PoICPE
PROCEEDINGS
of The International Conference
on Psychology and Education

Laluan Hikmah: Development and preliminary evaluation of an active reminiscence Snake-and-Ladder game among older adults

Kallai Selvi Selvaraja[1*], Nasrudin Subhi[1], Muhammad Ajib[1], Azima Ramle[2], Noor Rafizah Aminah[2] and Norfaridah Binti Masiran[2]
[1]Fakulti Sains Sosial dan Kemanusiaan, Universiti Kebangsaan Malaysia, Selangor, Malaysia
[2]Kementerian Kesihatan Malaysia, Malaysia

Abstract. Population aging has increased the need for accessible community activities that support meaningful participation and social connection. Laluan Hikmah is a non-digital board game that adapts the familiar Snake-and-Ladder format by integrating reminiscence, guided reflection, music cues, light movement, strengths recognition, and peer interaction. This paper describes its development and preliminary implementation outcomes among 10 community-dwelling adults aged 60 years and above from an older adults' club at Klinik Kesihatan Sungai Chua, Selangor, Malaysia. A single-group descriptive pre–post evaluation used three researcher-developed five-point items assessing immediate mood, perceived social connectedness, and perceived sense of being valued. Mean ratings were higher after gameplay for mood (2.3 to 4.0), perceived social connectedness (2.1 to 4.1), and perceived sense of being valued (2.4 to 4.2). Participants also provided informal feedback concerning memory recall, story sharing, peer engagement, and enjoyment. The findings represent preliminary developmental signals and do not establish effectiveness. User-informed refinement, validated measurement, and structured feasibility testing are required before broader implementation. **Keywords:** *Older adults; Reminiscence; Board game; Social connectedness; Healthy ageing*

1 Introduction

Healthy aging encompasses functional ability, meaningful participation, psychological well-being, and opportunities to maintain social relationships. Purposeful activities and meaningful roles may support well-being and quality of life in later life (AshaRani et al., 2022). This issue is relevant in Malaysia, where perceived and functional social support have been associated with depressive symptoms and quality of life among community-dwelling older adults (Balqis-Ali et al., 2024).

Loneliness and social isolation remain important psychosocial concerns in older populations. Reviews indicate that group programs, reminiscence, psychological interventions, exercise, music, and multicomponent approaches may offer benefits, although effects vary substantially between interventions and populations (Hajek et al., 2025). Structured group interaction may be particularly valuable when it creates reciprocal communication rather than physical co-presence alone (Yeo et al., 2026).

Reminiscence provides one approach for encouraging autobiographical recall, emotional expression, identity continuity, and shared meaning. Meta-analytic evidence suggests potential benefits for depressive symptoms, life satisfaction, psychological well-being, and loneliness among older adults (Yang et al., 2025). Tabletop games may provide a familiar platform for embedding such processes through shared attention, turn-taking, anticipation, and interpersonal interaction (Chen et al., 2022).

Previous studies have already integrated reminiscence and storytelling into board-game interventions. Journey of Memories was evaluated for anxiety and loneliness, while Kioko was designed to encourage storytelling and mutual attention (Bodner et al., 2024). Consequently, the contribution of Laluan Hikmah does not rest on being the first reminiscence board game. Its specific contribution is the cultural translation of a familiar Snake-and-Ladder structure into a symbolic life journey combining reminiscence, music-related cues, light movement, peer interaction, coping, strengths, gratitude, resilience, and accumulated wisdom within one low-technology format.

This study aimed to describe the development and preliminary implementation outcomes of Laluan Hikmah among community-dwelling older adults.

2 Conceptual foundations

Laluan Hikmah is informed by four complementary principles. First, reminiscence prompts encourage participants to recall relationships, achievements, challenges, places, and meaningful events. Second, active participation requires players to roll the dice, move avatars, speak, listen, and respond to others. Third, structured turn-taking supports reciprocal peer interaction. Fourth, music cues and adaptable light movement broaden engagement without positioning the activity as formal music, exercise, or reminiscence therapy. The proposed immediate pathway is from a culturally familiar game environment to memory activation, emotional expression, active participation, reciprocal communication, and strengths recognition, followed by immediate experiences of mood, perceived social connectedness, and being valued. Longer-term psychosocial outcomes were not tested.

In this paper, “active reminiscence” refers to structured autobiographical recall embedded within participatory gameplay, in which remembering is accompanied by verbal sharing, reciprocal peer interaction, guided reflection, and adaptable activity. The term describes the engagement format used in Laluan Hikmah and does not denote formal reminiscence therapy.

3 Method

3.1 Design and setting

An innovation-development and single-group descriptive pre–post evaluation was undertaken at Klinik Kesihatan Sungai Chua, Hulu Langat District, Selangor, Malaysia. The session was conducted through an established older adults’ club between 8:30 a.m. and 10:30 a.m. and was facilitated by a psychology officer.

3.2 Participants

Ten community-dwelling older adults aged 60 years and above participated. The group constituted an initial implementation sample rather than a probability sample intended to represent the wider Malaysian older-adult population. All 10 participants completed the immediate pre- and post-activity ratings.

3.3 Development and components of Laluan Hikmah

The prototype was designed as a Bahasa Melayu, non-digital adaptation of Snakes and Ladders. Evidence concerning reminiscence, purposeful activity, social connection, music, movement, and tabletop games informed the selection of activity domains. The prototype contains a game board, dice, four avatar categories, activity cards, symbolic game spaces, and facilitator-guided reflection. Ladders represent strengths, supportive relationships, resources, and opportunities; snakes represent challenges or setbacks and invite reflection on coping and resilience. Prompts are organised across five broad phases of the life course and address memories, relationships, achievements, difficulties, strengths, gratitude, coping, and accumulated wisdom.

Fig. 1 presents the prototype structure and gameplay overview.

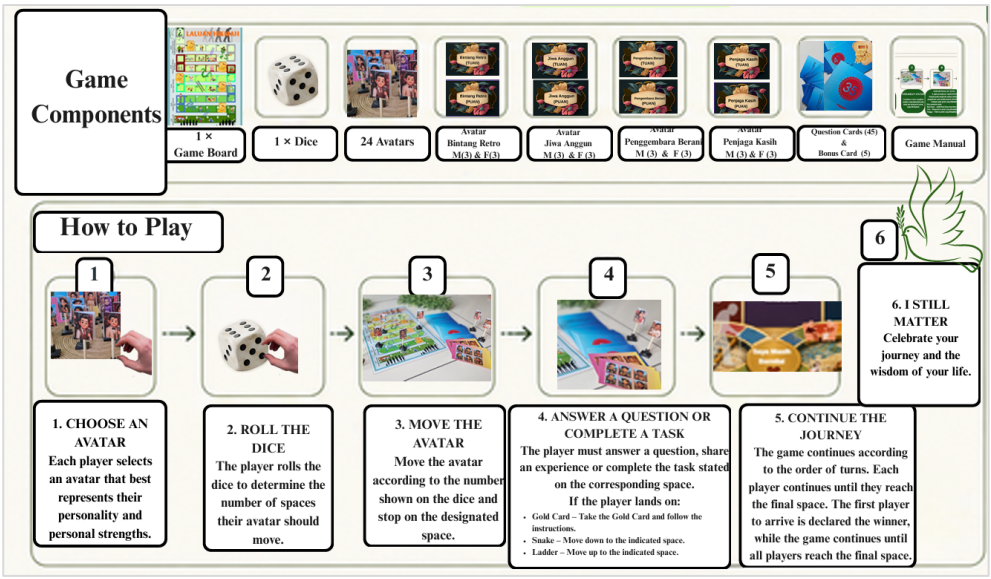


Fig. 1. Overview of the Laluan Hikmah prototype, game components, procedures, objectives, and psychological foundations.

The game board consisted of 50 spaces in five sequential phases of the life journey: first engagement, moving towards acceptance and appreciation of life. The content was derived from Reminiscence-Based Principles, Continuity Theory, Erikson's psychosocial theory and the active ageing approach as shown in Fig. 2.

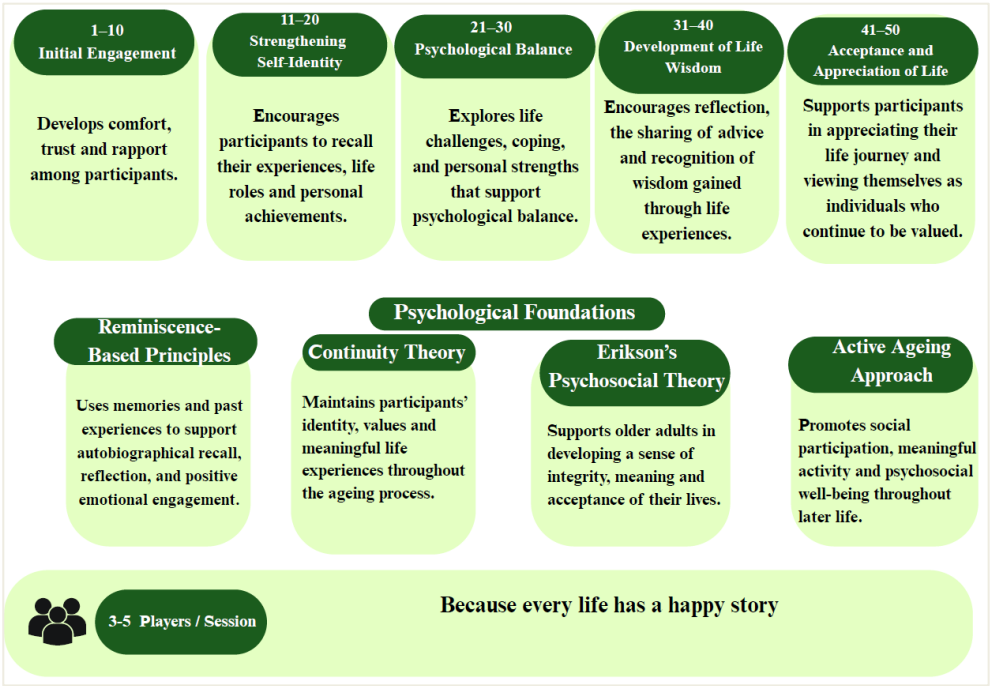


Fig. 1. Life-journey stages and psychological foundations of the Laluan Hikmah game.

The 50 spaces were divided into 5 stages of the life journey: Initial Engagement, Strengthening Self-Identity, Psychological Balance, Development of Life Wisdom and Acceptance and Appreciation of Life. The aim of this sequence was to guide the participants from starting point of engagement and autobiographical recall to reflection on identity, coping, accumulated experience, wisdom and appreciation of life.

3.4 Development of Prototype

In the development process, the prototype was tweaked and enhanced through informal, verbal discussions and brainstorming amongst the development team before implementation. During prototype development, the identified psychosocial domains were translated into game-based activities suitable for group participation among older adults. Autobiographical recall and story sharing were encouraged through reminiscence prompts, while music-related cues and light movement were incorporated to broaden engagement. Structured turn-taking was used to support reciprocal interaction, and prompts addressing coping, strengths, gratitude, resilience, and life wisdom were included to encourage reflection on life experiences. The familiar Snake-and-Ladder structure provided a simple format through which these components could be organised as a symbolic life journey. Existing psychoeducational activities were mostly lecture-based, and it was determined that a gamified approach could foster participation and cognitive engagement for older adults. There was, however, no pre-implementation structured expert evaluation or review with older adults.

3.5 Procedure

Participants received an explanation of the activity and selected an avatar before taking turns to roll the dice and progress across the board. According to the space reached, the facilitator presented a reminiscence, reflection, music-related, movement, coping, relationship, or peer-interaction activity. Participants could decline any prompt or avoid memories they considered private or uncomfortable. Movement tasks were adapted to individual physical comfort. Immediate ratings were obtained before gameplay and again after the activity.

3.6 Preliminary outcome assessment and analysis

A brief researcher-developed form contained three single items assessing immediate mood, perceived social connectedness, and perceived sense of being valued. Each item used a five-point response format. The form was used as an exploratory evaluation tool and not as a validated clinical or psychosocial scale. Mean pre- and post-activity ratings and descriptive mean changes were calculated. No statistical significance, clinical effect, or causal effectiveness was inferred. Informal participant comments were used only as descriptive feedback and were not subjected to thematic analysis.

3.7 Psychosocial Outcome Measures

Three brief study-specific items assessed immediate mood, perceived social connectedness, and perceived sense of being valued. These domains were selected because they are psychosocial constructs relevant to older-adult well-being and have been examined in previous research (Flett & Heisel, 2021; Plackett et al., 2024). However, the items used in the present evaluation were researcher-developed specifically for this preliminary activity and were not derived from, or intended to function as, validated psychometric scales.

Participants were asked, " How would you rate your mood at this moment? (1); How socially connected do you feel to others in this group at this moment? (2); How valued and appreciated do you feel by others in this group at this moment? (3)." The items were rated on a 5-point scale (1 = not at all, 5 = extremely). The questions were then read aloud in Malay by the facilitating psychology officer, and the participants chose the option that they felt best described their feelings at the time. The same questions/response options were given before and after the activity. Analysis was carried out for each domain independently, with higher scores for each domain reflecting more positive perceived psychosocial responses.

3.8 Ethical and administrative considerations

The activity was conducted as a preliminary program evaluation within an established older-adult community program and was implemented with administrative permission from the Hulu Langat District Health Office. It was not conducted as a clinical trial or a formal study of intervention effectiveness. Under the institutional classification applied to this program evaluation, formal research ethics committee approval was not required. Participation was voluntary, and participants were briefed about the activity before agreeing to take part. Participants could decline any prompt or activity, and attention was given to confidentiality, emotional comfort, dignity, privacy, and physical safety. No personally identifying information is reported.

4 Results

Higher post-activity mean ratings were observed for all three assessed domains. The largest descriptive difference was found for perceived social connectedness, which increased from 2.1 to 4.1 (Table 1). Participants' informal feedback indicated opportunities to recall experiences, share stories, interact with peers, and enjoy the activity. These comments are presented as developmental feedback rather than qualitative findings.

Table 1. Descriptive pre–post ratings following Laluan Hikmah (n = 10)

Domain	Pre, *M*	Post, *M*	Mean change
Mood	2.3	4.0	+1.7
Perceived social connectedness	2.1	4.1	+2.0
Perceived sense of being valued	2.4	4.2	+1.8

Note. Ratings were obtained using three researcher-developed five-point items. Values are descriptive group means and do not imply statistical significance.

5 Discussion

The preliminary implementation produced higher descriptive post-activity ratings for mood, perceived social connectedness, and perceived sense of being valued. The largest difference in perceived social connectedness is consistent with the game architecture, which requires participants to listen, speak, remember, respond, and encourage peers. This pattern accords with evidence suggesting that group interventions and structured interaction may support social connection among community-living older adults (Shekelle et al., 2024). However, the finding must not be interpreted as reduced loneliness because neither loneliness nor social connectedness was measured using a validated instrument. There were no systematic data gathered on detailed socio-demographic information other than the eligibility age criterion in this initial program assessment. This constrains the description of the sample, and the transferability of the results.

Reminiscence provides a plausible engagement mechanism. Participants' comments concerning remembering and sharing experiences are compatible with evidence on psychological outcomes of reminiscence (Tam et al., 2021). Nevertheless, Laluan Hikmah uses brief reminiscence prompts within a multicomponent game and should not be represented as formal reminiscence therapy. Similarly, the higher mood rating may reflect the combined influence of storytelling, music, movement, novelty, facilitator attention, and group enjoyment rather than any isolated component.

The perceived sense of being valued is conceptually important because participants function as holders of lived experience and accumulated knowledge rather than passive recipients of a program. This positioning is consistent with literature connecting purpose in later life with meaningful goals, social relationships, mattering, and inner strength (Owen et al., 2021).

Relative to previous reminiscence-board-game research, the defensible novelty of Laluan Hikmah is its integration of a culturally familiar Snake-and-Ladder life journey with reminiscence, guided reflection, music cues, light movement, peer interaction, coping, strengths, gratitude, resilience, and accumulated wisdom. The existing primary healthcare–community interface may support further feasibility work, but the present implementation does not demonstrate scalability or effectiveness.

6 Strengths, limitations, and implications

The principal strengths are the integration of multiple evidence-informed components within a familiar low-technology platform, active participation, and implementation through an existing community group. Important limitations include the small convenience sample, absence of a control group, use of three unvalidated single items, immediate assessment without follow-up, informal rather than systematically collected qualitative feedback, and

possible novelty, facilitator-attention, expectation, group, and social-desirability effects. The multicomponent design also prevents attribution of observed ratings to any one activity.

The next step should be user-informed refinement followed by structured feasibility and acceptability testing. Older adults should contribute to decisions about board design, font size, language, culturally familiar memories, music, movement, prompt difficulty, emotional safety, and session duration. Subsequent evaluation should document recruitment, retention, facilitator adherence, acceptability, comprehensibility, and implementation burden before testing predetermined outcomes with validated measures. Furthermore, structured expert review and user-informed testing prior to larger-scale evaluation should be included in future development.

7 Conclusion

Laluan Hikmah offers a culturally familiar, low-technology platform for facilitating active reminiscence and reciprocal engagement among older adults. In this preliminary implementation, descriptive post-activity ratings were higher for mood, perceived social connectedness, and perceived sense of being valued, with the largest difference observed for perceived social connectedness. These findings are developmental signals rather than evidence of effectiveness. User-informed refinement, validated measurement, feasibility testing, and controlled evaluation are required before sustained psychosocial benefits or broader implementation can be established.

Declarations

Acknowledgements:

The authors thank the participating older adults and the staff who supported the activity.

Funding:

No specific funding was received.

Data Availability:

The participant-level data are not publicly available because they contain potentially identifiable information involving a small community sample. De-identified data may be made available by the corresponding author upon reasonable request, subject to participant privacy considerations and approval from the Hulu Langat District Health Office.

Authors' Contributions Statement:

K.S.S. conceptualized and developed the prototype, designed the study, facilitated the intervention, analyzed and interpreted the data, and prepared the initial manuscript. N.S. and M.A. supervised the study design and methodology, contributed to the interpretation of the findings, and critically revised the manuscript. A.R. coordinated the study site and administrative arrangements and supported the implementation and data-collection processes. N.R.A. and N.B.M. contributed to participant coordination, intervention implementation, observation, and data collection. All authors critically reviewed and approved the final version of the manuscript.

AI Declaration

The authors have employed generative artificial intelligence tools in the preparation of this manuscript for language refinement and to enhance language clarity. The authors then

reviewed and edited the manuscript and accept full responsibility for all aspects of the manuscript, including its content, accuracy, interpretations, and conclusions.

Competing Interests
The authors declare no competing interests.

References

AshaRani, P. V, Lai, D., Koh, J., & Subramaniam, M. (2022). Purpose in Life in Older Adults: A Systematic Review on Conceptualization, Measures, and Determinants. In *International Journal of Environmental Research and Public Health* (Vol. 19, Issue 10, p. 5860). https://doi.org/10.3390/ijerph19105860

Balqis-Ali, N. Z., Jawahir, S., Chan, Y. M., Lim, A. W.-Y., Azlan, U. W., Shaffie, S. S. M., Fun, W. H., & Lee, S. W. H. (2024). The impact of long-term care interventions on healthcare utilisation among older persons: a scoping review of reviews. *BMC Geriatrics*, *24*(1), 484. https://doi.org/10.1186/s12877-024-05097-9

Bodner, E., Segev, A., Chernitsky, R., & Barak, Y. (2024). Playing Kioku Reduces Loneliness in Older Adults: A Pilot Study. *Games for Health Journal*, *13*, 428–435. https://doi.org/10.1089/g4h.2023.0130

Chen, Po-Jung, Hsu, Hui-Fen, Chen, Kuei-Min, & Belcastro, Frank. (2022). Effects of Tabletop Games on Cognition in Older Adults: A Systematic Review and Meta-Analysis. *Games for Health Journal*, *11*(4), 225–235. https://doi.org/10.1089/g4h.2021.0132

Flett, G. L., & Heisel, M. J. (2021). Aging and Feeling Valued Versus Expendable During the COVID-19 Pandemic and Beyond: a Review and Commentary of Why Mattering Is Fundamental to the Health and Well-Being of Older Adults. *International Journal of Mental Health and Addiction*, *19*(6), 2443–2469. https://doi.org/10.1007/s11469-020-00339-4

Hajek, A., Sutin, A. R., Posi, G., Stephan, Y., Peltzer, K., Terracciano, A., Luchetti, M., & König, H.-H. (2025). Chronic loneliness and chronic social isolation among older adults. A systematic review, meta-analysis and meta-regression. *Aging & Mental Health*, *29*(2), 185–200. https://doi.org/10.1080/13607863.2024.2385448

Owen, R., Berry, K., & Brown, L. (2021). Enhancing Older Adults' Well-Being and Quality of Life Through Purposeful Activity: A Systematic Review of Intervention Studies. *The Gerontologist*, *62*, e317–e327. https://doi.org/10.1093/geront/gnab017

Plackett, R., Hulin, J., Mukuria, C., Clowes, M., Ramsay, S., Spencer, L., Adams, E., Dykxhoorn, J., Walters, K., Osborn, D., Zamperoni, V., Jones, O., & Weich, S. (2024). Measures of social connectedness in adult populations: a systematic review. *BMC Public Health*, *24*. https://doi.org/10.1186/s12889-024-20779-0

Shekelle, P. G., Miake-Lye, I. M., Begashaw, M. M., Booth, M. S., Myers, B., Lowery, N., & Shrank, W. H. (2024). Interventions to Reduce Loneliness in Community-Living Older Adults: a Systematic Review and Meta-analysis. *Journal of General Internal Medicine*, *39*(6), 1015–1028. https://doi.org/10.1007/s11606-023-08517-5

Tam, W., Poon, S. N., Mahendran, R., Kua, E. H., & Wu, X. V. (2021). The effectiveness of reminiscence-based intervention on improving psychological well-being in cognitively intact older adults: A systematic review and meta-analysis. *International Journal of Nursing Studies*, *114*,

103847. https://doi.org/10.1016/j.ijnurstu.2020.103847

Yang, H., Zhong, Q., Han, B., Pu, Y., He, R., Huang, K., Jiao, Y., Han, R., Jia, Y., & Chen, L. (2025). Effects of reminiscence therapy for loneliness in older adults: a systematic review and meta-analysis. *Age and Ageing*, *54*. https://doi.org/10.1093/ageing/afaf136

Yeo, Y. T. T., Chow, J. Y. A., & Goh, Y. S. (2026). Exploring the Experiences of Community-Dwelling Older Adults Participating in Group Interaction Programs: A Qualitative Meta-Synthesis. *Journal of Clinical Nursing*, *35*(5), 2537–2559. https://doi.org/10.1111/jocn.17563