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Gerard Charles \*

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*Article*

# The Influence of a Game Room on Social Interaction, Emotional Well-Being, and Quality of Life Among Nursing Home Residents

Charles Gerard

S R Nathan School of Human Development, Singapore University of Social Sciences; c.gerard1802@gmail.com;  
ORCID: <https://orcid.org/0000-0003-2545-292X>

**Abstract: Background:** The global ageing population presents significant challenges for healthcare and social systems, with the number of individuals aged 60 and above projected to exceed 2 billion by 2050. In Singapore, where seniors constitute 12% of the population, nursing homes play a critical role in providing care. However, residents often lead sedentary lifestyles, increasing their risk of physical and cognitive decline. Recreational interventions, such as game rooms, offer opportunities for social interaction, emotional well-being, and cognitive stimulation. This study explores the influence of a game room on nursing home residents' social interactions, emotional well-being, and quality of life, addressing gaps in understanding how such spaces can enhance residents' daily experiences. **Methods:** This study was undertaken via a qualitative, phenomenological approach. Data was collected through face-to-face semi structured interviews and observations with field notes. Interviews were transcribed verbatim and thematically analysed. Baseline interviews were conducted prior to the initiation of the game room. After baseline data was collected, the game room was set up and introduced to the nursing home environment. Follow-up interviews were conducted three months after the initiation of the game room. **Results:** Findings revealed significant improvements in residents' social connections, emotional states, and overall satisfaction. Residents reported forming new friendships, experiencing joy and purpose, and feeling more engaged in daily life. Observations corroborated these accounts, showing increased participation, positive interactions, and enthusiasm for game room activities. **Conclusion:** The game room emerged as a valuable intervention, enhancing residents' well-being and fostering a sense of community. These results highlight the importance of recreational spaces in nursing homes and their potential to improve residents' quality of life.

**Keywords:** nursing home; game room; quality of life; social interactions; emotional well-being

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## Introduction

The global ageing population is a pressing concern, with significant implications for social, economic, and healthcare systems. According to the United Nations (2019), the number of individuals aged 60 years or older is projected to more than double by 2050, exceeding 2 billion worldwide. This demographic shift will intensify the demand for long-term care (LTC) services and place unprecedented pressure on healthcare systems. Singapore, like many other nations, faces the challenges of a rapidly ageing population driven by declining fertility rates and increasing life expectancy. As of 2023, individuals aged 65 and above constitute approximately 12% of Singapore's population of 5.9 million, a figure expected to rise to 25% by 2030 (Department of Statistics Singapore, 2023). To address this growing need, as of 2023, Singapore currently provides 19,201 nursing home beds, with nursing homes (NHs) poised to play a central role in delivering custodial, social, and healthcare services for seniors (Hirschmann, 2024; Wong et al., 2014).

Given the critical role of nursing homes in supporting older adults, it is essential to explore strategies that enhance residents' quality of life, social interaction, and emotional well-being. One

promising approach is the introduction of recreational spaces, such as game rooms, which can provide opportunities for physical activity, social engagement, and cognitive stimulation. This study seeks to examine the influence of a game room on nursing home residents, focusing on its impact on their social interactions, emotional-wellbeing, and quality of life.

## Background

Nursing home residents often lead sedentary lifestyles, characterized by limited physical activity and prolonged periods of inactivity, such as sitting or lying down while watching television (den Ouden et al., 2015). This lack of engagement contributes to physical and neurocognitive decline, increasing the risk of frailty and mortality (Hallal et al., 2012; Weening-Dijksterhuis et al., 2011; Clegg et al., 2013). To counteract these challenges, incorporating enjoyable and socially interactive activities, such as board games, may motivate residents to participate more consistently in physical and cognitive exercises (Chen & Li, 2014). Board games, in particular, are a popular choice among older adults and have been linked to potential protective effects against cognitive decline and dementia (Dartigues et al., 2013).

While many older adults prefer to age in place, some inevitably require institutionalized long-term care, such as nursing homes (WHO, 2020). For these individuals, maintaining independence in activities of daily living (ADLs), such as washing and eating, and instrumental activities of daily living (IADLs), such as preparing meals or gardening, is crucial for preserving physical functioning, self-esteem, and quality of life (Edemekong et al., 2021; Edvardsson et al., 2014; Gronstedt et al., 2013). However, nursing staff, despite their frequent contact with residents, often adopt a task-oriented approach rather than a person-centered one, inadvertently taking over activities that residents could perform independently (Tuinman et al., 2016). This dynamic can lead to reduced autonomy and increased dependency among residents.

Inactivity and social isolation further exacerbate issues such as sleep disorders and daytime sleepiness, particularly when residents spend excessive time in their rooms or in bed (Martin et al., 2006). In contrast, active engagement and social participation are associated with better sleep quality and overall well-being (Ohayon et al., 2001). For nursing home residents, staying active and participating in daily activities is essential to mitigate the loss of autonomy, independence, and quality of life (Paterson & Warburton, 2010). Research indicates that physical and functional engagement is linked to reduced anxiety, fewer disruptive behaviours, higher self-esteem, and improved quality of life (Resnick et al., 2013; Blair, 1997; Edvardsson et al., 2014).

Given these findings, recreational interventions, such as game rooms, offer a promising avenue to enhance the lives of nursing home residents. By fostering social interaction, emotional well-being, and cognitive stimulation, such spaces can play a vital role in improving residents' overall quality of life. This study aims to explore how the introduction of a game room in a nursing home influences residents' social interactions, emotional well-being, and quality of life. The following research questions guided this investigation:

1. How do nursing home residents perceive the game room as a recreational space?
2. In what ways has the game room impacted residents' daily interactions and routines?
3. How do residents perceive the variety of games and activities available in the game room, and do they have preferences for certain activities?
4. What emotions or feelings do residents associate with their time spent in the game room?
5. What changes, if any, have residents noticed in their overall well-being and quality of life since the introduction of the game room?

## Methodology

### *Study Design*

This study employed a qualitative, phenomenological methodology to explore the proposed research questions. Phenomenology, rooted in the works of Husserl (1970) and further developed by scholars such as Moustakas (1994) and Cilesiz (2009), is a methodological approach that seeks to uncover the essence of individuals' lived experiences. By focusing on participants' accounts of their encounters with specific events, phenomenology provides a framework for understanding the subjective meanings and interpretations of their experiences.

### *Setting and Participants*

The study was conducted in a 300-bed nursing home located in the central-western region of Singapore. The facility comprises of five wards: two for female residents, two for male residents, and one dedicated for residents with dementia, which accommodates both males and females. The game room was introduced in the main activity area, a space frequently used by residents for gatherings. The room was equipped with various gaming stations, including a billiards table, a golf putting mat with golf balls and clubs, a football goal post with a football, a floorball stick and ball, a basketball game, a table tennis set, a bowling ball set with pins, and a bean bag toss. To ensure safety and adherence to distancing protocols, all gaming stations were spaced at least one meter apart.

The game room was facilitated by healthcare staff, who played a key role in organising and supervising the activities. Each session accommodated six participants per ward, allowing participants to play together in a small, interactive group. Sessions were held three times a week, with each session lasting one hour to ensure participants had ample time to engage in activities without feeling rushed. Staff members were responsible for setting up the gaming stations, explaining the rules of the game, and encouraging residents to participate. They also provided assistance to participants who required support, such as those using wheelchairs or walking aids. The staff's involvement was crucial in creating a safe, inclusive, and enjoyable experience for all participants. Their facilitation helped the participants feel comfortable trying new activities and fostered a sense of camaraderie during the sessions.

Participants were recruited through convenience sampling, a method that involves selecting individuals who are readily accessible and willing to participate in the study (Rahi, 2017). A total of 12 residents met the inclusion criteria and were enrolled in the study. The inclusion criteria were as follows:

1. Residents aged 65 years and above.
2. Ability to speak one of the four official languages in Singapore.
3. Ability to ambulate independently, with the use of a wheelchair, walking frame, or without any mobility aids.
4. No diagnosed cognitive impairment.
5. No acute vision or auditory problems.
6. No history of upper or lower limb injuries.

These criteria ensured that participants were representative of the nursing home population and able to engage meaningfully with the game room activities.

### **Data Collection**

Data were collected through two primary methods: semi-structured interviews and non-participant observations. Semi-structured interviews were conducted individually, face-to-face, and in-depth, with each session lasting between 45 and 60 minutes. These interviews took place in a neutral setting to ensure participant comfort and minimize external influences. A pre- and post-intervention interview questionnaire, developed specifically for this study, served as a guide (Appendix A).



Baseline interviews were conducted prior to the introduction of the game room to capture residents' existing experiences, social interactions, emotional well-being, and quality of life. This baseline data served as a critical point of comparison for later analysis. Following the baseline data collection, the game room was introduced to the nursing home environment. The game room was implemented on two out of five levels, in the main activity area. After three months, follow-up interviews were conducted to explore changes in residents' experiences, interactions, emotions, and perceptions since the introduction of the game room.

Non-participant observation was used as a secondary data collection method. This approach involves observing individuals or groups without directly engaging in their activities or interactions (Bernard, 2011; Creswell, 2014; Spradley, 1980). A total of 12 observation sessions, each lasting one hour, were conducted over the study period. During these sessions, participants were observed for (1) their interactions with each other and healthcare workers, (2) their engagement with different game stations, (3) their emotional responses during activities, and (4) any challenges faced by participants or healthcare workers. This method was chosen to avoid disrupting residents' natural behaviour and to maintain objectivity, minimizing potential bias that could arise from direct involvement in the observed activities (Creswell, 2014; Spradley, 1980). Together, these methods provided a comprehensive understanding of residents' experiences, perceptions, and behaviours related to the game room.

### *Data Analysis*

The analysis of data from semi-structured interviews and non-participant observations followed established qualitative research methods, involving coding and theme identification (Bryman, 2016; Creswell, 2014; Kvale & Brinkmann, 2009). For the semi-structured interviews, the process began with verbatim transcription of the recorded interviews. These transcripts were then reviewed multiple times to identify key themes and patterns. Codes were assigned to segments of the data, which were subsequently grouped into broader themes or categories (Creswell, 2014; Bryman, 2016). To enhance the efficiency and accuracy of this process, the software program NVivo was utilized for coding and organizing the data (Creswell, 2014).

For non-participant observations, detailed field notes were taken during each observation session. These notes were systematically reviewed and coded to identify recurring behaviours, interactions, and events. Similar to the interview data, the observation codes were grouped into broader themes or categories to capture patterns and insights (Bryman, 2016; Kvale & Brinkmann, 2009).

The data analysis process for both methods was iterative, involving repeated review, revision, and refinement of codes and themes. This approach ensured a comprehensive and accurate understanding of the data, aligning with the study's objectives of exploring residents' experiences, interactions, and perceptions related to the game room (Creswell, 2014; Kvale & Brinkmann, 2009).

### *Ethical Considerations*

This study received ethical approval from the Agency for Integrated Care Institutional Review Board (Reference Number: 2023-010). To ensure transparency and informed participation, a clear and comprehensive participant information sheet and informed consent form were provided to all potential participants. These documents outlined the study's purpose, data collection procedures, potential risks, and the voluntary nature of participation. Information sessions were conducted prior to recruitment to introduce the study, explain its goals and benefits, and emphasize that participation was entirely voluntary. Residents who expressed interest in participating were scheduled for individual meetings, where ample time was provided to discuss the study and address any questions or concerns. Written consent was obtained only after the researcher confirmed that participants fully understood the study and their rights.

To protect participant confidentiality, all electronic data were stored on a password-protected computer, and databases used for analysis did not include identifiable information. Personal data,

such as names and contact information, were stored separately from research data and were accessible only to the researcher. Identifiable research data were coded using code numbers at the earliest possible stage, and the key to the coding was securely maintained by the researcher. No personal data were used in publications or presentations, ensuring participant anonymity throughout the study.

## Results

The findings of this study highlight the positive impact of the game room on nursing home residents' social interactions, emotional well-being, and overall quality of life. Thematic analysis of the interviews and observations revealed significant improvements in these areas, supported by residents' own accounts and observed behaviours.

### *Social Interaction*

Before the game room, many residents described their daily routines as monotonous and isolating. One participant shared, *"Usually, I always stay in my room, go outside watch TV, or sleep only. Very boring lah. Nobody to talk to also."* Another resident added, *"I only see who beside me, but we don't talk much. Every day same thing, very sian (boring)."* Post-intervention, residents reported a noticeable increase in social interactions. A participant said, *"Now got game room, I always go out and play, hopefully have others also. We talk, laugh, and sometimes even argue over who win, but it's all fun, lah!"* Another resident remarked, *"I never thought I would make new friends at this age, but playing together really brought us together. Now we always wait for the schedule to do the activity. But, I mean, we also can just go and use the games when we want, so it is ok."*

**Observational Insights:** Field notes from non-participant observations corroborated these accounts. Residents were frequently seen forming small groups around game stations, engaging in lively banter, and cheering each other on. For example, during a bowling session, one resident exclaimed, *"Wah, your bowling skill not bad, eh!"* while another teased, *"Next time I sure beat you. Today just practice only."* Observations also noted that residents who were previously withdrawn began to join in, often encouraged by their peers. One field note recorded, *"Resident A, who usually sits alone, was invited by Resident B to try the bean bag toss. By the end of the session, Resident A was smiling and chatting with the group."*

**Staff Involvement:** Observations also highlighted that healthcare staff, who facilitated the game room activities, appeared to enjoy the sessions as well. Staff members were seen laughing, cheering on participants, and occasionally participating in the games themselves. This not only created a more relaxed and enjoyable atmosphere but also provided staff with a brief respite from their daily routines.

### *Emotional Well-Being*

Residents' emotional well-being improved significantly after the game room was introduced. Pre-intervention interviews revealed feelings of boredom and loneliness. One resident said, *"Every day same routine, wake up, eat, sleep. Very boring, like no purpose."* Another shared, *"Sometimes I feel very down, like nobody cares about me. Most days, we don't have anyone to talk to. It is quite hard to talk to people because most keep to themselves. Only a few will start conversations."* Post-intervention, residents expressed joy, excitement, and a renewed sense of purpose. A participant exclaimed, *"Wah, the game room really shiok (enjoyable)! I feel so happy when I play golf. It's like I forget all my problems."* Another resident said, *"I always look forward to game room days. I mean, because these are sort of the games that we grow up with in the arcades. So, having it just here is so convenient. We can just use it anytime."*

**Observational Insights:** Field notes captured residents smiling, laughing, and displaying positive body language during game room activities. For instance, during a football session, one resident was overheard saying, *"I never played football for so long, since my school days. We used to play on the roads and field,"* while another laughed and said, *"I never really played this before, but now is my*

*first time.*" Observations also noted that residents who appeared tense or withdrawn at the start of the session often left the game room visibly relaxed and cheerful. One field note recorded, *"Resident C, who initially sat quietly, started laughing and clapping when Resident D scored a goal. By the end of the session, Resident C was trying his best to participate in the game."*

### Quality of Life

The game room significantly enhanced residents' perceived quality of life. Before the intervention, many residents described their lives as uneventful. One participant said, *"Life here very routine, nothing exciting. Just eat, sleep, repeat. Some days we have activities. Nowadays the staffs try to conduct activities daily but, its maybe one or two hours only. Mostly, the activities are the same."* Another shared, *"I feel like my life here very stagnant, like no progress."* Post-intervention, residents reported feeling more engaged and satisfied. A participant shared, *"The game room makes me feel like back in the old days, going to funfair or carnival. I feel like I got something to look forward to. Even if the staff are busy, we can just use the game there."* Another resident said, *"Now I feel more active and happy. My family even noticed I'm more cheerful when they visit."*

**Observational Insights:** Field notes highlighted residents' active participation and enthusiasm during game room sessions. For example, one resident was observed saying, *"Come, let's see who can get more points"* while another remarked, *"Even though we cannot walk much, playing this makes you feel alive. Some more the staff very active and noisy, feel like not in nursing home."* Observations also noted that residents often stayed longer than the scheduled hour, with some even requesting additional time to play. One field note recorded, *"Resident E asked if they could extend the session because they were having so much fun with the basketball game."*

### Resident Preferences and Engagement

Residents expressed strong preferences for certain games and activities, which contributed to their overall satisfaction. One participant said, *"I like the bowling game best. Last time I used to play with my grandchildren, so it brings back good memories."* Another shared, *"The golf putting mat is my favorite. It's relaxing, and I can play at my own pace. No need to rush, lah."* A third resident added, *"I enjoy the football one. Even though I old already, I still can score goals, eh!"*

**Observational Insights:** Field notes revealed that residents often gravitated toward specific stations, with some forming friendly rivalries. For example, one resident teased, *"Eh, you think you can beat me in basketball? Wait and see, lah!"* Observations also noted that residents frequently encouraged each other to try new games, with comments like *"Come, try this one! It's very fun!"* and *"Don't worry, I teach you how to play."*

### Challenges and Adaptations

While the game room was overwhelmingly positive, a few challenges were noted. Some residents initially felt hesitant to participate. One participant admitted, *"At first, I shy to join because I don't know how to play. But after trying, I realized it's quite fun, lah."* Another resident said, *"I was scared I might fall or look stupid, but the staff encouraged me to try. Now I really enjoy it."*

**Observational Insights:** Field notes documented instances where staff played a crucial role in facilitating activities and ensuring inclusivity. For example, one staff member was observed saying, *"It's okay, just try. The important thing is to have fun."* Observations also noted that residents who were initially hesitant gradually became more comfortable, often with the encouragement of their peers. One field note recorded, *"Resident F, who initially refused to join, was persuaded by Resident G to try the bowling game. By the end of the session, Resident F was laughing and asking when they could play again."*

### Summary of Results

Overall, the game room had a transformative effect on residents' social interactions, emotional well-being, and quality of life. The positive changes reported by residents and observed during the

study underscore the value of recreational spaces in nursing homes. These findings align with the study's aim and highlight the potential of game rooms as a meaningful intervention to enhance the lives of nursing home residents. As one resident aptly put it, *"The game room is not just a place to play games, lah. It's a place where we can laugh, connect, and feel alive again."*

## Discussion

The findings of this study demonstrate that the introduction of a game room in a nursing home had a profound positive impact on residents' social interactions, emotional well-being, and overall quality of life. These results align with existing literature on the benefits of recreational interventions for older adults and provide valuable insights into how such spaces can enhance the lives of nursing home residents.

### *Social Interaction*

The game room significantly improved residents' social interactions, fostering a sense of community and belonging. Residents reported forming new friendships and engaging in meaningful conversations, which were often absent in their daily routines prior to the intervention. This finding is consistent with studies that highlight the importance of social engagement in reducing loneliness and improving mental health among older adults (Cohen-Mansfield & Perach, 2015; Cattán et al., 2005). The observational data further reinforced this, showing residents actively participating in group activities, cheering each other on, and encouraging one another to try new games. These interactions not only enhanced residents' social networks but also created a supportive and inclusive environment.

### *Emotional Well-Being*

The game room also had a notable impact on residents' emotional well-being. Many residents expressed feelings of joy, excitement, and a renewed sense of purpose after participating in game room activities. This aligns with research suggesting that recreational activities can reduce feelings of boredom and depression while promoting positive emotions (Adams et al., 2011; Vankova et al., 2014). Observations captured residents smiling, laughing, and displaying positive body language, further supporting the idea that the game room provided a much-needed emotional boost. This emotional uplift is particularly significant in a nursing home setting, where residents often face challenges related to aging and health.

### *Quality of Life*

The introduction of the game room enhanced residents' perceived quality of life by providing opportunities for engagement, enjoyment, and a break from routine. Residents reported feeling more active, satisfied, and connected to their peers, which are key components of a higher quality of life (Edvardsson et al., 2014; Gronstedt et al., 2013). Observations also revealed that residents often stayed longer than the scheduled hour, with some even requesting additional time to play. This enthusiasm underscores the game room's role as a meaningful and enjoyable intervention.

### *Resident Preferences and Engagement*

The variety of games and activities offered in the game room catered to diverse interests and abilities, ensuring broad participation. Residents expressed strong preferences for certain games, such as bowling, golf putting, and football, which often evoked nostalgic memories or provided a sense of accomplishment. This finding aligns with studies emphasizing the importance of offering a range of activities to meet the unique needs and preferences of older adults (Chen & Li, 2014; Dartigues et al., 2013). Observations also highlighted the role of peer encouragement in fostering engagement, with residents often inviting others to join in and try new games. This peer-driven inclusivity further enhanced the game room's effectiveness as a recreational intervention.



### *Challenges and Adaptations*

While the game room was overwhelmingly positive, a few challenges were noted. Some residents initially hesitated to participate due to unfamiliarity with the games or fear of looking “stupid.” However, with encouragement from staff and peers, they gradually became more comfortable and engaged. This finding underscores the importance of creating a supportive environment where residents feel safe to try new activities. Staff played a crucial role in facilitating this process, as observed in field notes where a staff member reassured a hesitant resident, “It’s okay to make mistakes. The important thing is to have fun.” This approach not only increased participation but also fostered a sense of inclusivity and belonging.

### *Implications for Practice*

The success of the game room intervention has several practical implications for nursing homes. First, it highlights the value of incorporating recreational spaces that promote social interaction, emotional well-being, and physical activity. Nursing homes should consider designing multipurpose activity areas that cater to diverse interests and abilities. Second, the findings emphasize the importance of staff training to encourage resident participation and create a supportive environment. Staff should be equipped with the skills to motivate residents, facilitate activities, and address any barriers to participation. Finally, the study underscores the need for person-centered approaches that prioritize residents’ preferences and needs, ensuring that interventions are both meaningful and enjoyable.

### *Limitations and Future Research*

While this study provides valuable insights, it is not without limitations. The small sample size (12 participants) and the single-site design may limit the generalizability of the findings. Convenience sampling, while practical, often lacks representativeness of the broader population being studied, which significantly limits the generalizability of the findings (Staetsky, 2019). For instance, results derived from a single organization may not accurately reflect conditions in other organizations within the same sector. This is because each organization employs unique selection criteria for hiring, resulting in distinct employee populations that differ from one another (Landers & Behrend, 2015). As a result, findings from convenience samples may not be applicable beyond the specific context in which the research was conducted. Additionally, the three-month intervention period may not capture long-term effects. Future research could address these limitations by conducting larger, multi-site studies with longer follow-up periods. Quantitative measures could also be incorporated to assess changes in social interaction, emotional well-being, and quality of life more systematically.

## **Conclusion**

Introduction of the game room intervention had a transformative effect on nursing home residents, enhancing their social interactions, emotional well-being, and quality of life. The positive changes reported by residents and observed during the study underscore the value of recreational spaces in promoting holistic well-being among older adults. These findings contribute to the growing body of evidence supporting the use of recreational interventions in nursing homes and highlight the potential of game rooms as a simple yet effective way to enrich the lives of residents.

**Ethics Approval and Consent to Participate:** Ethical approval was obtained from the AIC Institutional Review Board. The reference number for this study is 2023-010.

**Consent for Publication:** Not applicable

**Availability of Data and Materials:** Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available.

**Competing Interest:** The author declares that there are no competing interests.

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