

The Effectiveness of Nature-Based Person-Centred Group Counselling in Improving Spiritual Well-being Among Elderly

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ABSTRACT: Ageing brings not only physical decline but also psychological and spiritual challenges, particularly among elderly individuals living in communal environments such as Islamic boarding houses (pesantren). While pesantren settings offer religious routines and social support, structured psychological interventions tailored to older people's spiritual needs are limited. This study examines the effectiveness of nature-based, person-centred group counselling in improving the spiritual well-being of elderly residents at Pesantren Rhodiyatam Mardhiyyah, Semarang. Using a sequential explanatory mixed-methods design, the research involved a quantitative phase followed by qualitative exploration. The quantitative phase employed a one-factor pre-test-multiple post-test control group design analysed using Mixed ANOVA, while the qualitative phase used thematic analysis based on in-depth interviews. A total of 14 participants aged 60 and above were purposively selected. Mixed ANOVA results revealed significant main effects of the intervention across time ($p < .001$) and between groups ($p < .001$), with strong interaction effects ($\eta^2 = 0.855$), indicating that the nature-based group counselling significantly enhanced spiritual well-being across personal, communal, environmental, and transcendental dimensions. The thematic analysis supported these findings, with participants reporting increased inner peace, emotional openness, social connectedness, and deeper spiritual reflection. Nature-based person-centred counselling provides a practical and culturally relevant intervention to enhance the spiritual well-being of elderly individuals in Islamic boarding schools. This approach integrates therapeutic engagement with nature, group support, and spiritual reflection, offering valuable implications for elderly care programs in religious settings.

INTRODUCTION

Ageing is a natural process that brings various psychological and social challenges. According to demographic projections by the Central Statistics Agency of Indonesia (BPS, 2023), Indonesia is experiencing a significant increase in the elderly population. In 2019, the percentage of people aged 65 and older reached 25 million; by 2050, it is expected to reach 80 million. This increase impacts the dependency ratio, where in 2020, every six working-age individuals supported one older adult. Still, by 2045, this ratio is predicted to decrease to three productive-age individuals supporting one older adult. (Badan Pusat Statistik Indonesia, 2019)

Elderly individuals face numerous challenges, including financial insecurity, limited access to social protection, and declining physical health. According to the National Team for Accelerating Poverty Reduction (TNP2K, 2023), eighty per cent of older people in Indonesia live in poverty, with limited access to health and employment security. The lack of sufficient social protection exacerbates their vulnerability, making them dependent on younger generations for financial and emotional support. (Djamhari et al., 2021). Additionally, many elderly individuals experience emotional distress due to the loss of their homes, familial conflicts, and unfulfilled life expectations, such as not witnessing their children's marriages. (Lansia, personal communication, August 2024). These factors contribute to their overall well-being, increasing anxiety and emotional burdens.

Ageing also brings psychological challenges, such as social isolation and decreased self-worth. Research by Garcia, L. L., & Sabater, A., (2020); Prawitasari, (2016). Successful ageing is achieved when elderly individuals find meaning in life and reach self-actualisation. However, those unable to achieve this state may experience despair, feelings of uselessness, and chronic dissatisfaction, significantly affecting their psychological well-being. (Elizabeth B. Hurlock, 1990). The need for holistic well-being, including spiritual fulfilment, becomes essential in addressing these emotional and psychological concerns. (Steele, 2020).

The Pesantren Rhodiyatam Mardhiyyah in Semarang is a unique environment that integrates religious, social, and natural elements to support the well-being of older people. It provides a peaceful atmosphere with lush greenery, gardens, and natural surroundings that offer a therapeutic environment for its residents. The pesantren fosters spiritual practices such as Quranic recitation and communal worship, which contribute to the spiritual well-being of the elderly. The strong socio-cultural values in Central Java, which emphasise respect for elders, create a supportive and inclusive community. However, despite the serene environment, preliminary studies indicate that newly admitted elderly individuals often experience anxiety, fear, and difficulties in social adaptation due to personal losses and changes in living arrangements.

Research Gap

Despite the increasing recognition of spiritual well-being as a crucial component of elderly care, there is a significant gap in empirical evidence on the effectiveness of nature-based person-centred counselling interventions within pesantren settings in Indonesia. Existing studies have focused on either person-centred counselling or nature-based therapy separately. However, few have explored their combined impact on spiritual well-being among elderly populations in Islamic boarding schools. Furthermore, while pesantren provide a religious and communal environment, they may not offer structured psychological interventions that specifically address grief and emotional distress. Therefore, this study aims to bridge this gap by examining the effectiveness of nature-based person-centred group counselling in enhancing the spiritual well-being of elderly individuals at Pesantren Rhodiyatam Mardhiyyah.

Significance of the Study

This research holds both theoretical and practical significance. Theoretically, it contributes to the growing body of literature on holistic elderly care by integrating psychological and environmental approaches. It also expands the application of person-centred therapy in religious and communal settings, offering insights into culturally relevant interventions for ageing populations.

Practically, the findings of this study can provide valuable recommendations for pesantren administrators and mental health practitioners in designing structured counselling programs tailored to the needs of elderly residents. By incorporating nature-based interventions, pesantren can enhance their role as centres for religious guidance and supportive environments for emotional and psychological well-being. Additionally, this research aligns with national priorities for elderly

care and social protection, supporting policymakers in developing more inclusive mental health strategies for Indonesia's ageing population. The practical implications of this study are significant, potentially influencing the design and implementation of elderly care programs across the country.

Study Aim and Hypothesis

This study examines the effectiveness of nature-based person-centred group counselling in improving spiritual well-being among elderly individuals in an Islamic boarding school setting. The hypothesis is that nature-based person-centred group counselling effectively enhances the spiritual well-being of elderly individuals at the Rhodiyatam Mardhiyyah Islamic Boarding, Semarang.

METHODS

Design

This study employed a mixed-methods research design with a sequential explanatory design, where the quantitative phase was conducted first, followed by a qualitative phase to provide deeper insights into the findings. The quantitative component utilised a one-factor pre-test-multiple post-test control group design, while the qualitative aspect involved in-depth interviews to explore participants' subjective experiences in undergoing counselling interventions.

Participants

Participants were selected using purposive sampling based on the following inclusion criteria: (1) aged 60 years or older, (2) currently living in a pesantren for at least one month to ensure basic social and environmental adaptation, (3) having a score between 20 and 50 on the pre-test Spiritual Well-Being Questionnaire (SWBQ) indicating low to moderate spiritual well-being, (4) identified by the pesantren facilitator as experiencing emotional or spiritual challenges such as sadness, anxiety, or difficulty in social adjustment, (5) physically and cognitively able to participate in the group counseling sessions, and (6) willing to give informed consent. Exclusion criteria included individuals with severe cognitive impairment or those undergoing other health treatments.

Procedure

The participants were divided into two groups: experimental and control. The experimental group underwent group counselling based on a nature-based person-centred approach, conducted for seven sessions over three weeks, with two to three sessions per week, each lasting approximately 90 minutes, held in a natural garden setting conducive to spiritual reflection and interaction with natural elements.

The control group did not receive the counselling intervention but continued with routine pesantren activities such as religious gatherings, Qur'an recitation, and communal prayers. Although not designed as therapeutic interventions, these activities offered minimal spiritual and social engagement and thus served as a quasi-placebo condition for comparison.

Measurements using the SWBQ were conducted at three points: pre-test, post-test, and follow-up. After the follow-up, a subset of participants from the experimental group was selected for semi-structured interviews to capture their subjective experiences and perceived changes in emotional and spiritual aspects following the intervention.

This study received ethical approval from the Semarang State University Research Ethics Committee. All participants provided written informed consent, and confidentiality, anonymity, and the right to withdraw at any time were upheld throughout the study.

Instruments

The study utilised the Spiritual Well-Being Questionnaire (SWBQ) developed by [Fisher, J. W., \(2003\)](#) to assess participants' spiritual well-being. The SWBQ consists of 20 statement items

measuring four dimensions: Personal, Communal, Environmental, and Transcendental. Each item is scored on a Likert scale from 1 (strongly disagree) to 6 (strongly agree), with higher scores indicating higher spiritual well-being. Examples of statements from each dimension include: "I find purpose in my daily activities" for Personal Well-Being, "I feel connected to the people around me" for Communal Well-Being, "I appreciate and feel harmony with nature" for Environmental Well-Being, and "I believe there is a higher power guiding my life" for Transcendental Well-Being. The validity of the SWBQ was tested using exploratory factor analysis (EFA), with a Kaiser-Meyer-Olkin (KMO) value of 0.812, indicating that the sampling was adequate. Bartlett's test of sphericity was significant ($p < .001$), confirming that the scale was suitable for factor analysis. The Reliability analysis showed that Cronbach's alpha for SWBQ was 0.89, indicating high internal consistency.

Data Analysis

Data analysis was conducted using Python, specifically leveraging libraries such as pandas, SciPy, stats models, and pingouin. Preliminary analyses included normality testing using the Shapiro-Wilk test, homogeneity of variance testing with Levene's test, and sphericity testing with Mauchly's test. Descriptive statistics, including means and standard deviations, were calculated for each measurement phase (pre-tests, post-test, and follow-up if applicable). Group comparisons between the experimental and control groups were conducted.

The primary statistical method employed was Mixed ANOVA, which examined within-subject effects by analysing changes in spiritual well-being over time, between-subject effects by comparing differences between the experimental and control groups, and interaction effects to determine whether the shift in spiritual well-being over time differed significantly. The analysis used the Python pingouin library, utilising the Mixed-Anova function. The model evaluation included assessing R^2 to determine the variance explained, conducting F-tests for overall model significance, and reporting effect sizes (η^2) to measure the magnitude of observed effects. Pairwise comparisons with Bonferroni correction were performed to identify significant differences between time points, with a significance level set at $p < .05$. If substantial interactions were found, simple main effects analysis was conducted using Python's stats models' package to explore group differences at each time point further. Additionally, qualitative data from in-depth interviews were analysed thematically to support and contextualise the quantitative findings.

RESULTS AND DISCUSSION

Results

This study employed a sequential explanatory mixed-methods design, where quantitative results from Mixed ANOVA were followed by qualitative analysis to provide deeper insights into the effectiveness of person-centred group counselling with nature-based elements on elderly spiritual well-being at Pesantren Roodhiyatam Mardhiyyah, Semarang. The quantitative phase utilised Mixed ANOVA to assess differences in spiritual well-being scores across groups and time, while the qualitative phase employed thematic analysis on in-depth interviews and participant reflections to explore lived experiences and perceptions of the intervention.

The analysis focused on three key aspects: (1) Between-Subjects Effect, which examined differences in spiritual well-being scores between the experimental and control groups; (2) Within-Subjects Effect, which assessed changes in spiritual well-being scores across three measurement phases (pre-tests, Post-Test, Follow-Up); and (3) Interaction Effect, which investigated whether changes in spiritual well-being scores over time differed between the experimental and control groups. The qualitative phase further explored the underlying mechanisms contributing to these changes.

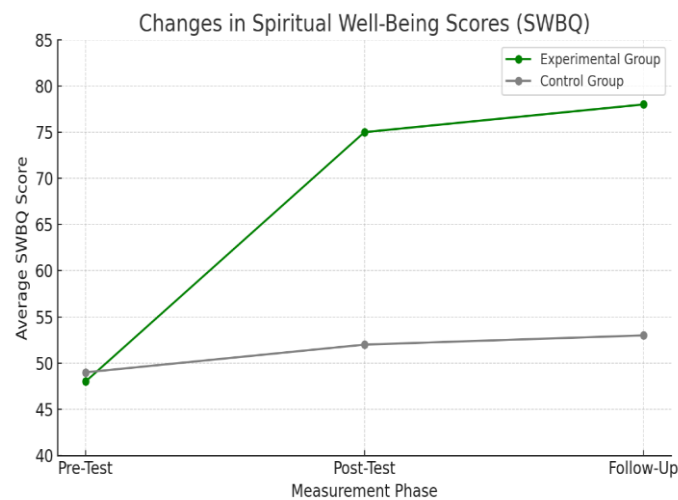


Figure 1. Line graph showing changes in average SWBQ scores across three phases (pre-test, post-test, follow-up) for both groups.

Table 1. Mixed ANOVA Results

Source	SS	df	MS	F	p-value	η^2
Group (Between)	4021.93	1, 12	4021.93	111.67	< .001	0.903
Phase (Within)	2544.57	2, 24	1272.29	99.20	< .001	0.892
Interaction (G \times P)	1814.29	2, 24	907.14	70.73	< .001	0.855

Note: Greenhouse-Geisser $\epsilon = 0.536$, $p = .001$.

The mixed ANOVA results collectively indicated that the intervention applied to the experimental group effectively improved the spiritual well-being of older adults. The main effect of the Group ($p < 0.001$) confirmed that the experimental group had consistently higher scores than the control group, especially in the post-test and follow-up phases. The main effect of Phase ($p < 0.001$) showed a significant change in scores over time, which was mainly seen in the experimental group. The interaction effect ($p < 0.001$) underlined that this score increase was closely related to the intervention, as the control group did not show the exact change. These findings support the hypothesis that a nature-based person-centred group counselling intervention has a significant and sustained positive impact on older adults' spiritual well-being, as measured by the SWBQ.

Table 2. Mixed ANOVA and Qualitative Findings

Aspect	Quantitative Results (Mixed ANOVA)	Qualitative Insights (Thematic Analysis)
Between-Subjects Effect	Significant effect between groups ($F(1,12) = 111.67$, $p < .001$, $\eta^2 = 0.903$)	<ul style="list-style-type: none"> Themes: spiritual connectedness, inner peace, and meaning of life Nature-based group discussions enhanced emotional openness and reflection Gardening activities (e.g., planting, nurturing) strengthened coping and resilience Quote: <i>"The group made me feel accepted and appreciated."</i>
Within-Subjects Effect	Significant change across phases ($F(2,24) = 99.20$, $p < .001$, $\eta^2 = 0.892$)	<ul style="list-style-type: none"> Gradual increase in emotional openness and comfort Nature supported reflection and calmness during sessions

Interaction Effect

Strong group \times phase interaction
($F(2,24) = 70.73$, $p < .001$, $\eta^2 = 0.855$)

- Themes: progressive self-awareness and spiritual deepening
- Quote: *"At first I was hesitant, but over time I felt more relaxed and heard."*
- Greater change observed in the experimental group compared to the control
- Metaphor of the rose used to symbolise personal growth and resilience
- Group sharing fostered spiritual reflection through natural metaphors
- Quote: *"The thorns represent pain, but the bloom brings meaning and peace."*

Thematic Analysis of Qualitative Data Based on SWBQ Dimensions

To further understand the qualitative aspects of the intervention, thematic analysis was conducted on the four SWBQ dimensions, identifying key themes and subthemes from participant interviews and reflections.

Table 3. Interviews and Reflection

SWBQ Dimension	Participant Quotes	Interpretation/ Meaning
Personal	<i>"Every time I come home from surgery. I want to buy orchids to symbolise my belief that I can recover."</i>	According to her, orchids symbolise resilience and hope in healing. An orchid takes a long time to bloom, reflecting the prolonged recovery process. According to her, recovery requires patience and confidence, like a blooming orchid.
Communal	<i>"At first I was embarrassed to talk about the problems I was facing, my unmarried child made me sad and withdrawn, and I was embarrassed in front of the other neighbours, but over time sharing stories with the members made me feel appreciated and accepted"</i> (Mn, 65 years old)	Positive social relationships improve emotional well-being.
Environmental	<i>"I feel more peaceful after resting in the garden, seeing the flowers I planted continue to bloom, I feel proud of the results of my care"</i> (Ms, 73 years old)	The elderly experience increased inner peace through the therapeutic garden they created.
Transcendental	<i>"...especially when the group members and I walk together while seeing the natural beauty of the park, the chirping of birds, and the sound of trickling water, it makes me increasingly aware of the greatness of God, I increasingly pay attention to the beauty of the sounds that come together..."</i> (Nt 64 years old)	Spiritual experiences are enhanced through connection with nature.
Additional Theme: Perceptions of Age	<i>"I used to feel like my life was meaningless since I lost my husband recently, but I realised... my children also want to see me healthy and in good condition..."</i> (Mm 65 years old)	There is a change in perception from resigned to more optimistic about life.

The findings of this study demonstrate that person-centred group counselling with nature-based practices effectively enhances the spiritual well-being of elderly individuals in pesantren settings. The results align with prior studies emphasising the significance of spiritual coping strategies in improving subjective well-being. (Pazer, S, 2024). Studies highlight the positive impact of spirituality on resilience and coping mechanisms, which in turn contribute to overall happiness and flourishing, particularly in challenging circumstances. (Reyes-Perez et al., 2025). As a crucial component of overall life satisfaction, spiritual well-being is influenced by an individual's ability to connect with nature and derive meaning from spiritual experiences. (Zelenski et al., 2023). This study confirms that structured counselling interventions incorporating natural environments can significantly impact emotional resilience and spiritual contentment.

The effectiveness of nature-based interventions has been widely documented in mental health literature. Research by Ryff, 2021 It shows that spiritual well-being can enhance one's ability to connect with nature, as demonstrated in gardening experiences. This connection fosters a meaningful relationship with the environment, supporting spiritual growth through Contribution, Connection, Awareness, and Being Yourself, ultimately enriching overall well-being. Similarly, Ohlsson, 2022 Found that engagement with green spaces enhances emotional balance and social connectivity. The findings of this study support these conclusions, demonstrating that elderly individuals who participated in nature-based counselling sessions exhibited improved levels of spiritual well-being compared to those who received conventional counselling.

Moreover, this study's results align with the principles of the Person-Centred Therapy (PCT) approach proposed by Rogers (2017, which emphasises empathy, unconditional positive regard, and self-actualisation. The elderly participants in this study reported greater self-acceptance and emotional stability following their engagement in the intervention, reinforcing the idea that person-centred counselling fosters psychological growth and spiritual fulfilment. (Andy Harrod et al., 2023; Greenleaf et al., 2013). Additionally, the therapeutic impact of nature-based interventions is consistent with R. (1995 Attention Restoration Theory (ART), which suggests that natural environments facilitate cognitive and emotional recovery. This theoretical perspective underpins the observed improvements in the participants' sense of peace, self-awareness, and spiritual connection.

The cultural context of the pesantren environment further underscores the significance of spiritual well-being among elderly individuals. In Javanese culture, communal religious practices and social cohesion are central to maintaining emotional and psychological balance. (Geertz, 1976). Integrating spiritual guidance within a structured, nature-based counselling framework aligns with the cultural values of the elderly participants, reinforcing the intervention's effectiveness. Previous studies have highlighted the importance of cultural adaptation in mental health interventions, particularly for ageing populations. (Department of Development, 2024). Cultural adaptation is essential for ensuring that mental health interventions are effective, acceptable, and accessible to elderly populations from diverse cultural backgrounds. Involving communities in the adaptation process, addressing cultural stigma, and leveraging technology can help develop interventions that resonate with the needs and values of diverse populations. (Shvedovskaya et al., 2024; Yuan et al., 2021)

Furthermore, the results of this study echo findings from research on spiritual coping and resilience. Studies by Park, S. H., & Jung, T. Y., 2017 and Al-Nasa'h, M, 2020 Indicate that spiritual practices contribute to individuals' coping with life transitions, including ageing and loss. The participants in this study who engaged in nature-based spiritual counselling reported a stronger sense of inner peace. They reduced existential distress, confirming the role of spiritual coping mechanisms in enhancing well-being.

Implications

This study has implications for the growing literature on integrating person-centred counselling and nature-based interventions for elderly populations. By emphasising the role of spirituality and natural environments in promoting well-being, the findings highlight the potential for culturally adapted mental health interventions to enhance the quality of life for elderly individuals in communal settings.

Limitations and Further Research

While the findings of this study align with previous research, some limitations should be acknowledged. First, the sample size was relatively small, limiting the generalizability of the results. Future research should explore the long-term effects of nature-based counselling on spiritual well-being using larger and more diverse samples. Second, while this study focused on spiritual well-being, future investigations could examine additional psychological variables, such as depression, anxiety, and social connectedness, to provide a more comprehensive understanding of the intervention's impact.

CONCLUSION

This study demonstrates how nature-based and person-centred group counselling can improve the spiritual well-being of older people in a pesantren setting. Findings from our statistical analysis showed significant improvements in various aspects of spiritual well-being: personal, communal, environmental, and transcendental. Participants described experiences that indicated increased emotional openness and spiritual insight during the intervention, found greater self-reflection, and richer spiritual connections, all fostered by the natural environment and group interactions. Combining person-centred principles with a therapeutic natural setting developed a supportive and culturally relevant approach that helped foster self-acceptance, inner peace, and a sense of purpose among older people. These results underscore the importance of tailoring counselling programs to fit the unique context of the elderly population, especially within communal religious settings. We encourage future research to further explore this model with larger cohorts and over a more extended period, to help us understand the long-term benefits of such interventions.

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AUTHOR CONTRIBUTIONS STATEMENT

KH, DYPS, and SS agree on the final version of this article.

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