Active Ageing Index; COSMIN, Consensus-based Standards for the Selection of Health Measurement Instruments; PRISMA-ScR, Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews; EU, European Union; CNKI, China National Knowledge Infrastructure; SU, Title.

Discussion

Our study aimed to comprehensively map a wide array of active ageing assessment tools for older individuals, describe their characteristics and analyze their application in China. Through a scoping review, we analyzed 22 studies, providing descriptive insights and narrative summaries to guide future research on active ageing assessment tools. Of the 22 included studies, 16 focused on the development of active ageing assessment tools, while only six examined localized applications. Remarkably, scholars from 12 countries, in addition to those from European nations, engaged in research related to active ageing assessment, indicating its global significance. This diverse geographic distribution underscores the importance of tailoring active ageing assessment tools to specific national contexts and cultural backgrounds.

Notably, research on active ageing assessment tools commenced in 2012, coinciding with the introduction of the Active Ageing Indicators by the European Union (EU) in collaboration with the United Nations Economic Commission for Europe. These indicators have since become widely adopted as a means to measure national active ageing policies.⁸ The widespread use of the AAI across 28 European Union countries further highlights its prominence as the most utilized assessment tool.^{11,42} Given the multidimensional nature of active ageing, as defined by the WHO, which encompasses health, participation, and security, it is not surprising that all 22 studies focused on developing multidimensional active ageing assessment tools, largely based on the WHO's conceptual framework.

This scoping review has identified significant research gaps, with existing active ageing assessment tools primarily rooted in the theoretical framework provided by the WHO for active ageing or supplemented with contextualized indicators. While countries have tailored active ageing assessment tools to suit their local cultures, the pervasive influence of the WHO Theoretical Framework for active ageing has underscored limitations in existing tools. The construction of the AAI, for instance, originated from an expert group meeting within the EU, resulting in domains and indicators that fail to align with the priorities and necessities of older individuals.⁴³ This deficiency is highlighted by São José et al who critique the AAI for its failure to capture older people's capabilities, individual differences, and cultural diversity within EU Member States, rendering it inadequate for informing policy decisions.⁴³ Moreover, certain studies contend that the EU's active ageing policy disproportionately emphasizes the employability of younger older individuals, neglecting older individuals' preferences, psychological well-being, and perspectives.^{14,21}

Addressing these shortcomings, scholars advocate for an inclusive dialogue with ageing theories and other social frameworks, as well as the integration of a more comprehensive conceptual and theoretical framework into active ageing assessments.^{21,44} On top of that, the life course perspective, which posits that ageing is not solely biologically but also socially determined, underscores the importance of considering the dynamic nature of ageing across different life stages

and social environments.^{45,46} Lak et al constructed a 5P model of active ageing based on an ecological approach, including five themes: person, prime, process, place and policy.⁴⁷ The model emphasizes the importance of multi-dimensionality, micro, mesa and macro systems of active ageing based on healthy environments. The Ecological Model of Active ageing is an exploration and interpretation of the comprehensive development of the theory of Active ageing. Therefore, the development of assessment tools for active ageing should be based on a broader and more comprehensive theoretical framework of active ageing and enriched with assessment tools.

This review observes that most studies have primarily investigated active ageing assessment tools at the macro level, with less attention directed towards the individual level. The AAI, serving as a widely utilized macro-level policy instrument, forms the basis for many active ageing assessment tools or influences their development. Given the proactive exploration of macro-level tools by countries aiming to harness the potential strengths of older age groups in addressing ageing issues, most studies concentrate on macro-level tool development. While macro-level measurement tools offer a foundation for countries to devise public health policies and interventions targeting vulnerable groups, they fall short in providing insights into the distribution of healthy and active ageing across countries and the relationship between healthy and active ageing and individual characteristics.^{15,29} Consequently, there exists a need for the development of individual-level active ageing assessment tools, which underpin and complement macro-level assessments, enabling the evaluation of active ageing at the individual level.

This review highlights the limited focus of existing active ageing assessment tools on subgroups of older individuals, with fewer studies dedicated to developing tools tailored for these specific populations. While two studies introduced gender-based assessment tools for active ageing in older subpopulations, these tools solely assessed activity within the overall population based on gender and age disparities, lacking subcategorization of content. The Council of the European Union underscores the necessity of addressing the gender dimension in advocating for healthy and dignified ageing, considering variations between men and women in occupation, social participation, income, and pensions.⁴⁸ Calvó-Perxas et al uncovered that older women exhibit higher levels of pain and depression incidence compared to men, with societal disparities potentially contributing to differences in depression levels.⁴⁹

Intriguingly, Eurostat data further indicates a gender disparity in self-perceived health, with men generally reporting better health than women.⁵⁰ Consequently, the development of a suitable assessment tool to analyze active ageing in older subgroups becomes imperative. Apart from the gender gap, disparities in active ageing between rural and urban areas also necessitate attention. Likewise, rural older adults face challenges such as limited health knowledge, cognitive biases, weak social participation, and inadequate protection of their rights and interests. Thus, they exhibit strong demands for health education, social participation, and security compared to their urban counterparts.^{51–53} Addressing these disparities requires the urgent development of a comprehensive assessment tool to enhance active ageing levels among rural older adults. Thus, the development of an active ageing assessment tool tailored to older adults subgroups is crucial for harnessing the dividends of the older adults population, elevating active ageing levels, and promoting healthy ageing.

This study highlights that assessment tools for active ageing in China predominantly adhere to the theoretical framework provided by the WHO, lacking conceptualization rooted in Chinese culture and national context for tool development. The aging phenomenon in China is further complicated by factors such as aging preceding prosperity, unhealthy ageing, significant regional disparities, and issues like “empty nesters” and “lost older adults”, amplifying the contradictions within the ageing populace.⁵⁴ With over 120 million rural older adults individuals aged 60 years and above, comprising nearly 24% of the total rural population, there’s a pressing need to explore localized measurement tools tailored to China’s cultural background and socio-economic development.⁴ Moreover, considering that China’s active ageing research is still in its nascent stages, there’s a crucial imperative to develop active ageing concepts and theories informed by the characteristics of the Chinese older adults population and ageing dynamics intertwined with Chinese culture. Such efforts should extend to the exploration of active ageing measurement tools for various demographic groups to gain a more nuanced understanding of active ageing dynamics, thus providing valuable insights for the formulation of targeted ageing policies and interventions by relevant authorities.

The WHO defines healthy ageing as the process of developing a healthy life and maintaining a healthy level of functioning in old age.⁵⁵ Conceptually distinguishing healthy ageing from active ageing, this study advocates against their interchangeable use, asserting that future development and application of active ageing assessment tools should

adhere to the conceptual and theoretical framework of active ageing. A notable strength of this study lies in its strict adherence to the PRISMA-ScR reporting specifications and methodological framework, enhancing the reliability and accuracy of the review. This study serves as a valuable resource for researchers seeking more dependable data on active ageing to facilitate the further development of assessment tools and applied research. However, several limitations warrant attention. Firstly, inherent constraints of a scoping review include the absence of quality assessment and potential interpretation bias. Secondly, the study restricted its scope to Chinese and English literature, overlooking other languages. Additionally, official foreign websites were inaccessible for retrieving active ageing assessment tools due to specific reasons. We did not assess potential bias in the identified studies. Future studies should encompass multiple languages and diverse retrieval methods to ensure a more comprehensive review. Given the study's focus, the psychometric properties of the active ageing assessment tool were not reviewed, indicating a potential avenue for future research to delve into the assessment tool's psychometric properties.

Conclusion

Concomitantly, accurate and reliable assessment tools are imperative for adequately gauging the level of active ageing. This scoping review, aimed at delineating existing assessment tools for active ageing, reveals shortcomings in the widely used AAI, underscoring the necessity for assessment tools and active ageing theories to integrate more comprehensive concepts and social theories. Thus, emphasizing the significance of the individual level and subgroups of older individuals, future developments in active ageing assessment tools should explore measurements tailored to different older demographic groups. Furthermore, in the context of China's cultural and social milieu, the development of active ageing should leverage global theories while exploring localized conceptual and theoretical frameworks to furnish a theoretical groundwork for assessment tool development.

In conclusion, this study underscores the importance of accurate assessment tools in evaluating active ageing levels. Through a comprehensive review of existing tools, it has identified limitations in widely used assessments like the AAI, emphasizing the need for the incorporation of broader concepts and social theories. Moreover, it advocates for future developments to prioritize individual-level assessments and tailor measurement tools for diverse demographic groups, particularly in the context of China's unique cultural and social landscape. By drawing on global theories while exploring localized frameworks, this study paves the way for the advancement of active ageing research and the development of more effective assessment tools to support targeted policies and interventions.

A recommendation stemming from this study is to prioritize the refinement of existing active ageing assessment tools to address identified limitations, such as the lack of consideration for individual-level assessments and subgroups of older individuals. Furthermore, future research endeavors should explore the development of assessment tools tailored to diverse demographic groups within the context of China's cultural and social milieu. However, it is important to acknowledge the inherent limitations of scoping reviews, including potential bias and the exclusion of non-Chinese and non-English literature. Therefore, future studies should aim for more comprehensive inclusion criteria, incorporating multiple languages and diverse retrieval methods to ensure a more holistic examination of the subject matter.

Data Sharing Statement

The data presented in this study are fully documented within the manuscript, tables, and [Supplementary Materials](#). For additional inquiries, please reach out to the corresponding author.

Author Contributions

All authors made a significant contribution to the work reported, whether that is in the conception, study design, execution, acquisition of data, analysis and interpretation, or in all these areas; took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors report no conflicts of interest in this work.

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