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Implementing Tabletop Games to Reduce Boredom, Enhance Social Interaction and Cognitive Functioning Among Patients in a Psychiatric Ward: A Quasi-Experimental Study at Mathari National Teaching and Referral Hospital, Kenya

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Abstract
Outside the scheduled therapy sessions, meal times and medication times, patients in a psychiatric ward often find themselves idle and bored. Consequently, boredom and idleness may negatively affect their treatment engagement, mood, and recovery. This study implemented an intervention of tabletop games in the psychiatric wards of Mathari National Teaching and Referral Hospital, with an aim of reducing boredom, enhancing social interaction and cognitive functioning among patients. The target population was inpatients admitted at the psychiatric wards. A one-group quasi-experimental design was employed. Boredom was assessed before and after the tabletop-game intervention, while cognitive functioning and social interaction were assessed through observational checklists as the participants played the games. Satisfaction with the tabletop games was also assessed among participants. The study was conducted in one male ward and one female ward. The sample consisted of 54 participants. The intervention consisted of playing tabletop games for one-hour twice a week for a duration of six weeks. The results show that tabletop games were effective in reducing boredom ($t(21) = -10.82$, $p < .001$, $d = 1.50$), enhancing cognitive function, (M= 32.92) and social interaction (M=32.63). Participants also expressed high levels of satisfaction (M= 55.16). The study concludes that tabletop games are a feasible and acceptable recreational intervention for psychiatric patients in Kenya. This provides evidence for the use of tabletop games as a low-cost therapeutic intervention. The study recommends the inclusion of tabletop games as part of structured therapeutic activities for in-psychiatric care in Kenya.

Introduction
Mathari National Teaching and Referral Hospital, Kenya's primary psychiatric referral facility, plays a vital role in delivering specialised care and training in mental health not only in Kenya but also across East Africa and beyond. Patients admitted to psychiatric wards often experience long periods of idleness and boredom, especially outside scheduled therapy, meals and medication times. Boredom

is one of the common experiences among inpatients in medical facilities. This is largely due to unstructured time and ambiguity in how to utilize one's leisure time while in treatment. Consequently, according to Seiler et al. (2023), boredom has the effect of increasing negative affect, leading to poorer engagement with treatment and exacerbating the safety risks such as agitation and absconding. Left unaddressed, boredom among patients may negate treatment progress. Structured activities that provide predictable, meaningful engagement help to reduce idle time and the distress associated with boredom. Lack of structured engagement can lead to low mood, poor motivation and reduced participation in treatment, ultimately affecting recovery outcomes (Seiler et al, 2023; Marshall et al 2020). Prolonged boredom has also been linked to agitation, withdrawal and increased emotional distress among inpatients (Levick et al, 2024).

Creating a therapeutic environment in psychiatric facilities is essential in ensuring positive treatment outcomes for patients. As part of creating therapeutic environments, recreational and structured leisure activities are increasingly recognized as inexpensive, low-risk activities that complement clinical care. There is an increasing interest among scholars in the use of tabletop games (board games and card games) as psychosocial tools in healthcare settings to improve interpersonal functioning, motivation and even cognitive functioning. Research shows that structured recreational activities can significantly reduce boredom while fostering social connection and cognitive engagement (Noda, et al.,2019; Guardabassi, et al., 2024). These games promote cooperation, creativity and problem-solving through enjoyable, low-pressure interactions. By offering patients a sense of routine, mastery and shared purpose, tabletop games can meaningfully enhance their emotional and social well-being.

Tabletop games are inherently social: they create opportunities for turn-taking, cooperative problem solving, rule negotiation and light competition (Rogerson et al., 2018; Eriksson, et al., 2021). These are behaviours that map directly onto therapeutic social skills. Systematic reviews and trials show consistent improvements in interpersonal interaction and motivation following board-game interventions across populations such as school children, older adults, and institutionalized participants (Noda, et al., 2019). These games work through structured social roles, repeated positive social contact and an activity that reduces social anxiety, fostering peer support. In psychiatric inpatient contexts, improved cognitive and social functioning are key treatment goals. These games can be useful in enhancing the hospital atmosphere, create peer support and even improve the rapport between staff and patients (Alosoufe et al.,2024; Alweis & Alweis, 2025).

Randomized and quasi-experimental studies show that board games such as chess can yield modest to moderate improvements in cognitive functioning domains such as attention, working memory, processing speed, and executive function (lizuka et al 2018; Lee et al, 2020; Yao,2019). Most of these studies have, however, been conducted in older adults suffering from dementia. The games work by exposing the patients to repeated practice of executive functioning demands, strategic planning and novelty-driven engagement that promote neuroplasticity and cognitive reserve (Xue et al.,2021). While effect sizes vary by game type, dose and participant characteristics, the evidence supports tabletop games as plausible complementary interventions to improve cognitive functioning among patients with cognitive impairment.

While global literature such as Lopes et al., 2025, Nakao, (2019) and Alweis & Alweis, 2025) supports the use of recreational and game-based interventions in psychiatric rehabilitation, there is limited empirical evidence from Kenya. Research from low- and middle-income countries (LMICs) underscores the role of psychosocial and community-based strategies in recovery (MacDougall et al., 2022). Systematic reviews of psychosocial rehabilitation in LMICs report that structured, culturally adapted activities can improve social functioning and participation (Barbui et al.,2020 and Degnan et

al., 2017). Hospital leisure-program reviews also show that simple, routine-based leisure activities are implementable within inpatient settings and often valued by patients and staff (Adam-Catello et al,2023). Although empirical studies of tabletop interventions in Kenyan inpatient psychiatric settings are scarce, the Kenyan literature establishes important contextual facts. In Kenya, there is more emphasis on clinical and pharmacological treatment compared to structured psychosocial or recreational interventions (MOH, 2024). Reviews like MacDougall et al. (2022) and Vancampfort et al. (2017) confirm that there are very few, if any, peer-reviewed studies evaluating recreational interventions in psychiatric wards.

There is limited evidence from Kenyan psychiatric settings on how tabletop games could be used as part of patient rehabilitation. Previous studies at Mathari National Teaching and Referral Hospital have primarily focused on clinical and service delivery issues (Wahome & Degu, 2026; Muhia et al.,2021), with little exploration of structured, activity-based therapies that complement medical treatment. This gap has left many patients without opportunities for meaningful engagement, reinforcing passivity and boredom in the wards. This gap underscores the relevance of the current study, which aims to evaluate the effect of tabletop games on boredom, social interaction and cognitive functioning among patients at Mathari National Teaching and Referral Hospital. MNTRH is the largest mental health facility in the country and the region serving patients with a wide range of mental health disorders. The findings therefore provide locally grounded evidence to inform policy and practice on psychosocial rehabilitation within the framework of Kenya's Mental Health Policy (2015–2030) and Mental Health (Amendment) Act (2022).

Theoretical Framework

The study is guided by Activity Theory, developed by Robert J. Havighurst (1961). The theory proposes that well-being is associated with continued activity, social participation, and replacement of lost roles with alternative activities. Accordingly, staying active and regular participation in meaningful activities reinforces an individual's self-worth and acts a buffer for slowing down emotional, mental and physical decline. Although originally formulated in the context of ageing, the theory provides a useful framework for understanding the effects of inactivity and restricted engagement among psychiatric inpatients who often find themselves bored and inactive. In the present study, tabletop games represent a structured and meaningful activity introduced to reduce inactivity and boredom. Additionally, their interactive and cognitively demanding nature provides opportunities for social engagement and active mental participation. The theory therefore informed the expectation that participation in tabletop games would be associated with reduced boredom, enhanced social interaction and cognitive functioning.

Methodology

The methodology comprised the study design, study setting and participants, sampling procedure, intervention, data collection procedures and data analysis.

Study design

A one-group quasi-experimental design was employed to assess the effects of tabletop games on boredom, cognitive functioning, and social interaction. Because the study did not include a control group, participants served as their own reference group for the assessment of the outcomes.

Study setting and participants

The study was conducted among patients at Mathari National Teaching and Referral Hospital (MNTRH). The target population comprised of all inpatients admitted in the psychiatric wards.

The study was conducted in one male ward and one female ward with an average of about 25 patients. The hospital admits patients from all walks of life from across the country. Participants comprised adult inpatients with a range of psychiatric diagnoses, including psychotic, mood, anxiety and related, substance use, trauma- and stressor-related, personality and neurocognitive disorders.

Sampling procedure

Convenience sampling was used to recruit participants as all patients in the selected wards who were willing participants in the study were welcome to participate. All patients who were within the facility regardless of their perceived stability or severity of illness were eligible and encouraged to participate in the games. A total of 54 patients participated in the study.

The Intervention

A wide range of table top games was available to the participants for one hour between 2-4 p.m. twice every week (Mondays and Fridays) for six weeks. The games included chess, draughts, cards, Jenga, scrabble, snakes and ladders, monopoly and ludo. Participants were allowed to play in whichever games they were interested in. There were about 3-5 groups of participants engaged in various games during each session. Some patients could be playing Jenga, while others are playing cards, others chess, draughts and so on. In some instances, the researchers or other participants trained participants on how to play some games. Most of the time, the participants were left to play the games as the researchers observed their engagement in the games and recorded behavioural data.

Measures

After taking the participants through the informed consent process. Boredom was assessed using an 8-item boredom scale administered before and after the intervention. The questionnaire asked the participants how they typically felt during the unscheduled times (pre-test) and how they felt while playing the games (post -test). Various domains of boredom; temporal distortion, disengagement, cognitive boredom and restlessness were measured. Cognitive functioning and social interaction were assessed using 12-item observational checklists. Participants were observed as they played and objectively assessed by the trained researchers. Various domains of cognitive functioning; attention and on-task behavior, concentration and working memory, problem solving and executive function, communication and cognitive initiative were measured.

Also, the domains of social interaction; Initiation of interaction, responsiveness, cooperative behavior, conflict management and emotional regulation were measured. The instruments demonstrated acceptable to excellent internal consistency. The boredom scale had a Cronbach's alpha of $\alpha = .744$, while the cognitive functioning and social interaction checklists demonstrated excellent internal consistency ($\alpha = .940$ and $\alpha = .932$, respectively).

Data collection Procedures

Boredom Assessment

Pre-test boredom scores data was collected from a total of 50 participants, 25 male and 25 female as shown in Table 1.

Table 1: Pre-test boredom Scores

Gender	N	Mean	SD	Min	Max
Male	25	5.13	1.43	2	7
Female	25	4.85	1.27	2	6.75

Post test boredom scores

Post intervention boredom data was collected from a total of 22 participants, 10 male and 12 female, as shown in Table 2.

Table 2: Post-test boredom scores

Gender	N	Mean	SD	Min	Max
Male	10	1.40	0.97	1	4.13
Female	12	1.47	0.63	1	3.00

This is the data that were used in determining the effectiveness of the intervention in reducing boredom. The fewer participants in the post-intervention boredom assessment was due to the fact that some patients in the facility were discharged or moved to another ward during the study before they could provide the post-test data.

Cognitive functioning and Social interaction assessment

The participants engaged in the games in the presence of the researchers who observed their behavior during the games. Using the observational checklists, the researchers objectively recorded the cognitive functioning and social interaction of the participants while they were playing the games. The data on cognitive function was recorded during every session that they participated in. Different researchers assessed the participants at different times during the study to ensure interrater reliability. The cognitive functioning and social interaction were recorded multiple times for the same participants to ensure test-retest reliability. Typically, each participant had their data recorded between 2-10 times during the study. The collected data was aggregated into single composite scores of cognitive functioning and social interaction for each participant. This is what was used in the final analysis. Data for 54 participants was recorded for cognitive functioning and social interaction. A few participants who participated in the games did not provide data on boredom (because they were deaf and dumb or could only communicate in dialect that researchers were not familiar with). However, the researchers felt there was no need to exclude them from the study since they fully participated in the games like the other participants and their cognitive function and social interaction scores were recorded objectively.

Satisfaction with Tabletop games

A questionnaire measuring satisfaction with the tabletop games was also used and data was collected from 25 participants. Participants who had participated in table top games for at least 6 sessions were the ones who provided data on satisfaction.

Data analysis

Data were analysed using descriptive and inferential statistics in excel and SPSS version 27.0 software. Descriptive statistics specifically frequencies, means and standard deviation were also used to analyse the data. Paired samples t-test was used to determine the effect of the table top games on boredom, while Pearson's correlation coefficient was calculated to determine if there was correlation between cognitive functioning and social interaction among the participants.

Results

Different participants were able to play their preferred games. Indeed, some patients who would normally be perceived as unstable or unsociable were able to engage and fully participate in some games.

Descriptive statistics of Boredom levels

Before the intervention, participants reported elevated levels of boredom ($M = 4.98$, $SD = 1.34$, $N = 50$; range = 2.00–7.00). A majority (40%) of the participants had high levels of boredom, 32% had moderate levels, 22% mild and only 6% had low levels of boredom. The results are shown in Table 3.

Table 3: Levels of boredom before intervention

Level	Frequency	Percentage
Low	3	6
Mild	11	22
Moderate	16	32
High	20	40
Total	50	100

Further analysis also revealed that before the intervention, mean boredom scores did not differ significantly between male (M = 5.13, SD = 1.43) and female participants (M = 4.85, SD = 1.27), $t(48)$ = 0.72, p = .475. The mean difference was 0.28 points, indicating comparable baseline boredom levels between the two groups.

Following the intervention, participants reported low levels of boredom (M = 1.44, SD = 0.78, N = 22; range = 1.00–4.13). Further analysis of the levels of boredom after the intervention was also conducted and the results are as shown in Table 4.

Table 4: Levels of Boredom after intervention

Level	Frequency	Percentage
Low	19	86.4
Mild	1	4.5
Moderate	1	4.5
High	1	4.5
Total	22	100

Inferential statistics

The main objective of the study was to determine if there were changes in boredom scores before and after the implementation of table top games. Paired t-test calculation indicated that boredom scores significantly decreased following the intervention. Among participants with both pre- and post-intervention assessments (n = 22), mean boredom scores decreased from 5.05 (SD = 1.34) at pre-test to 1.44 (SD = 0.78) at post-test. A paired-samples t-test indicated a statistically significant reduction in boredom, $t(21) = -10.83$, $p < .001$) as shown in Table 5.

Table 5: Changes in boredom scores before and after intervention

Outcome	**Pretest M, SD**	**Post test M, SD**	**Mean difference**	**95%CI**	**t(df)**	**Effect size Cohen's d**
Boredom	5.05(1.34)	1.44(0.78)	-3.61	-4.30–2.91	-10.83 (21)	1.50

Note: p< .001, Mean difference is calculated as post-test minus pre-test.

Cognitive functioning

The second objective of the study was to determine if there was improvement in cognitive function among the participants while they participated in table top games. There were no baseline scores before the intervention hence the reported findings are based on observable behavioural data collected through an observational checklist as the participants played the games.

Descriptive statistics of Cognitive Functioning

Participants recorded a mean cognitive functioning score of 32.92 (SD = 4.30), with scores ranging from 13 to 36, out of a possible range of 0–36. These findings indicate generally high levels of observed cognitive functioning during participation in the tabletop games. From the results, most (94.4%) of participants had high levels of cognitive functioning as shown in Table 6.

Table 6: Levels of Cognitive functioning

Level	Frequency	Percentage
Low	0	0
Moderate	3	5.6
High	51	94.4
Total	54	100

Further analysis revealed that male participants had a significantly higher cognitive functioning scores (M = 34.62, SD = 1.64) than female participants (M = 30.97, SD = 5.51), $t(27.65) = 3.19$, $p = .003$, with a mean difference of 3.65 points.

Social interaction

The third objective of the study was to determine if there was improvement in social interaction during participation in the games. Similarly, there were no baseline scores before the intervention hence the reported findings are based on observable behavioural data collected through an observational checklist as the participants played the games.

Descriptive statistics of Social Interaction

Social interaction scores were generally high, with a mean score of 32.63 (SD = 4.73; N = 54), with observed scores ranging from 17 to 36 on a scale of 0–36. Further analysis also revealed most (92.6%) of the participants had high levels of social interaction as shown in Table 7.

Table 7: Levels of social interaction

Level	Frequency	Percentage
Low	0	0
Moderate	4	7.4
High	50	92.6
Total	54	100

Further analysis revealed that male participants had higher mean social interaction scores (M = 33.64, SD = 2.62) than female participants (M = 31.45, SD = 6.22); however, this difference was not statistically significant, t (31.31) = 1.64, p = .111, mean difference = 2.19, 95% CI [−0.53, 4.91]. Pearson correlation was also calculated to examine the relationship between cognitive function and social interaction scores. Results revealed a strong, positive, statistically significant correlation between the two variables, r (52) = .76, $p < .001$, indicating that higher cognitive function scores were associated with higher social interaction scores.

Satisfaction with Tabletop games

The last objective of the study was to find out if the participants were satisfied with playing tabletop games. Participants reported high levels of satisfaction with the tabletop games, with a mean satisfaction score of 55.16 (SD = 4.52; N = 25), with observed scores ranging from 43 to 60 on a possible scale of 12–60. Essentially all the participants reported high levels of satisfaction with the games.

Open-ended responses were also collected from 25 participants using three questions: (1) How do tabletop games help you during your stay here? (2) What challenges, if any, do you face when participating? and (3) What suggestions do you have to make tabletop games more helpful? A number of themes emerge. On the benefits of tabletop games, participants described tabletop games as providing opportunities for social connection and reducing feelings of loneliness during hospitalization. One participant stated that the games *"motivate, reduce feelings of loneliness, especially when you don't have relatives visiting, and improve social interactions."* This suggests that the games

provided an avenue for patients to interact with others and experience a sense of connection, particularly in the absence of visits from family members. On challenges faced as they participated in tabletop games, most (14) participants reported no challenges. Where challenges were noted, two secondary themes emerged: competitiveness or difficulty accepting losses e.g., a respondent noting the games get "*a bit competitive as all games do*", and another citing frequent losses at cards, and unfamiliarity with specific games such as chess, ludo, and snakes and ladders, which some participants found difficult to learn. A small number of respondents also cited limited session time and reduced concentration when sessions were crowded. On suggestions for improving tabletop games, the most common recommendation was to increase the frequency of sessions (several respondents suggested daily play), followed by requests for greater variety of activities (including simple games and art therapy/colouring), and expansion of the programme to other wards.

Discussion

The 72% of the patients experiencing elevated levels of boredom before the intervention is not surprising. During the unstructured time, most patients are typically idly seated in the compound or sleeping or engaging in conversation with other patients. This cuts across the female and male wards. These results affirm Marshall et al (2020) and Seiler et al (2023) findings that boredom is an acknowledged problem within mental health settings. Although the patients have other structured activities at different times such as occupational therapy and meal times, it seems that during the unstructured times patients are prone to boredom and its consequences. With a significant drop in mean boredom levels and a high effect size, it is evident that the tabletop games were effective in decreasing boredom among the patients. These results affirm the value of tabletop games as a therapeutic activity among the patients as found by Alweis & Alweis (2025). Indeed, at the very basic, it means that doing "something" during those periods has value compared to doing "nothing". Essentially for the one hour in which the participants were engaged in tabletop games, boredom and its associated negative effects was almost non-existent.

On whether participation in table top games enhanced the patients' cognitive function, the results showed high scores in cognitive function while the patients were playing. These results are similar to Yao (2019) who found that board games were effective in improving cognitive functioning among older adults. Tabletop games require one to think, strategize and solve problems. Indeed, whether playing cards, Jenga or chess one must exert their mental faculties in some way by paying attention, remembering and executing moves in order to participate meaningfully or win a game. The tabletop games therefore gave the patients the chance to improve their cognitive function. This is an important treatment outcome for psychiatric patients. From the results, tabletop games are able to support cognitive functioning by engaging sustained attention, task initiation, following instructions, working memory, problem-solving, flexible thinking, error correction and persistence during play. These activities require participants to remember rules and moves, develop strategies, adapt to changing game situations, and solve problems, thereby providing repeated opportunities to exercise these cognitive processes as intimated by Lee, et al., (2020). Indeed, winning or losing is an important part of the game that trains the mind to process such strong emotions of loss or victory.

The differences in scores of cognitive functions between male and female participants can be attributed to the fact that most female participants were not familiar with some of the games (as observed by the researchers) and therefore may have experienced difficulty in participating in some games. This could also be the reason for the higher standard deviation among the females 5.51 compared to males 1.64 as those who understood the games scored high while those who did not scored low. On the other hand, most of the male participants already were familiar with most of the

tabletop games hence were able to have higher scores in cognitive function. The difference is therefore a socialization issue and not a capability issue. As Feng et al (2007) found, a short time training on the games to the female patients would eliminate the gender differences.

On whether playing table top games improved social interaction among the patients, the results show that indeed, that is the case. This affirms previous findings by Eriksson et al (2021) and Rogerson et al., (2018) who found that the games enhanced cooperative and prosocial behavior. Table top games are inherently social as they typically require one to play with another. Embedded in the games one needs to talk to the other players, they need to cooperate on how to play, they need to read the others "mind" and even compete. Indeed, during the games, conflicts arise and are resolved, alliances are formed and even victories are shared. The celebrations on winning and the atmosphere of victory or competition is not only beneficial to the patients who play but also in creating an atmosphere of comradeship and joy within the wards. These elements of social interaction are not only an integral part of the treatment outcomes of psychiatric patients; they are essential in sustaining life even outside the treatment facility. The strong positive relationship observed between cognitive functioning and social interaction further suggests that engagement in tabletop games may provide opportunities for both cognitive stimulation and social engagement during hospitalisation.

Lastly, the patients showed high levels of satisfaction with the tabletop games. This was a confirmation of the objectively observed effects of the games on boredom, cognitive function and social interaction of the patients. This is in line with Adam-Castelló et al., (2023) findings that leisure activities are not only therapeutic but also satisfactory to hospitalised patients. Indeed, many patients were eager to participate in the games every time we went to the facility on our scheduled days of playing and even suggested that the games should be available more frequently. The patients also suggested that the initiative should be expanded to other wards.

Conclusion

From the findings of this study, we conclude that tabletop games are a feasible and acceptable recreational intervention for patients at Mathari National Teaching and Referral Hospital. They are effective in reducing boredom, improving cognitive function and social interaction among patients in a mental health facility. The games also offer a simple, accessible and engaging approach to reducing boredom and promoting meaningful activity within inpatient mental health settings. This study therefore provides scientific evidence for the incorporation of tabletop games as part of the structured therapeutic activities in mental health facilities in Kenya and beyond.

We recommend that the ministry of health in Kenya and other government agencies consider incorporating tabletop games as part of structured therapeutic activities at Mathari National Teaching and Referral Hospital and other similar facilities. Future studies using controlled designs, larger samples and longer follow-up periods are also recommended to establish the effectiveness of tabletop games. Further research can also be conducted to determine the diagnostic and treatment evaluation value of tabletop games in psychiatric settings.

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