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Social factors and older adults' autonomy: An integrative review of the functional and cognitive dimensions

Fatores sociais e autonomia de pessoas idosas: revisão integrativa das dimensões funcional e cognitiva

Factores sociales y autonomía de las personas mayores: revisión integradora de las dimensiones funcional y cognitiva

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Abstract

Objective: to synthesize diverse evidence on the influence exerted by social factors on older adults' autonomy, considering the Functional and Cognitive dimensions. **Method:** integrative review conducted between February and March 2025 in five databases, with screening reported according to PRISMA 2020 adapted for integrative reviews. The analysis involved thematic categorization and narrative synthesis. **Results:** only 30 of the 1,158 studies identified were included: Autonomy – Cognitive dimension (n=18); Functional dimension (n=8); and Functional-Cognitive interconnection (n=4). The protective factors included social support, safe and accessible environments, favorable socioeconomic conditions, healthy habits and social participation; in turn, isolation, physical barriers, pollution and low schooling were associated with higher dependence risks. Multi-component interventions (physical exercise, cognitive stimulation and social support) showed potential but remain infrequent. **Final considerations and implications for the practice:** autonomy results from the interaction among individual, social and environmental factors. More experimental and quasi-experimental studies are required to test concrete, context-adaptable strategies. Restrictive inclusion criteria and unavailability of full texts may have excluded relevant studies. The causes of the factors identified were not explored in depth, nor were specific strategies proposed to address them. The findings support intersectoral policies and health practices (especially in Nursing) for dignified aging.

Keywords: Aged; Cognition; Functional Status; Personal Autonomy; Social Environment.

Resumo

Objetivo: sintetizar evidências sobre a influência de fatores sociais na autonomia de pessoas idosas, considerando as dimensões funcional e cognitiva. **Método:** revisão integrativa conduzida em cinco bases de dados entre fevereiro e março de 2025, com triagem demonstrada no PRISMA 2020 adaptado para revisões integrativas. A análise envolveu categorização temática e síntese narrativa. **Resultados:** dos 1.158 estudos identificados, 30 foram incluídos: Autonomia – dimensão cognitiva (n=18); funcional (n=8); e interligação funcional-cognitiva (n=4). Apoio social, ambientes seguros e acessíveis, condições socioeconômicas favoráveis, hábitos saudáveis e participação social foram fatores protetores; isolamento, barreiras físicas, poluição e baixa escolaridade associaram-se a maior risco de dependência. Intervenções multicomponentes (exercício físico, estimulação cognitiva e suporte social) mostraram potencial, mas são pouco frequentes. **Considerações finais e implicações para a prática:** a autonomia resulta da interação entre fatores individuais, sociais e ambientais. Há necessidade de mais estudos experimentais e quase-experimentais que testem estratégias concretas e adaptáveis a diferentes contextos. Critérios de inclusão restritivos e indisponibilidade de textos completos podem ter excluído estudos relevantes. As causas dos fatores identificados não foram aprofundadas, nem propostas estratégias específicas para seu enfrentamento. Os achados subsidiam políticas intersetoriais e práticas de saúde, especialmente de enfermagem, para um envelhecimento com dignidade.

Palavras-chave: Autonomia Pessoal; Cognição; Estado Funcional; Idoso; Meio Social.

Resumen

Objetivo: sintetizar evidencias sobre la influencia de los factores sociales en la autonomía de las personas mayores, considerando las dimensiones funcional y cognitiva. **Método:** revisión integradora realizada en cinco bases de datos entre febrero y marzo de 2025, con selección documentada según PRISMA 2020 adaptado para revisiones integradoras. El análisis incluyó categorización temática y síntesis narrativa. **Resultados:** De los 1.158 estudios identificados, se incluyeron 30: Autonomía – dimensión cognitiva (n=18); funcional (n=8); e interrelación funcional-cognitiva (n=4). Los factores protectores fueron el apoyo social, entornos seguros y accesibles, condiciones socioeconómicas favorables, hábitos saludables y participación social; el aislamiento, las barreras físicas, la contaminación y el bajo nivel educativo se asociaron con mayor riesgo de dependencia. Las intervenciones multicomponentes (ejercicio físico, estimulación cognitiva y apoyo social) mostraron potencial, pero son poco frecuentes. **Consideraciones finales e implicaciones para la práctica:** La autonomía resulta de la interacción entre factores individuales, sociales y ambientales. Se requieren más estudios experimentales y cuasiexperimentales que prueben estrategias concretas y adaptables a diferentes contextos. Los criterios de inclusión restrictivos y la indisponibilidad de textos completos pueden haber excluido estudios relevantes. No se profundizó en las causas de los factores identificados ni se propusieron estrategias específicas para abordarlos. Los hallazgos respaldan políticas intersectoriales y prácticas de salud, especialmente de enfermería, para mantener la funcionalidad y la cognición.

Palabras clave: Anciano; Autonomía Personal; Cognición; Estado Funcional; Medio Social.

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INTRODUCTION

Population aging is a global phenomenon with highly complex social, economic and health implications. It is estimated that one out of six people in the world will be at least 60 years old by 2030, totaling 1.4 billion individuals; this group will nearly double in numbers to 2.1 billions by 2050, with three times more subjects aged at least 80 years old (426 millions).[1] In middle-income countries like Brazil, the demographic transition takes place at a fast pace: 15.6% of the population was aged at least 60 years old in 2022, representing a 56% increase in relation to 2010.[2] The projections point to a continued increase in this age segment during the next decades, evidencing the urgent need for policies and strategies that preserve older adults' autonomy, recognized as an essential quality of life and healthy aging determinant.[3,4]

In the Gerontology context, autonomy is understood as the ability to make decisions and lead one's own life according to personal values, preferences and objectives, even when facing functional or cognitive limitations. It is a multifaceted construct that not only includes independence, understood as the capacity to perform tasks in an unassisted physical or cognitive way.[5]

Autonomy encompasses components such as functional independence – ability to perform activities of daily living (eating and personal hygiene) and instrumental activities (financial management and using transportation means); and cognitive independence – skills related to understanding, processing information and making decisions, encompassing processes such as learning, attention, memory, language, reasoning and decision-making.[6,7]

Thus, although different from each other, the Functional and Cognitive dimensions are interrelated and comprise autonomy as a whole. The heterogeneity inherent to this population group imposes challenges at the time of devising public policies and care strategies that meet their specific needs. Whereas some older adults remain autonomous and active, others face limitations that impair their quality of life and increase the burden on their families, health systems and social assistance. Consequently, understanding the variables that exert an influence on functional and cognitive independence is essential to develop more effective and fair interventions.[8–10]

In the light of global references such as the Active Aging Model proposed by the World Health organization (WHO) and updated in 2020,[11] autonomy is recognized as one of the fundamental pillars for healthy aging, including participation, security and well-being ongoing opportunities. Similarly, the Integrated Care for Older People (ICOPE) program published by the WHO in 2024[12] emphasizes preserving intrinsic capacity, comprised by domains such as cognition, mobility, mood and vitality. These conceptual frameworks reinforce that autonomy results from the dynamic interaction among individual conditions and social and environmental factors that sustain functionality, especially in contexts marked by structural inequalities. In this sense, understanding the influence exerted by such factors on the Functional and Cognitive dimensions is essential to outline effective interventions and public policies sensitive to population aging.

However, there is scarcity of comprehensive syntheses integrating conceptual dimensions and empirical evidence from different methodologies, especially in contexts marked by socioeconomic and cultural inequalities.[13] The decision to conduct an integrative review was because this type of study allows including different methodological designs, expanding what is known about the phenomenon and enabling an encompassing synthesis of all the available evidence.[14] This approach is particularly useful to map a field in which the scientific production is heterogeneous and the conceptual dimensions are interdependent, as in the case of autonomy.

Given the above, this study seeks to synthetize diverse evidence about the influence exerted by social factors on older adults' autonomy, considering its Functional and Cognitive dimensions. The starting point is the assumption that contexts marked by more social support and less structural inequality present higher autonomy levels, regardless of physical or cognitive health conditions.

METHOD

This is an integrative literature review conducted according to the stages proposed[14] and reported as per the PRISMA 2020 recommendations[15], adapted to integrative reviews. This approach was chosen because it enables synthesizing diverse evidence from different methodological designs, allowing for an encompassing and integrative view of a complex phenomenon such as autonomy in older adults.

The inclusion criteria were defined according to the PICo acronym[16], where studies exclusively involving people aged at least 60 years old, either living in communities or institutionalized, of both genders and regardless of their health conditions were considered as Population (P). The Phenomenon of Interest (I) adopted was autonomy in its Functional and/or Cognitive dimensions. Studies solely addressing "Functional independence" or "Cognitive function" were only considered eligible when there was an explicit relationship with the autonomy construct. Finally, the Context (Co) included any social setting (be it urban or rural), encompassing different socioeconomic and cultural situations such as Primary Health Care, community services and long-stay institutions. Thus, the following research question was defined: How do different social factors influence older adults' autonomy, considering its Functional and/or Cognitive dimensions?

The sample included articles without imposing any restrictions as for methodological design, country of origin or publication year. The materials considered were studies in Portuguese, English and Spanish, available in full, online and free of charge and which directly or indirectly addressed the influence exerted by social factors on older adults' autonomy (functional and/or cognitive). Editorials, summaries, letters, notes, guidelines, protocols, articles derived from conferences, reviews, case studies, book chapters, course conclusion papers, theses, dissertations and Grey Literature materials were excluded.

The search was conducted by two independent researchers in February 2025, in the following databases: Medical Literature Analysis and Retrieval System Online (Medline) via PubMed, Scopus, Web of Science, *Literatura Latino-Americana e do Caribe em Ciências da Saúde* (LILACS) and *Base de Dados de Enfermagem* (BDEnf). The databases were accessed through the Journals Portal belonging to the Coordination Office for the Improvement of Higher Level Personnel, using authentication via the Federated Academic Community to standardize the collection procedure. No searches were made in the Grey Literature.

An electronic survey of available studies was conducted in the Medline database via PubMed, using terms such as "*idoso*" ("older adult"), "*estado funcional*" (functional status), "*função cognitiva*" ("cognitive function") and "*meio social*" ("social environment"), in addition to pertinent synonyms, thus defining the research descriptors. They were extracted from the Descriptors in Health Sciences (*Descritores em Ciências da Saúde*, DeCS) and Medical Subject Headings (Mesh Terms) portals.

The search strategy adopted in Medline was as follows: *("Aged"[MeSH Terms] OR "Aged"[All Fields] OR "Elderly"[All Fields] OR "elderlies"[All Fields] OR "aged, 80 and over"[MeSH Terms] OR "80 and over"[All Fields] OR "Oldest Old"[All Fields] OR "Nonagenarian"[All Fields] OR "Nonagenarians"[All Fields] OR "Octogenarians"[All Fields] OR "Octogenarian"[All Fields] OR "Centenarians"[All Fields] OR "Centenarian"[All Fields] OR "geriatric"[All Fields]) AND ("Social Environment"[MeSH Terms] OR "Social Environment"[All Fields] OR "Environment, Social"[All Fields] OR "Social Context"[All Fields] OR "Social Ecology"[All Fields]) AND ("Functional Status"[MeSH Terms] OR "Functional Status"[All Fields] OR "Functional Independence"[All Fields] OR "Cognition"[MeSH Terms] OR "Cognition"[All Fields] OR "Cognitive Function"[All Fields*]). This strategy was adapted according to the particularities inherent to each database using the *AND* and *OR* Boolean operators to group the references and to intersect the terms, respectively, although preserving similarities in the combinations of descriptors.

In order to ensure a systematic and unbiased process, the studies were imported into the Rayyan® software, allowing for the screening procedure to be conducted blindly between the reviewers. As a first step, all duplicates were removed and, subsequently, the materials were pre-selected by reading their titles and abstracts, considering the previously established inclusion and exclusion criteria.[17] Any and all disagreements as to whether to include a study, a third reviewer was consulted to solve the divergences and decide about its eligibility. The final selection was defined in March 2025 after reading the full texts.

A specific form based on a validated model[18] was used to extract the data, namely: study identification, author(s), year, country, language, database, objective, methodological design, characteristics of the sample and main results. The authors of the studies not available in full were contacted via email, but no answer has been received as of April 2025. The findings were analyzed following a thematic-narrative approach, categorizing the results into five thematic axes related to the Functional and Cognitive dimensions of autonomy.

Although not mandatory in integrative reviews, a critical assessment regarding the methodological quality of the studies was made using the Mixed-Methods Appraisal Tool (MMAT)[19] (version 2018), applied by two independent reviewers. Although it was initially developed for mixed-methods studies, this instrument was subsequently expanded to include five design categories. No specific tool was used to assess publication bias, as the central objective was to map and synthesize all the available evidence regardless of its methodological quality, seeking to offer an encompassing view about the topic.

RESULTS

A total of 1,158 potentially relevant articles were identified in the initial search. After removing 208 duplicates, 950 articles remained to analyze their titles and abstracts. Thirty-nine of them were selected for full-reading. One of the materials was not available free of charge and eight were excluded for not meeting the criteria established for the study population. Thus, 30 studies comprised the final sample for this review.

The entire procedure to search and choose studies was thoroughly documented, allowing tracking each decision made throughout the process. It was reported by filling-in the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 flowchart, adapted for integrative reviews, as presented in Figure 1.

The thematic categorization process was conducted inductively based on full-reading of the articles included, grouping them according to the autonomy dimension addressed (Cognitive, Functional, or both combined). The data analysis allowed categorizing them into three main topics related to older adults' autonomy, considering its Cognitive and Functional dimensions. The main evidence was synthesized and organized according to the respective thematic categories, as shown in Charts 1-3.

Studies that investigated the influence exerted by social, environmental and economic factors on cognitive performance prevail in Category 1. Consistent social support, participation in cognitive activities and favorable community environments proved to be protective factors against cognitive decline. On the other hand, widowness, low schooling, exposure to pollution and limited mobility were associated with worse performance. Interventions such as using social robots, board games and community activities showed to exert positive effects on preserving cognition.

After analyzing the studies exclusively focused on the Cognitive dimension, we will now examine those related to the Functional one (Chart 2). They addressed the impact exerted by urban infrastructure, physical health and social support on older adults' functionality. Insecure environments or those with physical barriers increased the number of limitations in activities of daily living. Practicing physical activity, walk-friendly infrastructures and participating in structured physical exercise programs were associated with preserving functional autonomy.

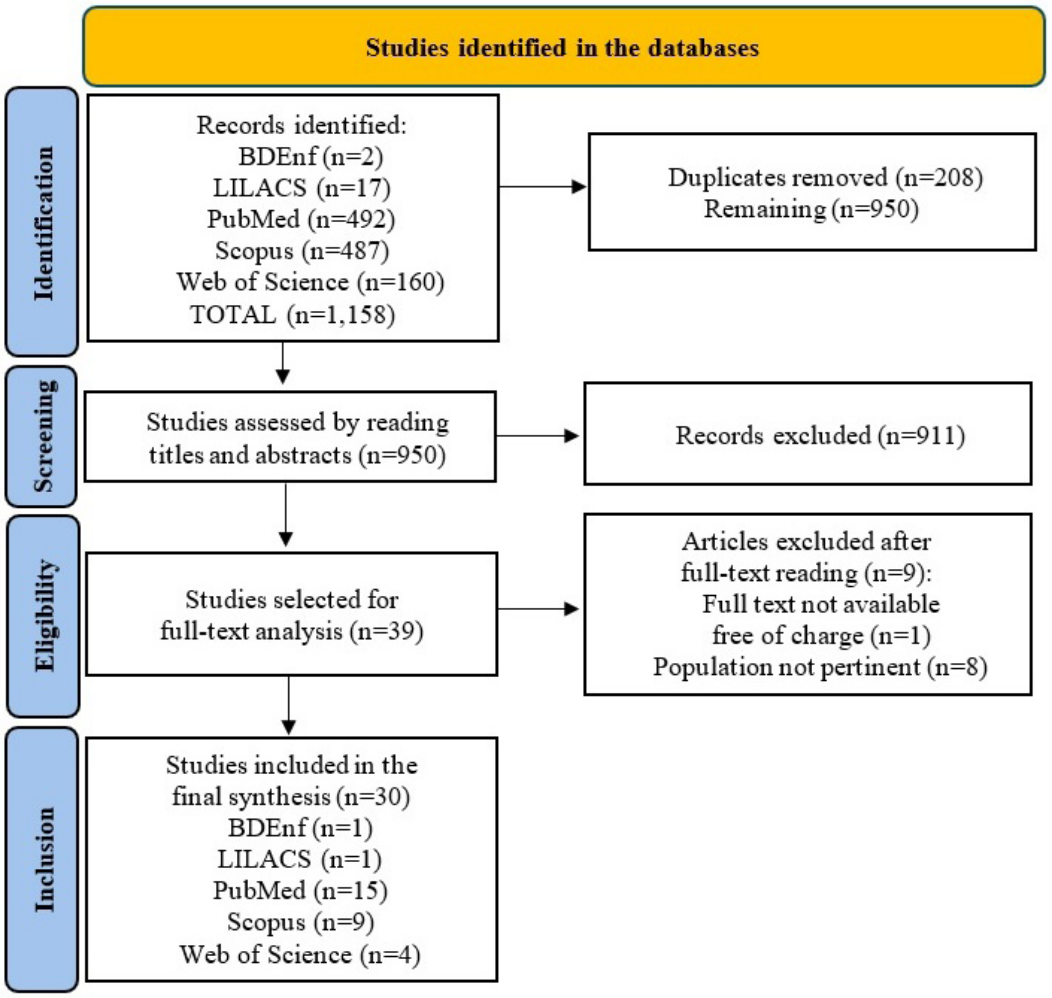

Figure 1. PRISMA 2020 flowchart showing the process to search and select publications in the literature, adapted for the integrative review. João Pessoa, PB, Brazil, 2025.

Chart 3 below addresses the studies that investigated the interaction between cognitive and functional independence, highlighting how these dimensions are intertwined in preserving quality of life and preventing frailty. Both served as mediators of the relationship between age and frailty, reinforcing that decline in one dimension can affect the other. Social support, safe housing environments and periodic physical activity favored cognition and functionality at the same time, contributing to better quality of life and to preventing frailty.

The thematic map (Figure 2) shows a proportional choropleth representation corresponding to the geographical distribution of the articles, evidencing broad global dispersion and with the United States of America (USA) standing out for concentrating the most publications (n=12), followed by China (n=5).

It can also be seen that fifteen articles were found in the PubMed database,[21-22,24-27,29,31-32,36,40,42,45,48-49] nine in Scopus,[20,33-35,37-38,41,43,47] four in Web of Science,[23,28,30,46] one in BDEnf[39] and one in LILACS[44]. The publications included were predominantly articles written in English (n=29), with only one study in Portuguese[44]. As for the time dimension, the productions encompassed the 2015-2025 period, concentrated in the last five years and with a peak in 2023, evidencing increasing scientific interest in the topic. Finally, the analysis of the materials reviewed revealed predominance of multi-center research studies[20-26,28-31,38,41-43,45-47,49].

In relation to methodological quality as assessed with MMAT, it was observed that 20 studies (66.7%) obtained scores ≥80%, meeting four or five criteria and classified as of high quality. Eight studies (26.6%) reached scores of between 60% and 79%, with three criteria met, characterizing moderate quality. Only two studies (6.7%) met less than 60% of the criteria and were considered as of low quality.

The high-quality studies mostly corresponded to longitudinal or experimental designs, with a clear description of their samples, collection methods and data analyses. Moderate or low scores were more frequent among the cross-sectional studies, where the reasons for the sample size, the control of confounding factors, the use of non-validated self-reported measures and the description of the sample losses were insufficiently detailed.

Chart 1. Synthesis of the studies included in thematic category 1: Autonomy – Cognitive dimension and associated factors (n=18). João Pessoa, PB, Brazil, 2025.

Author/ Year - Country	Objective	Type of study	Population	Main results
Hülür; Zimmermann (2025)[20] - Germany	To examine the influence exerted by individual and environmental socioeconomic factors such as cognitive aging determinants.	Longitudinal, quantitative, non-experimental	Longer-lived community-dwelling older adults (≥80 years old)	Schooling and wealth were associated with better cognition at baseline, with no effect over time.
Ma et al. (2024)[21] - China	To investigate the associations between social support, cognitive activity and incidence of cognitive impairment, analyzing the mediating effect of cognitive activity in this relationship.	Longitudinal, quantitative	Older adults with their cognition preserved, or with mild cognitive impairment	Lower risk of cognitive impairment associated with social support and cognitive activity, underscoring the importance of social strategies for prevention.
Luo et al. (2024)[22] - China	To elucidate the relationship between different environmental factors and cognitive function, with a focus on mild cognitive impairment.	Cross-sectional, quantitative	Older adults with no cognitive impairment or up to mild level at baseline	Environmental factors exert a significant effect on cognition and on the risk of mild cognitive impairment.
Lim (2023)[23] - South Korea	To investigate the efficacy of an intervention based on a social robot in improving cognitive function, depression, loneliness and quality of life.	Experimental, quantitative	Older adults living alone	The PIO social robot showed improvements in cognitive function and reductions in terms of depression and loneliness levels.
Shi et al. (2023)[24] - China	To analyze the influence exerted by socioeconomic status differences on cognitive capacity and the moderating role of various types of social support.	Cross-sectional, quantitative	Older adults with full data about key variables	Social support can mitigate the effects exerted by socioeconomic status on cognitive capacity, representing a relevant factor for healthy aging.
Lee; Jiang (2023)[25] - USA	To explore moderating elements (such as social support, culturalization and leisure activities) in the relationship between widowness and cognitive function.	Longitudinal, quantitative	Immigrant Chinese older adults living in Chicago	Social support moderated the relationship between widowness and global cognitive function; in turn, culturalization exerted an influence on episodic memory. The negative impact exerted by widowness was more intense with low social support and culturalization levels.
Yu et al. (2023)[26] - USA	To examine the association between cognitive function and three neighborhood-related elements that can hinder access to community resources and increase the cognitive decline risk.	Longitudinal, quantitative	Black- and white-skinned community-dwelling older adults	Limited mobility and exposure to polluted areas exert negative effects on older adults' cognition, even after adjusting for individual and neighborhood-related factors.
Kim et al. (2023)[27] - USA	To examine how perceptions regarding the social and physical aspects of neighborhoods are related to cognitive function.	Cross-sectional, quantitative	Community-dwelling older adults	The physical infrastructure and attributes perceived in the neighborhood can play a relevant role in supporting cognitive function.
Sylvers et al. (2022)[28] - USA	To explore the role played by the characteristics of a neighborhood, of practicing physical activity and of health status in promoting healthy cognitive aging.	Longitudinal, quantitative	Community-dwelling older adults	Walk-friendly communities contribute benefits to physical and cognitive health; it is essential to consider the quality of the available resources and how they are perceived.
Finlay et al. (2022)[29] - USA	To identify the specific characteristics of a neighborhood that best protect cognitive health in order to support Public Health initiatives, community-based interventions and policy formulation.	Cross-sectional, quantitative	Community-dwelling older adults participating in REGARDS (REasons for Geographic And Racial Difference in Stroke)	Unequal distribution of resources and perils in neighborhoods can explain disparities in older adults' cognitive health.
Li et al. (2022)[30] - China	To examine the relationship between social support and cognitive performance, including its subdomains and its association with cognitive impairment.	Cross-sectional, quantitative	Older adults with no severe physical diseases and with sufficient functional conditions to attend community health centers	Social support was associated with better cognitive performance and with lower cognitive impairment risks.
Hsu; Bai (2021)[31] - Taiwan	To investigate the relationships between cognitive function, urban social environments and individual characteristics.	Cross-sectional, quantitative	Older adults living in urban areas	Financial security and urban development were associated with cognition.
Noguchi et al. (2019)[32] - Japan	To analyze the prospective association between social support and cognitive function in community-dwelling older adults.	Longitudinal, quantitative	Community-dwelling older adults	Support from friends and neighbors is a protective factor against cognitive decline.
Monserud (2019)[33] - USA	To understand the influence exerted by marital status and gender on Mexican older adults' cognitive functioning.	Longitudinal, quantitative	Older adults of Mexican origin, living in USA	Widowed men presented lower cognition levels at baseline than their married counterparts, but their cognitive decline was slower over time; age and socioeconomic factors explained part of these differences.
Ching-Teng (2019)[34] - Taiwan	To test the efficacy of board game activities in improving cognitive function.	Experimental, quantitative	Older adults that attend Living Centers	Board games improved cognitive function.
Eguchi et al. (2018)[35] - Japan	To examine the socioeconomic, clinical and demographic characteristics associated with global cognition and its alterations.	Longitudinal, quantitative	Longer-lived older adults (≥85 years old) living in the Tokyo metropolitan Area	Low schooling and lower social participation were associated with cognitive decline.
Ge et al. (2017)[36] - USA	To assess the associations between social support/ tension and cognitive outcomes.	Longitudinal, quantitative	Chinese older adults living in USA	Social support and tension exert an influence on global cognitive function.
Eisenhauer et al. (2015)[37] - USA	To understand how aged women living in rural areas understand cognitive decline and its impacts on their own and their family members' lives.	Qualitative	Aged women living in rural areas	Decline was perceived as a threat to social identity; distrust in conventional health services for the risk of losing the support linked to rural lifestyle and prioritizing agricultural work over informal social health.

Chart 2. Synthesis of the studies included in thematic category 2: Autonomy – Functional dimension and associated factors (n=8). João Pessoa, PB, Brazil, 2025.

Author/ Year - Country	Objective	Type of study	Population	Main results
Torres et al. (2023)[38] - Brazil/ England	To analyze healthy aging indicators in older adults from Brazil and England, considering functional capacity and intrinsic capacity and their relationship with loneliness.	Cross-sectional, quantitative	Older adults participating in the Brazilian Longitudinal Study of Aging (ELSI-Brazil) and English Longitudinal Study of Ageing (ELSA-England) studies	When compared to England, worse indicators were detected in Brazil; loneliness was associated with worse cognitive function and autonomy levels.
Alonso et al. (2022)[39] - Mexico	To investigate the relationship between quality of life, functional dependence, family functioning and social support among older adults from northeastern México.	Cross-sectional, quantitative	Community-dwelling older adults	Physical, psychological and social quality of life was influenced by functional capacity and social support. Different factors predicted specific quality of life dimensions.
Gill et al. (2021)[40] - USA	To assess the impact exerted by neighborhood-related disadvantages on active and disabled life expectancy, considering socioeconomic factors and individual prognoses.	Longitudinal, quantitative	Community-dwelling older adults	Underprivileged neighborhoods reduced active life expectancy and increased time with disability.
Danielewicz et al. (2018)[41] - Brazil	To analyze the relationship between housing characteristics and incidence of disability in activities of daily living.	Longitudinal, quantitative	Older adults living in the Brazilian South region	Hilly terrain and deficient security at night were associated with more disability, evidencing the need for adequate urban infrastructure.
Ding et al. (2017)[42] - United Kingdom	To identify physical, psychological and social predictors of physical frailty, assessing how these factors are influential and for whom.	Longitudinal, quantitative	Community-dwelling older adults	Chronic diseases, low physical activity, depression and cognitive impairment predict future physical frailty.
Van Holle et al. (2016)[43] - Belgium	To assess if the desired and perceived physical environments moderate the relationship between physical functioning and physical activity levels among Belgium older adults.	Cross-sectional, quantitative	Community-dwelling older adults (≥65 years old) participating in the Belgian Environmental Physical Activity Study in Seniors (BEPAS Seniors).	Walk-friendly infrastructures exert an influence on the relationship between functionality and physical activity in high-income neighborhoods.
Rocha et al. (2015)[44] - Brazil	To examine the impact exerted by a concurrent training program on functional autonomy.	Experimental, quantitative	Post-menopausal aged women	Active aged women presented better functional autonomy.
Pavela (2015)[45] - USA	To analyze the relationship between functional status and social contact frequency with friends and family members among older adults.	Cross-sectional, quantitative	Community-dwelling older adults	Functional restrictions reduced social contact with friends and family members.

Chart 3. Synthesis of the studies included in thematic category 3: Autonomy – Cognitive and Functional dimensions interconnected and associated factors (n=4). João Pessoa, PB, Brazil, 2025.

Author/ Year - Country	Objective	Type of study	Population	Main results
Chen et al. (2021)[46] - Taiwan	To examine the mediating role of cognitive function, social support, activities of daily living and depression in the relationship between age and frailty.	Cross-sectional, quantitative	Community-dwelling older adults	Cognition and activities of daily living mediated the age-frailty relationship, exerting an influence on preserving independence.
Liu et al. (2017)[47] - China	To investigate the direct and indirect impacts exerted by housing environments on the participants' health in Shanghai, considering behaviors related to health, subjective well-being and sociodemographic factors in an encompassing conceptual model.	Cross-sectional, quantitative	Older adults living in urban areas	Housing quality and security in the neighborhoods exerted effects on physical and cognitive health, mediated by behavioral and perception factors.
Vance et al. (2016)[48] - USA	To investigate the relationship between physical activity, depressive symptoms and cognition, by means of Structural Equations Modeling.	Cross-sectional, quantitative	Community-dwelling older adults	Physical activity was associated with fewer depressive symptoms and with enhanced cognition.
Jopp et al. (2016)[49] - USA	To provide an encompassing view of the main physical, cognitive, social and mental functioning domains in longer-lived older adults and to identify predictors of mental health indicators.	Cross-sectional, quantitative	Longer-lived older adults (≥95 years old)	High cognition and life satisfaction levels despite functional limitations, with good social support.

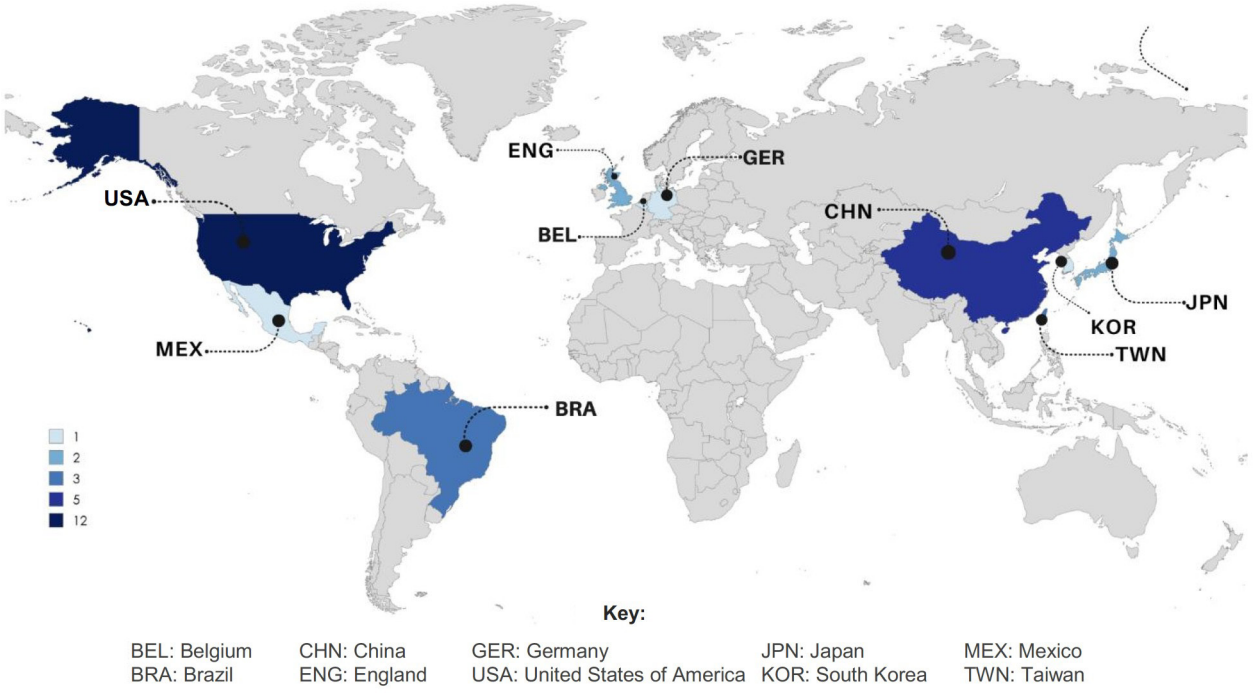

Figure 2. Thematic map showing the geographical distribution of the articles. João Pessoa, PB, Brazil, 2025.
Note: Germany,[20] Belgium,[43] Brazil,[38,41,44] China,[21,22,24,30,47] South Korea,[23] USA,[25-29,33,36,37,40,45,48,49] England,[38,42] Japan,[32,35] Mexico[39] and Taiwan.[31,34,46]

DISCUSSION

The analysis of the studies included in this integrative review confirms that older adults' autonomy is strongly influenced by the preservation of functional independence and of cognitive function, although not restricting itself to these components. This conceptual distinction is relevant, as a number of research studies confirm that assessing functional or cognitive aspects alone may not fully record the autonomy phenomenon.[50,51]

In this sense, the findings of this review are in line with the World Health Organization international frameworks, which deem maintaining intrinsic capacity (with a focus on cognition and functionality) as a core condition to preserve autonomy throughout the aging process.[11,12] These documents underscore that social factors such as community support, urban accessibility and social participation opportunities are determinants of dignified aging. In the light of these frameworks, the literature analyzed evidences that older adults' autonomy does not exclusively depend on individual abilities but on the existence of care systems and social environments capable of promoting favorable and fair conditions, especially in contexts marked by socioeconomic inequalities.

The broad scope of the studies analyzed evidences the global relevance of the topic, permeating different socioeconomic and cultural realities. This diversity reflects the universality of the desire to understand the challenges faced by this age group, especially in adverse urban contexts where factors such as muscle strength, functional mobility, cardio-respiratory status and perception about environmental autonomy are associated with cognitive impairment and with independence in performing activities of daily living.[52,53]

Studies conducted in countries with sound public policies and well-adapted urban infrastructures corroborate the findings by showing lower functional and cognitive decline rates.[32] On the other hand, a research study developed in a context marked by deeper socioeconomic inequalities like Brazil reinforces the association between precarious environmental conditions and higher functional dependence risk.[54]

Combined with the results obtained in the MMAT methodological assessment, the predominance of observational designs indicated that, although most of the studies are of moderate to high quality, relevant methodological gaps still remain. This reinforces that, even with promising interventions, there is a need for more experimental and quasi-experimental studies testing concrete strategies to promote and preserve autonomy in older adults. Recent randomized clinical trials have shown positive results with multi-component interventions (combining physical treatments, cognitive stimulation and social support) in preserving functional independence and mental health; however, they are still scarce, especially in low- and middle-income countries.[50,55]

Along with quality and frequency of interpersonal interactions and among the determinants identified, social support emerged as an essential element to preserve cognitive function. In turn, loneliness and social isolation increased the risk of neuropsychological impairment, a finding that corroborates the evidence from an extensive literature review based on clinical and pre-clinical studies. The data suggest that these factors can be associated with an increased risk of dementia related to Alzheimer's Disease, underscoring the importance of taking it into account when developing effective prevention and treatment strategies.[56]

Another aspect to be noted was the increasing interest in urban characteristics such as security and infrastructure, as well as their influence on older adults' functional capacity. Environmental support (which includes housing and surroundings) and the older adults' perceptions regarding these spaces are determining factors for their quality of life.[57] In addition to that, the ability to realize personal projects and perform essential activities of daily living is directly linked to the support provided by the urban setting. When the environment eases autonomy, it contributes significantly to well-being and life satisfaction in old age.[58]

Practicing physical activity stood out as a cross-sectional protective factor. Interventions based on physical exercise show significant improvements in older adults' functional autonomy, as evidenced by a meta-analysis of randomized clinical trials which presented a reduction in the General functional autonomy index (GDLAM – General Index) by approximately 4.7 points.[55] This finding is in line with another study that reinforces the importance of physical activity as a protective factor, not only for older adults' physical health but also for their mental health.[59]

Although less frequent among the studies included, using assistive or cognitive stimulation technologies shows increasing potential to promote autonomy and prevent functional and cognitive decline. Technology (especially Teleassistance) has proved to be promising in supporting independence among older adults living in their homes, providing safety, monitoring and early detection of deterioration, which reinforces its relevance for active aging policies and the implementation of digital inclusion policies targeted at the aged population.[60] Consequently, digital inclusion and access to technologies emerge as important aspects for quality of life in old age, especially given the ever increasing population aging.[61]

Due to the multifactorial nature of autonomy, Nursing holds a strategic position in identifying risk factors and in implementing interventions that integrate physical care, emotional support, self-care guidelines and environmental adaptation. Interprofessional work involving physical therapy, occupational therapy, psychology, social services and medicine enhances the results, but nurses' performance in care coordination and continuity is fundamental to preserve functional and cognitive independence.[62] Incorporating global frameworks for healthy aging[11,12] expands practical applicability of the findings and contributes to organizing care models centered on older adults.

FINAL CONSIDERATIONS AND IMPLICATIONS FOR THE PRACTICE

Population aging imposes the challenge of preserving older adults' autonomy, supported by the interaction between functional and cognitive independence. This review showed that these two components are mutually influenced and supported by an ecosystem of individual, social, environmental and economic factors, reinforcing the need for specific interventions, namely: strengthening support networks, improving urban accessibility, encouraging healthy lifestyles, promoting cognitive stimulation and reducing inequalities.

In the scope of public policies, there is an urgent need for an intersectoral approach that integrates health, social assistance and urban planning. Nursing plays a strategic role in early identifying risks, implementing preventive actions and longitudinal follow-ups, in full coordination with multiprofessional teams.

Given the predominance of observational studies, it is recommended to conduct more experimental and quasi-experimental surveys testing concrete strategies that can be adapted to different contexts, in order to devise practices and policies that ensure autonomy, dignity and quality of life in the aged population.

This study faced some limitations, namely: the inclusion criteria adopted, unavailability of some studies in full and the exclusion of Grey Literature materials may have limited the number of articles analyzed, excluding relevant research studies and restricting the scope of the conclusions. In addition, the analysis was focused on the factors that exert an influence on autonomy in the context of the Cognitive and Functional dimensions, without deeply exploring the causal mechanisms or the effectiveness of specific interventions. Future studies should explore experimental and longitudinal studies that assess concrete strategies to turn risk factors into elements that ease autonomy.

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DATA AVAILABILITY RESEARCH

The contents underlying the research text are included in the article.

CONFLICT OF INTEREST

None.

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