



BOARD-GAME-BASED INTERVENTIONS AND LONELINESS-RELATED OUTCOMES IN OLDER ADULTS: A SCOPING REVIEW

I Made Dyanta Anwar^{1*}, Putu Jyoti Prema Putri², Junaiti Sahar³, Utami Rachmawati³

¹Master of Nursing Program, Faculty of Nursing, Universitas Indonesia, Jl. Prof. DR. Sudjono D. Pusponogoro, Pondok Cina, Beji, Depok, Jawa Barat 16424, Indonesia

²Faculty of Science, The University of Sydney, Camperdown NSW 2050, Australia

³Department of Community Nursing, Faculty of Nursing, Universitas Indonesia, Jl. Prof. DR. Sudjono D. Pusponogoro, Pondok Cina, Beji, Depok, Jawa Barat 16424, Indonesia

*dyantajr@gmail.com

ABSTRACT

Loneliness in older adults is an increasingly important public health concern because of its association with poorer psychological well-being, cognitive functioning, and social participation. Board-game-based interventions have attracted growing attention as structured social approaches, yet the available evidence remains fragmented and has not been clearly mapped. This scoping review aimed to map the characteristics, implementation contexts, delivery formats, and reported outcomes of board-game-based interventions relevant to loneliness in older adults. The review followed the Joanna Briggs Institute methodology and was reported in accordance with PRISMA-ScR. Searches were conducted across six databases, namely PubMed/MEDLINE, Embase, Scopus, CINAHL, PsycINFO, and ProQuest, for studies published between 2020 and 2025. A total of 62 records were identified, screened through title/abstract and full-text review, and 6 studies met the inclusion criteria. The included studies were conducted across diverse countries and involved strategic games, collaborative storytelling games, reminiscence-based games, traditional games, and one hybrid format. Four studies reported direct reductions in loneliness, while the remaining studies described improvements in outcomes related to social connection, including communication, social inclusion, interpersonal relationships, and mental well-being. Although the findings suggest promising potential, the evidence base remains small and heterogeneous.

Keywords: board games, loneliness; older adults; scoping review; social connection

INTRODUCTION

Global population ageing has made the social and emotional well-being of older adults a critical public health priority (United Nations, 2023). Consequently, loneliness—the subjective experience of insufficient or unsatisfactory social connection—has garnered significant attention. Older adults are particularly vulnerable to loneliness due to bereavement, functional decline, role transitions, and limited opportunities for meaningful participation (Engel et al., 2023; Lim et al., 2020; Salari et al., 2025). This vulnerability is further exacerbated by socioeconomic disadvantage, caregiver strain, and communication barriers, especially in contexts with low digital (Da Silva, 2025; Fernández-Roses et al., 2025; Jahangir et al., 2025).

Loneliness in later life is linked to severe psychological, cognitive, and physical consequences, including frailty, chronic illness, cognitive decline, and reduced quality of life (Dabiri et al., 2024; Pengpid et al., 2023; Puyané et al., 2025). Systemically, it increases healthcare utilisation and long-term care demands (Hou et al., 2025; Smith & Victor, 2022). To mitigate this, various interventions have emerged, such as befriending programmes, cognitive-behavioural therapy, and technology-mediated communication (Patil & Braun, 2024). However, evidence syntheses indicate that these approaches often yield inconsistent effects, with accessibility, scalability, and sustainability remaining major challenges in community settings (Beggs et al., 2024; Cash et al., 2024; Hoang et al., 2022).

Within this context, game-based interventions have attracted growing interest as socially engaging approaches for older adults. Board games may represent a distinct intervention format because they combine explicit rules, turn-taking, shared attention, and cooperative or competitive interaction in

face-to-face settings. These characteristics may help structure social participation and create predictable opportunities for interpersonal engagement. In contrast to more technology-dependent approaches, analogue board games typically require limited infrastructure and can be adapted to local languages, cultural narratives, and familiar recreational practices. Early empirical studies suggest that board-game-based activities may support loneliness-related and social connection outcomes among older adults (e.g., (Bodner et al., 2024; Chen & Tsai, 2022; Herrero et al., 2025; Iizuka et al., 2025; Liu et al., 2024). Nevertheless, the current evidence remains fragmented across study designs, intervention types, settings, and outcome measures. Board-game-based interventions are often subsumed within broader categories such as recreational activities, psychosocial programmes, or reminiscence-based approaches, making their distinctive features and reported outcomes difficult to interpret.

Accordingly, a scoping review is warranted to map the available evidence on board-game-based interventions relevant to loneliness in older adults. Guided by the Joanna Briggs Institute methodology for scoping reviews and reported in accordance with the PRISMA-ScR guideline (Page et al., 2021), this review aimed to examine the characteristics, implementation contexts, delivery modalities, and reported outcomes of empirical studies on board-game-based interventions for older adults. The review addressed three questions: (1) what types of board-game-based interventions have been implemented in relation to loneliness and related social connection outcomes; (2) in what settings and delivery formats have these interventions been conducted; and (3) what outcomes relevant to loneliness have been reported, and how have intervention features been described in the literature?.

METHOD

This scoping review was conducted in accordance with the Joanna Briggs Institute methodology for scoping reviews and reported following the PRISMA-ScR guidelines (Page et al., 2021; Peters et al., 2024). An a priori protocol was registered in the Open Science Framework (OSF; registration: fx6ah). The review addressed three questions: (1) what types of board-game-based interventions have been implemented for older adults in relation to loneliness and related social connection outcomes; (2) in what settings and delivery formats have these interventions been conducted; and (3) what outcomes relevant to loneliness have been reported, and how have intervention features been described in the literature?. Eligible studies involved older adults aged 60 years and above, or populations explicitly described by study authors as older adults. Mixed-age studies were included only when findings for older adults could be clearly identified. The concept of interest was board-game-based interventions, defined as structured, rule-based game activities involving a physical board or tabletop format delivered as part of an intervention or organised programme. This included commercially available board games, culturally adapted traditional board games, and intervention-specific board-game formats. Hybrid formats were included where the physical analogue component remained central to the intervention. Studies were excluded if gameplay was exclusively digital, if activities involved unstructured recreational play without an intervention framework, or if the board-game component could not be meaningfully distinguished from a broader multi-component intervention.

No restrictions were placed on geographical region, cultural setting, or service context. Peer-reviewed empirical studies reporting primary data were eligible, including experimental, quasi-experimental, observational, and mixed-methods designs. Conference abstracts, editorials, narrative reviews, protocols, dissertations, and other grey literature were excluded. A three-step search strategy consistent with JBI guidance was used. First, an initial limited search of PubMed/MEDLINE and Scopus was undertaken to identify relevant articles and refine search terms. Second, identified keywords and index terms were used to develop full search strategies for all included databases. Third, the reference lists of all included studies were screened manually to identify additional eligible sources. The databases searched were PubMed/MEDLINE, Embase, Scopus, CINAHL, PsycINFO, and ProQuest. Searches combined terms related to older adults, board-game-based interventions, and loneliness or related social connection outcomes. Searches were limited to studies published between

2020 and 2025. Only studies published in English or Bahasa Indonesia were eligible, with database-specific language filters applied where supported by the search platform. Full search strategies are provided in Supplementary Appendix 1. The number of records identified, screened, excluded, and included in the final review is reported in the Results section and presented in Figure 1.

All identified records were imported into Rayyan for deduplication and screening. Following removal of duplicates, titles and abstracts were screened independently by members of the review team against the eligibility criteria after initial calibration of the screening approach. Potentially relevant reports were retrieved in full and assessed independently against the inclusion criteria. Reasons for exclusion at the full-text stage were recorded. Disagreements arising at any stage were resolved through discussion until consensus was reached. Data were charted using a structured extraction form developed and pilot-tested for this review. Extracted information included author and year, country, study design, participant characteristics, intervention type, duration and frequency, delivery format, comparator or control, outcome measures, and key findings. Although critical appraisal is not mandatory for scoping reviews, included studies were appraised independently using JBI Critical Appraisal Checklists appropriate to each study design in order to contextualise the strengths and limitations of the evidence. Appraisal results were not used as a basis for exclusion. Given the heterogeneity of study designs, intervention formats, and outcome measures, findings were synthesised descriptively and narratively.

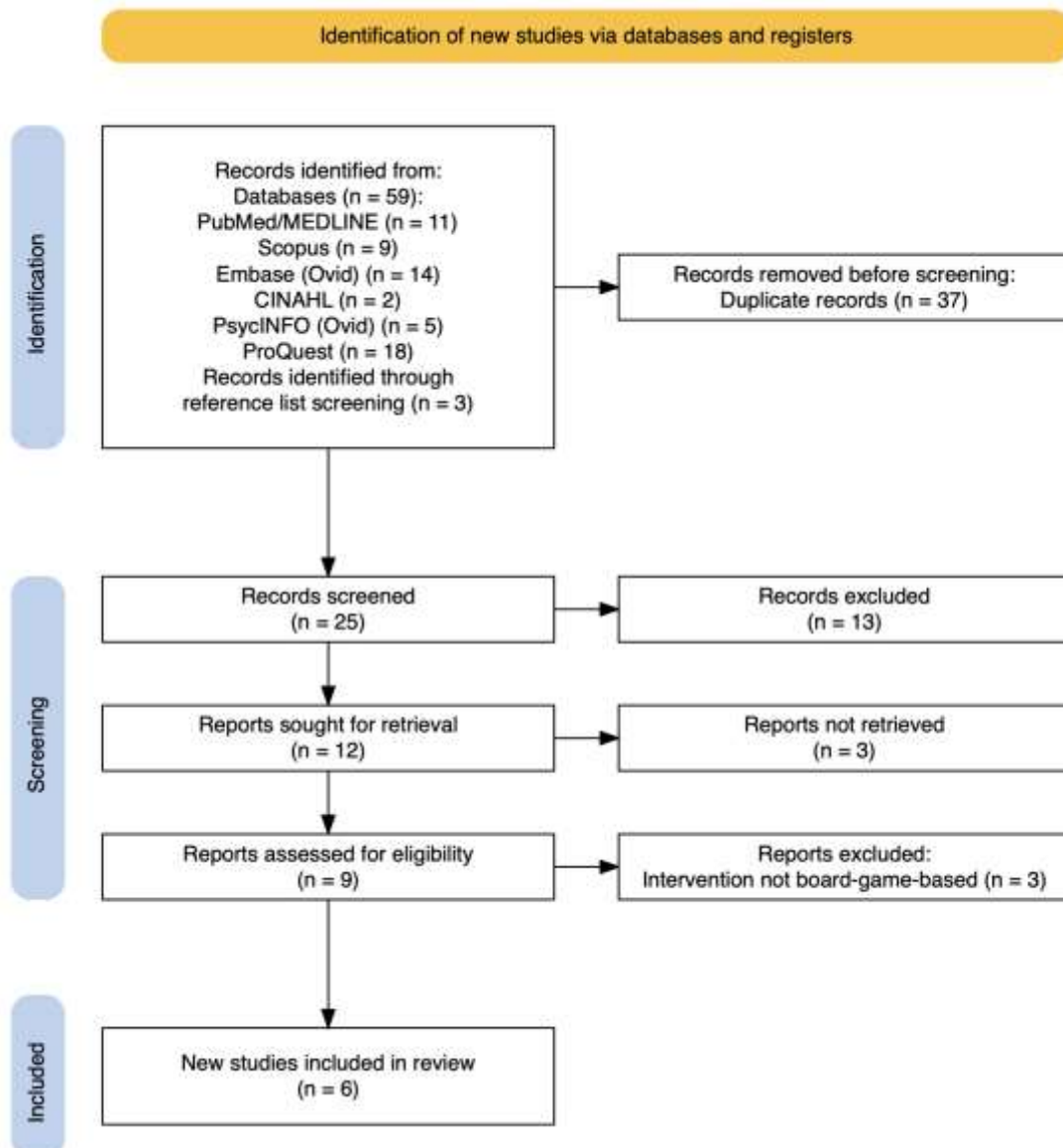


Figure 1. PRISMA flow diagram of study selection

RESULT

Study selection

The search identified 59 records through database searching and an additional 3 records through reference list screening, yielding 62 records in total. After removal of 37 duplicates, 25 records remained for title and abstract screening. Of these, 13 records were excluded. Twelve reports were sought for retrieval, of which 3 could not be obtained in full. Nine full-text reports were assessed for eligibility, and 3 were excluded because the intervention was not board-game-based. A total of 6 studies were included in the final review (Figure 1).

Characteristics of included studies

The six included studies were published between 2022 and 2025 across diverse geographical contexts: Japan, Israel, Spain, Taiwan, Nigeria, and China. Most were undertaken in community-based settings (n = 5), with one conducted in a nursing home (n = 1). Sample sizes ranged from 23 to 151 participants. Study designs encompassed randomized controlled trials (n = 3), alongside one quasi-experimental study, one experimental study, and one single-arm pilot study. Intervention types included strategic board games, collaborative storytelling games, reminiscence-based games, modern board games, traditional culturally embedded games, and one hybrid format. The main characteristics of the included studies are summarised in table 1.

Table 1.

Characteristics of Included Studies on Board-Game-Based Interventions Relevant to Loneliness and Social Connection in Older Adults

Author (Year)	Study Design	Country/ Setting	Sample Characteristics	Intervention Type	Delivery Format	Comparator/ Control	Outcome Measures	Main Findings
Iizuka et al. (2025)	Single-arm pilot study	Japan, community setting	23 community-dwelling older adults aged ≥65 years (mean age 78.8 years)	<i>Pair Go</i> , a strategic board game played in pairs	Face-to-face; physical board game; 12 weekly 90-min sessions	None	UCLA Loneliness Scale; cognitive function (TMT-A, TMT-B, LM)	Loneliness significantly decreased, alongside improvements in executive function and memory ($p < 0.05$).
Bodner et al. (2024)	Pilot randomized controlled trial	Israel, community activity centers	151 older adults aged ≥61 years (mean age 75.05 years)	<i>Kioku</i> , a collaborative storytelling board game	Face-to-face; physical game using wooden blocks; 12 weekly sessions	Waiting-list control receiving usual center activities	ULS-8; WHO-5 Well-Being Index	The intervention group showed significantly lower loneliness and higher well-being than the control group ($p < 0.001$).
Herrero et al. (2025)	Randomized controlled trial	Spain, nursing home	30 nursing home residents (mean age 83.2 years)	Modern board games emphasizing strategy and collaboration	Face-to-face; physical board games; twice-weekly 90-min sessions for 12 weeks	Usual nursing home activities	FUMAT Scale (interpersonal relationships, social inclusion); CAMCOG-R	Participants demonstrated significant improvements in interpersonal relationships, social inclusion, and executive functioning.
Chen and Tsai (2022)	Quasi-experimental study	Taiwan, community activity centers	91 older adults aged ≥65 years (mean age 77.4 years)	<i>Four Themes of Life</i> , a reminiscence-based board game	Face-to-face; physical game with cards and turntable; four weekly 90-min sessions	Routine community center activities	UCLA Loneliness Scale; Interpersonal Communication Scale; self-efficacy	Significant improvements were observed in loneliness, interpersonal communication, and self-efficacy at 3-month follow-up ($p < 0.05$).

Author (Year)	Study Design	Country/ Setting	Sample Characteristics	Intervention Type	Delivery Format	Comparator/ Control	Outcome Measures	Main Findings
Olufemi et al. (2025)	Randomized experimental study	Nigeria, community setting	40 older adults aged ≥60 (mean age 64.7 years)	<i>Ayo Olopon</i> , a traditional strategic tabletop game	Face-to-face; wooden board and seeds; 1-h sessions three times weekly for 1 month	Usual daily activities	Social Connection Questionnaire; WEMWBS	The intervention significantly improved social connection ($p < 0.001$) and mental well-being ($p = 0.006$).
Liu et al. (2024)	Randomized controlled study	China, community setting	38 older adults aged 61–75 (mean age 67.2 years)	<i>Journey of Memories</i> , a reminiscence-based hybrid game	Hybrid format; physical board game integrated with mobile app and RFID; three 60-min sessions	No-intervention control	UCLA Loneliness Scale; STAI	The intervention significantly reduced loneliness ($p = 0.002$) and anxiety, with high participant satisfaction.

Reported outcomes relevant to loneliness and social connection

Four studies (n = 4) assessed loneliness directly using the UCLA Loneliness Scale or its variants. Across these studies, reductions in loneliness were reported following participation in board-game-based interventions. The remaining two studies (n = 2) did not assess loneliness directly but reported improvements in conceptually related outcomes, including interpersonal relationships, social inclusion, and social connection. Across the included literature, secondary improvements were also frequently reported in communication, self-efficacy, executive functioning, memory, anxiety, and mental well-being.

Intervention delivery and facilitation features

The mapped interventions varied in thematic focus and delivery approach. Half emphasised reminiscence and collaborative storytelling, whereas the others centred on strategic play or culturally familiar traditional games. Most interventions were delivered in face-to-face physical formats (n = 5) using boards, cards, blocks, or other tabletop components, while one study employed a hybrid format combining a physical board with mobile and RFID-supported elements. Across all studies, the interventions were consistently implemented as structured activities involving shared play, turn-taking, and interpersonal interaction, although duration, frequency, and specific settings varied substantially

DISCUSSION

This scoping review identified a small but emerging body of literature on board-game-based interventions relevant to loneliness and related social connection outcomes in older adults. Across the 6 included studies, most reported improvements in loneliness or in psychosocial outcomes conceptually related to social connection, such as interpersonal relationships, communication, self-efficacy, social inclusion, and mental well-being. However, the evidence base remains limited and heterogeneous in study design, setting, intervention format, and outcome measurement. The findings should therefore be interpreted as indicating promise rather than establishing effectiveness.

One of the clearest observations from the included studies is the diversity of board-game-based formats used. These ranged from strategic and traditional games to collaborative storytelling,

reminiscence-based games, and one hybrid physical-digital format. This variation suggests that the potential value of board-game-based activities may lie less in any single game type than in the structured opportunities they create for shared play, repeated interpersonal engagement, and meaningful participation. This interpretation is broadly consistent with previous literature showing that psychosocial interventions combining social participation with cognitively or emotionally engaging activity may be more beneficial than approaches relying only on passive information delivery or remote contact (Aditya et al., 2024; Lin et al., 2022; Yan et al., 2024). At the same time, the small number of studies means that comparative conclusions across game types, settings, or intervention intensities remain premature.

The included studies also suggest several recurring features that may help explain why board-game-based interventions are relevant to loneliness-related outcomes. Reminiscence-oriented and collaborative storytelling games appeared to provide structured opportunities for narrative sharing and emotional expression (Bodner et al., 2024; Chen & Tsai, 2022; Liu et al., 2024). By contrast, strategic and culturally familiar games such as *Pair Go* and *Ayo Olopon* may support participation through shared rules, mutual attention, and culturally meaningful interaction (Iizuka et al., 2025; Bolarinde et al., 2025). These patterns are best understood as interpretive categories rather than empirically confirmed mechanisms.

Another notable finding is that psychosocial improvements were often reported alongside gains in executive functioning, memory, anxiety, or general well-being. This suggests that board-game-based interventions may operate as multi-domain activities rather than purely social ones. Such a possibility is consistent with prior work indicating that combining cognitive challenge with social interaction may support engagement and selected cognitive outcomes in later life (Kuo et al., 2018). However, the current evidence does not allow clear conclusions about which components—cognitive stimulation, emotional expression, cultural familiarity, or social contact—are most influential.

From a theoretical perspective, the included studies appear broadly consistent with frameworks that emphasise the role of modifiable social and behavioural engagement in later-life functioning. Functional Consequences Theory highlights how behavioural and environmental factors may shape adaptation in ageing (Miller, 2023), while behavioural activation perspectives emphasise engagement in meaningful activity as a way of reducing withdrawal and improving well-being (Medina-Jiménez et al., 2024; Pepin et al., 2021; Scott et al., 2022; Ure et al., 2024). Board-game-based interventions may plausibly fit within these perspectives by offering structured opportunities for shared attention, interaction, and participation. Nevertheless, this remains a conceptual interpretation rather than a directly tested conclusion of the included studies.

The review also has practical implications, albeit cautiously framed. Because most interventions were delivered in physical, low-technology formats, they may be relevant for community and residential settings where face-to-face interaction is valued and digital resources are limited. This may have potential relevance for community programmes for older adults, including primary care-linked or community-based initiatives (Hernández-Pizarro et al., 2025; Huang et al., 2025; Kwok et al., 2025). However, the current evidence is not sufficient to support claims regarding scalability, cost-effectiveness, or implementation readiness. Such questions would require stronger implementation-focused research and clearer reporting of staffing, facilitation, sustainability, and contextual adaptation (Cash et al., 2024; Greene et al., 2024; Kwok et al., 2025; Nguyen & Levasseur, 2023; Yi et al., 2021).

Several limitations should be acknowledged. Only 6 studies met the inclusion criteria, indicating that the evidence base remains small. The studies also varied substantially in design, sample size, intervention type, setting, and outcome measures, limiting comparability. Loneliness was not measured directly in all studies, and some relied on broader psychosocial indicators relevant to social connection rather than loneliness itself. In addition, the search was restricted to studies published

between 2020 and 2025 and to English or Bahasa Indonesia, and grey literature was excluded. These factors may have reduced retrieval of relevant evidence. Future research should prioritise adequately powered controlled studies, clearer reporting of intervention components, standardised loneliness measures, and longer follow-up periods. Greater attention to implementation processes, facilitation, and cultural adaptation will also be important for determining whether board-game-based interventions can be integrated sustainably into services for older adults (Beggs et al., 2024; Kwok et al., 2025; Yi et al., 2021).

CONCLUSION

This scoping review identified a small but emerging body of literature on board-game-based interventions relevant to loneliness and related social connection outcomes in older adults. Across the 6 included studies, most reported improvements in loneliness or in psychosocial domains such as communication, social inclusion, self-efficacy, and mental well-being. However, the evidence base remains limited and heterogeneous, and the findings should be interpreted as indicating promise rather than establishing effectiveness. Board-game-based interventions may represent a potentially useful psychosocial approach for supporting social engagement in later life, but stronger evidence is needed before firm conclusions can be drawn regarding their long-term impact or implementation potential.

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