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Social participation and cognitive health in older adults: A scoping review

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ABSTRACT

Objective: To synthesize evidence on the association between social participation and cognitive health in older adults.

Methods: A scoping review was conducted including 13 studies published between 2014 and 2025, with a combined sample of more than 101.595 participants in total across diverse cultural contexts. The databases searched included PubMed, Scopus, Web of Science, and LILACS. Studies involving adults ≥60 years assessing social participation and cognitive outcomes were included.

Results: Social participation was consistently associated with better cognitive performance, particularly in episodic memory, attention, executive function, and verbal fluency. Most studies reported important direct associations (β from 0.12 to 1.9). Mechanistic pathways included stimulation of neuroplasticity, stress regulation via neuroendocrine modulation, enhancement of emotional regulation, and reinforcement of personal and group identity. Social participation also buffered against depressive symptoms, loneliness, and functional decline, and contributed to structural and functional brain preservation. Although most studies were observational, converging evidence indicates that social participation is a modifiable factor linked to reduced risk of cognitive impairment and dementia. Cross-cultural heterogeneity highlights the need for strategies tailored to cultural and contextual factors in aging populations.

Conclusion: Social participation should be considered an integral element of preventive and therapeutic approaches for cognitive health. Group-based interventions, including community programs, volunteering, cultural or religious activities, and intergenerational initiatives, show promise. Future longitudinal and multimodal research is needed to clarify causal mechanisms and guide the integration of social participation into evidence-based frameworks for healthy aging.

KEYWORDS

Cognitive decline; dementia prevention; social participation; brain health; neuroplasticity.

INTRODUCTION

Social participation is increasingly recognized as a potential protective factor in healthy aging, with evidence suggesting it can contribute to improved functional capacity, health, and overall well-being among older adults[1-2]. By engaging in a variety of social activities—whether through community groups, volunteer work, religious organizations, cultural events, or informal gatherings—older individuals maintain active roles in their social networks and communities[3]. Different levels of participation exist, and not all older adults engage in the same type or intensity of activities; some participate in highly structured and frequent social events, while others engage in more occasional or selective interactions[3]. Regardless of the form, social participation fosters a sense of purpose, strengthens interpersonal bonds, and supports quality of life, all of

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which may help preserve independence[3-4]. Greater social participation is linked to better functionality, perceived health status, and educational level, underscoring its relevance as a public health priority[5].

Beyond its contribution to functionality, social participation may be closely related to cognitive health[6]. Regular involvement in socially stimulating activities can act as a cognitive stimulus, providing opportunities for communication, problem-solving, and the exchange of ideas, which may help maintain or enhance cognitive performance[7,8]. Social interaction also provides emotional benefits, such as reducing loneliness, alleviating depressive symptoms, and fostering a sense of belonging, all of which may indirectly protect cognitive function[9]. Studies have shown that older adults who sustain diverse and frequent social connections demonstrate better performance in memory, executive function, and processing speed compared to socially isolated peers[10,11]. However, despite these potential benefits, the precise nature of the relationship between social participation and cognition remains unclear. Evidence has yet to fully elucidate the mechanisms by which social participation may influence cognitive outcomes, nor determine the extent to which it can prevent or delay cognitive decline[12,13]. This gap highlights the need for further research to clarify how, and under what conditions, social participation can serve as an effective strategy for promoting cognitive health in aging populations. Therefore, this scoping review aimed to explore the relationship between social participation and cognitive functions in older people and the mechanisms linking social participation and cognition.

METHODOLOGY

Protocol and Registration

This scoping review was reported and summarized in accordance with the guidelines of the Joanna Briggs Institute (JBI)[14], as well as the recommendations of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews (PRISMA-ScR)[15]. The protocol for this review was registered in the Open Science Framework (OSF) (https://doi.org/10.17605/OSF.IO/HP6EY).

Search Strategy

The search for the scoping review was conducted in five electronic databases (PubMed/MEDLINE, Scopus, Web of Science, and LILACS) from inception May 2025. The search strategy included the terms "social participation," "social isolation," "neurocognitive aging," "cognitive functions," "cognition," and "older adults" (see Appendix 1 for the complete search strategy).

Eligibility Criteria

The review was limited to studies published in English, Spanish, and Portuguese. The primary Boolean structure used ("social participation" OR "social participation") AND ("cognitive function" OR "cognitive decline") AND ("older adults" OR elderly). Longitudinal cohort studies were included when available.

Studies were included if they met the following criteria: (1) Population: individuals aged ≥60 years, regardless of sex, with or without cognitive impairment; (2) Concept: any form of social participation; and (3) Context: studies conducted in any geographical location worldwide that analyze the relationship between social participation with cognitive function. Articles that did not specify assessments of social participation or cognitive function, published in languages other than English, Spanish or Portuguese; without full-text availability; and publications other than randomized controlled trials, clinical trials, observational studies, Longitudinal cohort studies or cross-sectional studies were excluded.

Data Extraction

Two independent reviewers (W.S-L. and G.F-V.) screened the titles and abstracts to determine eligibility, classifying each record as "include," "exclude," or "maybe." Articles classified as "include" or "maybe" were retrieved for full-text review. Disagreements were resolved through consultation with a third independent reviewer (R.V-R.). The total number of studies was compiled into a single database. Search results were cross-checked using the RAYYAN platform (https://new.rayyan.ai/reviews/1054982), and duplicate records were removed. Data extraction was performed by two team members using standardized templates adapted to the objectives of the review.

Data Organization Process

The selected literature was analyzed based on title, author, year of publication, country, sample size, age range, assessment of social participation, neurocognitive evaluation measures, findings, and conclusions. No additional data were requested from the authors. The extracted data were analyzed through an inductive qualitative content analysis, aligned with the aim of the review. No predefined categories were used; instead, the data were organized according to semantic, thematic, and frequency criteria, allowing analytical categories to emerge as described in the results.

RESULTS

Study Characteristics

A total of 6,903 records were identified; after removing duplicates and screening, 13 studies were included. Reasons for full-text exclusion included: no measure of social participation (n=5), no cognitive outcome reported (n=8), participants <60 years (n=4), ineligible study design (n=2) and full text not accessible (n=5) (Figure 1).

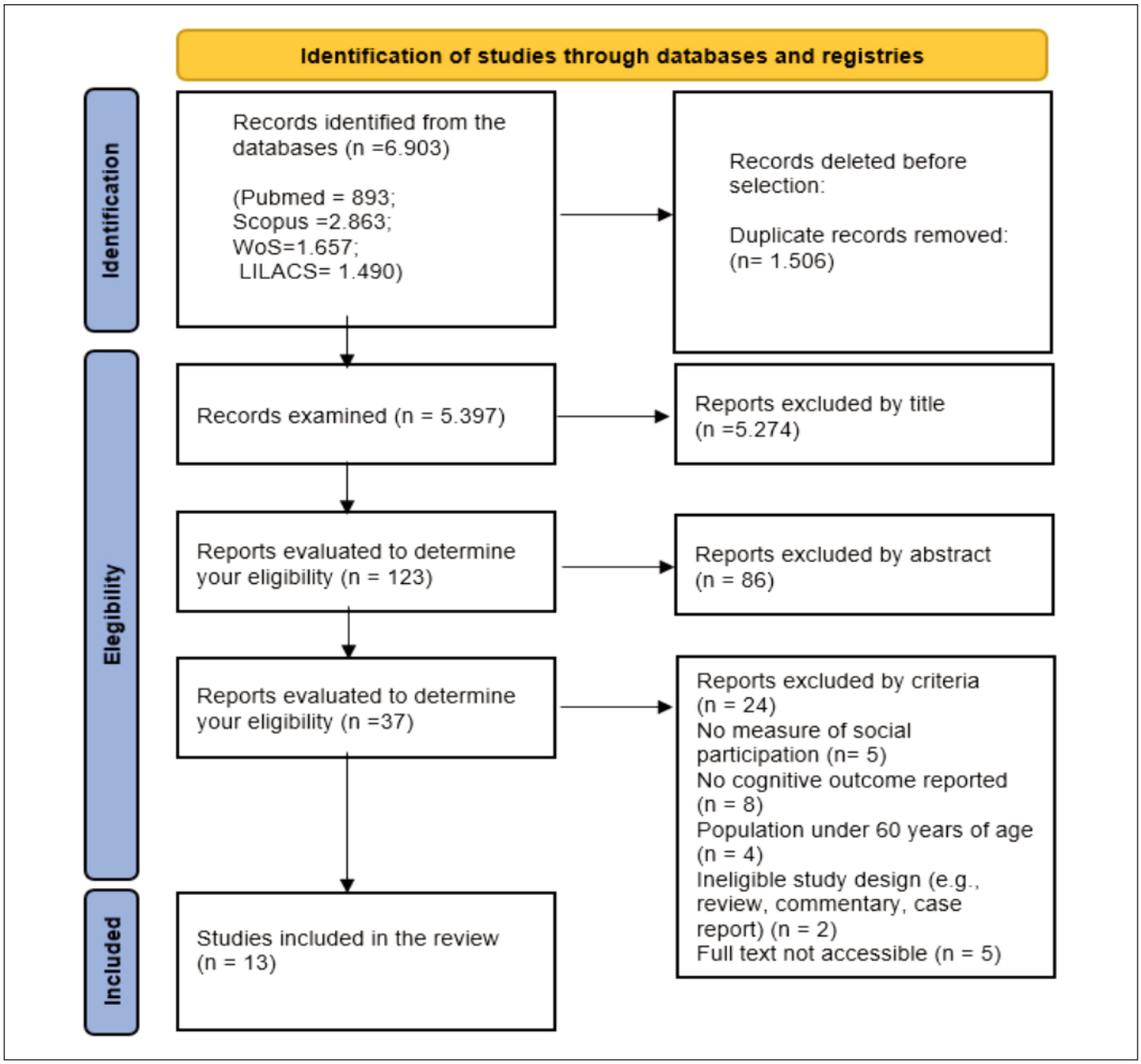

Figure 1. PRISMA flowchart for article selection

From 6,903 records identified, 13 studies published between 2014 and 2024 met the eligibility criteria and were included in this review (Figure 1). These studies examined the relationship between social participation and neurocognitive aging in older adults across the United States[16], United Kingdom[17,18], South Korea[19,22,27], India[20,23], Mexico[21], China[24,25], Eastern Europe[26], and Japan[28], with a combined sample of 101,595 participants (Table 1). Social participation was described as a diverse and multifactorial construct, ranging from structured community programs to informal interpersonal interactions. Haslam et al. (2014) introduced the concept of "group identity" as central to participation, showing that both the quantity and quality of affiliations predicted self-perceived cognitive function[18]. Kim et al. (2023) reported strong links between religious involvement, intergenerational volunteering, and social capital[19].

Social Participation and Cognitive Functions

All studies reported positive associations between social participation and cognitive performance, especially in episodic memory, verbal fluency, attention, and executive function. Anatürk et al. (2020) found larger frontotemporal cortical vol-

Table 1. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Hamlin et al., (2022) United States[16]	Cross-sectional	Non-Hispanic whites (NHB) n = 217 Age = 63.69 ± 3.2 %W = 55.8% Non-Hispanic Blacks (NHN) n = 248 Age = 63.50 ± 3.12 %W = 62.9%	Perceived social participation was assessed using a question about the ability to trust and rely on four relational figures (partner, closest child, other relative, and close friend), with responses ranging from 1 (never) to 3 (always) averaged to obtain a composite score. Social activity was measured by the frequency of participation in 21 activities during the past month, using items from the HRS questionnaire.	Cognitive functioning was assessed using the following cognitive domains: episodic memory using the CERAD word list and the BENSON complex figure; executive functioning using the STROOP II and Color Trails II; and Symbol Digit Modalities for processing speed, language, and visuospatial functioning using the Montreal Cognitive Assessment (MoCA).	Racial differences in social participation were identified, with lower involvement among older adults in the NHN group compared to those in the NHB group, despite no differences in social network size or perceived support. Only in the NHB group was social participation positively associated with episodic memory, suggesting potential contextual barriers affecting this relationship in the NHN group.
Anatürk et al., (2020) United Kingdom[17]	Cross-sectional	n = 574 Age = 69.6 ± 4.9 %W = 18.5%	Social participation was measured using a leisure activities questionnaire in which participants indicated how frequently they had participated in 13 social activities during the past 12 months. Responses were recorded on a 4-point scale (0 = never, 3 = weekly).	Executive function was assessed using subtests of the digit span task (forward, backward, and sequential), verbal fluency (categorical and free), and Part B of the Trail Making Test. Memory was measured using the Rey-Osterrieth complex figure and the Hopkins Verbal Learning Test-Revised (HVLT-R), considering immediate and delayed recall and recognition. Processing speed was assessed with the TMT-A, digit coding, and reaction time and movement tasks of the CANTAB RTI. Finally, a measure of global cognition was included using the MoCA assessment.	Increased levels of social participation were positive and significantly associated with performance in cognitive functions such as global cognition, executive function, memory, and processing speed.

Table 1 continuation. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Haslam et al., (2014) United Kingdom[18]	Longitudinal -cohort	n = 3.413 Age = 62.58 ± 8.94 %W = 57.3%	Social participation was assessed using various measures extracted from the ELSA database, covering both individual and group aspects. The number and quality of close relationships, frequency of contact with children, family, and friends, as well as participation in organizations, community activities, and cultural events were considered.	Cognitive assessment in this study was performed using five tests administered during a nursing visit, targeting different cognitive domains. Tasks included temporal orientation (MMSE), immediate and delayed recall, prospective memory, and categorical verbal fluency. These tests allow for the assessment of the participants' overall cognitive integrity.	The study showed that social participation, especially through group bonding, is associated with improved performance on various cognitive measures, although the magnitude of these associations varies. No significant effects were observed on temporal orientation (MMSE) or categorical verbal fluency. However, small but significant positive associations were identified with immediate memory, delayed memory, and prospective memory, suggesting that social engagement may contribute modestly to the preservation of certain memory functions in older adults.
Kim et al., (2023) South Korea[19]	Longitudinal -cohort	Cognición normal n = 417 Age = 68.4±6.6 %W = 49.9% Deterioro cognitivo n= 258 Age = 75.3±7.5 %W = 67.4	Social participation was assessed using the definition of "non-social participation," which was evaluated in the following social activities: senior citizen associations, volunteering, religious activities, friendship gatherings, hobbies, local associations, or job placement projects for older adults.	Cognitive assessment was performed using the Korean version of the Mini-Mental State Examination for Dementia (K-MMSE), which ranges in score from 0 to 30.	The study's findings show that social participation plays a crucial role in reducing the risk of mortality in older adults with cognitive impairment. Factors such as a non-social participation, group segregation, and lack of support were associated with an increased risk of mortality in this population, while no such effects were observed in adults with preserved cognition.

Table 1 continuation. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Kumar et al., (2022) India[20]	Observational Cross-sectional	n= 23.584 Age = 68.5±7.1 %W = 51.6%	Social participation was assessed using a composite index of five indicators: marital status, cohabitation status, availability of a confidant, and participation in social and cultural activities. The sum of these indicators was categorized into three levels: low (0–2 ties), medium (3), and high (4–5 ties) social participation.	Cognitive function was assessed in this study using a composite index that integrated several cognitive tests, including memory (immediate and delayed word count), orientation (date, month, day, etc.), executive functions (such as the paper-folding task), computational ability (solving mathematical operations), and visuospatial skills (copying geometric figures). The total score for the composite index ranges from 0 to 43.	Social participation is positively related to cognitive assessments in older adults in India. Individuals with higher levels of social participation had significantly better scores on cognitive tests, so the analysis reveals that social networks and active participation may have a protective effect against cognitive decline.
Robertson et al., (2023) Mexico[21]	Longitudinal-cohort	n= 9.091 Age = 69.8±7.5 %W = 54.7%	Participation in social and leisure activities was assessed using a questionnaire that investigated the performance of ten different activities over the past year, including volunteering, attending classes, participating in clubs, reading, playing games, using technology, and doing housework, among others. The responses were used to construct a composite variable that classified participants according to the median total number of activities performed (0–3 vs. 4–10). This measure was used to analyze the overall level of social and leisure engagement in the sample.	The cognitive battery used in the Mexican Health and Aging Survey (MHAS) included seven neuropsychological tasks: constructive praxis, verbal fluency, verbal learning and recall, visual scanning, and temporal orientation. Variables with missing data imputation were used, and results were dichotomized according to a threshold of ≥1.5 standard deviations below the age- and education-adjusted mean to define cognitive impairment.	The study showed that greater participation in social and leisure activities is associated with a lower likelihood of cognitive decline, especially in the areas of learning, memory, temporal orientation, and perceptual-motor function. Furthermore, participating in at least four activities was associated with better cognitive outcomes.

Table 1 continuation. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Oh et al., (2021) South Korea[22]	Longitudinal -cohort	n = 8.903 Age = 62.9±4.9 %W = 65.7%	Social participation was assessed using a question asking participants whether they had participated in any of the following types of organizations or activities: religious events, senior centers, sports groups, family or school gatherings, volunteer activities, and political activities.	Cognitive function was assessed in this study using the Korean version of the Mini Mental State Examination (K-MMSE). This test measures several cognitive domains, including orientation, memory, language, registration, attention, calculation, and the ability to follow simple instructions. The total score ranges from 0 to 30.	Social participation was significantly associated with better cognitive function in older adults. Those who participated consistently scored higher on the K-MMSE. Ceasing to participate was associated with cognitive decline, especially in men. Participation in senior centers was protective in both genders, while sports activities did not show a significant association.
Muhammad, (2022) India[23]	Cross-sectional	n = 31.464 Age = 69.6±6.94 %W = 52%	Social participation in this study was assessed using the question: "How often do you participate in the following religious activities? (a) praying, (b) attending religious services (at a temple, mosque, church, etc.), and (c) participating in religious gatherings." Responses included frequencies such as "every day," "more than once a week," "once a week," "one to three times a month," "one or more times a year," and "never."	Cognitive function was assessed in this study using a set of measures adapted from the Mini-Mental State Examination (MMSE), which included various cognitive dimensions such as memory, orientation, arithmetic skills, visuospatial and constructive skills.	Individuals who participated in religious activities had significantly lower mean cognitive impairment scores (i.e., better cognitive function) compared to those who did not participate or had less participation in religious activities.
Liu et al., (2022) China[24]	Longitudinal -cohort	n = 6.291 Age = 64.3±6.4 %W = 51.5%	Social participation was assessed through a survey according to the following domains: interaction with friends, card games or participation in sports or social clubs, and participation in volunteer work.	Cognition was assessed using the Chinese version of the Mini-Mental State Examination (MMSE) scale, which includes two domains: mental state and episodic memory.	Older adults with higher levels of social participation had higher scores on episodic memory and mental status.

Table 1 continuation. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Bai et al., (2024) China[25]	Cross-sectional	n = 496 Age = 70.05±6.9 %W = 52.2%	Social participation was assessed using the 6-item Lubben Social Network Scale (LSNS-6). This scale measures the quantity and quality of social relationships, especially within family and friends.	Cognitive assessment in this study was conducted using two main instruments: the Montreal Cognitive Status Assessment Scale (Beijing version) (MoCA-Beijing) and the Clinical Dementia Rating Scale (CDR).	Social participation, assessed using the LSNS-6 scale, is indirectly related to scores on cognitive assessment scales, such as the MoCA and the CDR. In particular, greater social isolation is associated with lower MoCA scores and greater levels of impairment on the CDR, indicating poorer cognitive functioning.
Nie et al., (2021) Czech Republic, Russia, Poland[26]	Multicéntric Cross-sectional	n = 6.691 Age = 62.2 ± 6.0 %W = 53.7%	Social participation was assessed through a combination of specific questions about participation in group or organizational activities and the frequency with which participants participated in those activities.	Four cognitive tests were measured in the following order: immediate word recall, animal naming task, letter cancellation task, and delayed word recall. These tests measure different cognitive domains: verbal memory, learning ability, verbal fluency, and processing speed.	Participation in social activities was consistently and significantly associated with improved performance in overall cognitive function and in specific domains such as verbal memory, processing speed, and verbal fluency.
Ko & Choi, (2024) South Korea[27]	Cross-sectional	n =9.827 Age = 73.41±6.53 a %W = 56.9%	Social participation was assessed through the frequency of participation in various social activities and satisfaction with social relationships. Frequency was assessed in four categories: less than once a week, once a week, 2-3 times a week, and four or more times a week. Satisfaction was assessed using a 5-point scale: very satisfied, satisfied, average, slightly satisfied, and dissatisfied.	Cognitive function was measured using the Korean version of the Mini-Mental State Examination for Dementia Screening (MMSE-DS). This standardized test has a score range of 0 to 30, with higher scores indicating better cognitive function.	Lower social participation and dissatisfaction with social relationships were significantly associated with approximately 1.91 times the odds of cognitive frailty in older adults. Conversely, greater participation in social activities (four or more times per week) was associated with better cognitive health.

Table 1 continuation. Characteristics of the included studies

Author, year and country	Study design	Sample size, age and % of women	Type of social participation	Neurocognitive measures	Main results
Noguchi et al., (2019) Japan[28]	Longitudinal	n = 121 Age = 73.86±4.95 %W = 47.1%	To assess social participation, a self-administered questionnaire based on the Bidirectional Social Support Scale was used to assess social support exchanges, including emotional and instrumental support with various sources, such as cohabiting family members, non-cohabiting family members and relatives, neighbors, and friends.	Cognitive function was assessed at baseline and follow-up using the Japanese version of the Montreal Cognitive Assessment (MoCA-J). The MoCA-J has a score range of 0 to 30 and assesses six cognitive domains: memory, visuospatial skills, executive function, attention, concentration and working memory, language, and temporal and spatial orientation.	Social support exchanges with neighbors and friends are positively associated with cognitive function in older adults over a one-year period. People who actively provide emotional support tend to score approximately 1.25 points higher on the MoCA-J. In this study, social support was considered a component of social participation, reflecting its functional dimension.

Legend: %W = Percentage of women; Age = Mean age ± standard deviation; CANTAB RTI = Cambridge Neuropsychological Test Automated Battery–Reaction Time Index; CDR = Clinical Dementia Rating Scale; CERAD = Consortium to Establish a Registry for Alzheimer's Disease; ELSA = English Longitudinal Study of Ageing; HRS = Health and Retirement Study; HVLT-R = Hopkins Verbal Learning Test–Revised; K-MMSE = Korean version of the Mini-Mental State Examination for Dementia; MMSE = Mini-Mental State Examination; MMSE-DS = Mini-Mental State Examination for Dementia Screening; MoCA = Montreal Cognitive Assessment; MoCA-Beijing = Beijing version of the Montreal Cognitive Assessment; MoCA-J = Japanese version of the Montreal Cognitive Assessment; NHB = Non-Hispanic Blacks; NHN = Non-Hispanic Whites; n = Sample size; SD = Standard deviation; TMT-A/B = Trail Making Test–Parts A and B.

umes among socially active older adults[17]. Liu et al. (2022) linked reading club participation with better episodic memory, suggesting environmental stimulation benefits[24].

Bai et al. (2024) in China found a graded association between participation level and cognitive performance, with isolation linked to lower MoCA scores and higher CDR ratings[25]. Hamlin et al. (2022) showed that structured volunteering improved processing speed and flexibility, while Kumar et al. (2022) in India linked cultural activities with better attention and visuospatial abilities[16,20]. Nie et al. (2021) in Eastern Europe found that frequent contact predicted better temporal orientation, memory, and processing speed, independent of education or health status[26].

Mechanisms Linking Social Participation and Cognition

Proposed mechanisms included neurobiological, neuroendocrine, and psychosocial pathways. Ko and Choi (2024) suggested that pleasurable interactions stimulate dopaminergic activity, supporting hippocampal neurogenesis and episodic memory[27]. Anatürk et al. (2020) proposed that participation buffers the allostatic load of isolation[17].

From a psychosocial perspective, all included studies agree on the positive emotional effects of social participation, impacting dimensions such as positive affect, reduced perceived stress, and decreased depressive symptoms (β from 0.12 to 1.9)[24,25]. Muhammad (2022) identified emotional self-regulation, purpose, and perceived usefulness as mediators, while Oh et al. (2021) highlighted cognitive self-efficacy[23,22]. Bai et al. (2024) and Hamlin et al. (2022) suggested a bidirectional relationship, where social participation both protects cognition and depends on baseline neurocognitive integrity[25,16]. Liu et al. (2022) and Robertson et al. (2023) highlight that social participation is a strong predictor of emotional well-being, even after controlling for sociodemographic variables and individual medical conditions and may reduce the likelihood of cognitive decline in late adulthood[24,21]. In Japan, Noguchi et al. (2019) found that the frequency of group activity participation is associated with less levels of anxiety and depression, mediated by the perception of available social support as a component of social participation. In fact, they showed that individuals who actively provide emotional support tend to score approximately 1.25 points higher on the MoCA-J[28].

In the longitudinal study by Haslam et al. (2014), the loss of social affiliations following retirement predicted a signifi-

cant increase in depressive symptoms and cognitive decline, underscoring the need to reconsider identity construction during the aging process[16]. This finding is consistent with data from Kim et al. (2023), who reported that active participation reduces the perception of loneliness, strengthening emotional resilience to adverse life events[19]. Kumar et al. (2022) found that older Indian adults who participate in intergenerational support networks exhibit lower levels of salivary cortisol and greater heart rate variability, physiological indicators associated with emotional balance and healthy aging[20].

DISCUSSION

The findings synthesized in this review reveal that social participation has a positive effect on cognitive function in older adults. The analyzed evidence indicates that social participation is not only a relevant cognitive and emotional determinant, but also acts as a modulator of brain health, directly affecting critical neurocognitive processes throughout late adulthood. From a neuroscientific perspective, the selected studies suggest that regular social involvement stimulates a broad range of executive, memory-related, and attentional functions, possibly mediated by mechanisms of neuroplasticity, neuroprotection, and emotional regulation, thus contributing to the preservation of cognitive functions in older adults[16-28].

The current state of knowledge supports the notion that social participation is a strong predictor of better cognitive performance in old age[29], particularly in domains such as working memory, sustained attention, verbal fluency, and abstract reasoning. Anatürk et al. (2020), using structural neuroimaging techniques, identified a significant association between the degree of social interaction and gray matter volume in prefrontal, temporal, and cingulate regions, which are essential for executive control and socioemotional integration[17]. Similarly, Liu et al. (2022) showed memory function improvements in older adults participating in group reading programs, suggesting sustained cognitive activation through the semantic and symbolic stimulation inherent in social exchanges[24]. These empirical findings support the cognitive reserve model which posits that complex and stimulating life experiences, such as social participation, enhance the efficiency and compensatory capacity of neural networks in the face of age-related structural deterioration[29].

At the neurobiological level, social participation has been linked to neurogenesis and synaptogenesis processes, particularly in the hippocampus and dorsolateral prefrontal, which are especially vulnerable to aging[30]. Research by Bai et al. (2024) and Ko & Choi (2024) suggests that prolonged social interaction stimulates the expression of brain-derived neurotrophic factor (BDNF), promoting synaptic plasticity and the preservation of functional connectivity[25-27]. At the neuroendocrine level, positive social participation has been shown to reduce allostatic load and cortisol levels[31], as observed in Kumar et al. (2022), suggesting a modulatory effect on chronic stress response systems that protects key brain structures like the hippocampus and amygdala from the neurotoxic effects of glucocorticoid excess[20].

There is agreement that social participation is associated with psychological mechanisms that act as neurocognitive mediators[32,33]. These include sense of purpose, cognitive self-efficacy, and feelings of belonging, which enhance motivation, emotional regulation, and engagement in cognitively demanding activities. Studies by Muhammad (2022) and Kim et al. (2023) show that higher levels of self-efficacy and identity continuity in late adulthood are associated with lower cognitive decline, possibly due to their impact on adherence to healthy behaviors and the activation of executive networks[19,23]. Similarly, Haslam et al. (2014) demonstrated that identification with social groups helps preserve autobiographical memory and temporal orientation, critical cognitive functions that support personal identity and individual functional capacity[18].

It is important to note that the relationship between social participation and cognitive health is neither univocal nor universal, but is modulated by historical, cultural, contextual, and structural factors. For example, the study by Robertson et al. (2023) in Mexico highlights the role of informal community ties in promoting cognitive well-being, while Noguchi et al. (2019) in Japan emphasize institutionalized forms of neighborhood participation[21,28]. These cultural differences in the forms and meanings of social participation may activate distinct neuroaffective and symbolic mechanisms, generating divergent effects on cognition. Therefore, a contextualized and cross-cultural understanding is required, considering how models of successful aging and trajectories of social participation vary across countries based on social determinants of health and value systems[34,35].

Consequently, the available evidence suggests that social participation promotes neurocognitive resilience through multiple synergistic mechanisms: cognitive stimulation, socioemotional support, stress regulation, identity reinforcement, and activation of frontolimbic circuits. This network of processes helps explain why socially active older adults exhibit a slower rate of cognitive decline and lower prevalence of neurodegenerative disorders, including mild cognitive impairment and dementia[36,37]. From a preventive and clinical perspective, these findings reinforce the need to integrate social participation as an essential component of healthy aging strategies and neuropsychological interventions for older adults[38,39].

However, this study presents certain theoretical and methodological limitations. First, most of the included studies are cross-sectional, which limits the ability to establish causal relationships between social participation and the neurocognitive changes reported by participants. Second, there is limited use of objective biomarkers or neurophysiological tech-

niques (such as fMRI or EEG) that would allow for more precise mapping of the effects of social participation on brain architecture. Third, although studies from different world regions were included, there remains a predominance of research conducted in Western contexts, which may limit the cross-cultural generalizability of the findings to other groups, contexts, and populations.

CONCLUSION

The reviewed findings confirm that sustained social participation modulates brain processes associated with cognitive and emotional resilience, consolidating its relevance as an indispensable determinant of well-being in old age. Precisely for this reason, it is concluded that promoting active and meaningful social environments represents an essential strategy for healthy and cognitively efficient aging.

Finally, this review emphasizes that social participation promotes cognitive health during aging, based on interrelated neurobiological, psychological, and contextual mechanisms. However, longitudinal and multimodal studies are needed to deepen our understanding of these mechanisms and guide the design of culturally and socially relevant interventions that improve the integration of older adults into neurocognitive public health.

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