

Community Insights into the Garden as a Space for Ecotherapy: A Case Study of Selangor-Japan Friendship Garden, Shah Alam, Malaysia

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ABSTRACT

According to the National Health and Morbidity Survey 2024, more than one million people, or 4.2% of the Malaysian population, are experiencing mental health issues. The National Strategic Plan for Mental Health 2020–2025 emphasises the need to improve mental health outcomes through more accessible and preventive approaches. Ecotherapy refers to nature-based interventions or experiences that reconnect individuals with the natural environment to support mental, emotional, and physical well-being. This study aims to identify community insights into the garden as a space for ecotherapy at the Selangor-Japan Friendship Garden in Shah Alam, Malaysia. The garden covers approximately two point four (2.4) hectares, with a traditional Japanese garden concept achieved through specific techniques and principles designed by a landscape architect. The elements of Japanese gardens were associated with restorative and contemplative qualities, establishing visual balance, spiritual depth, and a deep sense of peace, which relate to ecotherapy needs. Objectives of research are to i) identify reasons and expectations of respondents visiting the garden, ii) analyse demographic characteristics in relation to open space use as an ecotherapy function, and iii) evaluate landscape views that contribute to ecotherapy functions. A total of 120 garden visitors were selected as respondents. This study uses questionnaire survey data collected from garden visitors and analyses selected landscape scenes and ecotherapy-related experiences. The study indicated that the Selangor-Japan Friendship

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Garden has received positive community feedback on psychological, physical, and spiritual aspects. Three (3) key factors emerge from these research findings, offering a more profound understanding of the observed outcomes. The first key factor is respondents' reasons for visiting the garden; the second is the selected photo that contributes to feelings of ecotherapy; and the third is the age factor. To strengthen the garden's role, the city council should foster public-private partnerships and promote community involvement to maintain the quality of open space and meet future demand.

INTRODUCTION

Nature has been widely recognised as an important environmental resource for supporting mental health, emotional well-being, and psychological restoration. In urban settings, contact with natural environments may help reduce stress, improve mood, encourage physical movement, and provide opportunities for social interaction and reflection. Previous studies have shown that engagement with nature and green environments can contribute to improved physical health among urban dwellers (Dzulraidi & Alwi, 2025; Santos et al., 2023), psychological benefits for senior citizens and children with special needs (Bonan et al., 2023; Kim & Shin, 2021), improved students' mood and facilitated learning behaviour (Holt et al., 2019), and recovery support for patients with physical and cognitive impairment (Razani et al., 2018). Ecotherapy refers to nature-based interventions or experiences that reconnect individuals with the natural environment to support mental, emotional, and physical well-being (Isham et al., 2025). Existing evidence indicates that nature-based outdoor activities, including gardening, green exercise, and nature-based therapy, can improve mental health outcomes among adults, while nature exposure therapies have been associated with stress reduction, anxiety alleviation, and depression mitigation (Coventry et al., 2021; Paredes-Céspedes et al., 2024).

According to the National Health and Morbidity Survey 2024, more than one million people, or 4.2% of the Malaysian population, are experiencing mental health issues. The National Strategic Plan for Mental Health 2020–2025 emphasises the need to improve mental health outcomes for Malaysian citizens through more accessible and preventive approaches. Within this context, parks, gardens, and public open spaces may function as supportive environments for everyday mental health because they provide opportunities for relaxation, stress relief, physical activity, social connection, and psychological restoration. Ecotherapy is also closely related to other concepts such as nature-assisted therapy, green social prescribing, nature-based interventions, therapeutic landscapes, and green care (Rachel et al., 2025). Although these terms differ in emphasis, they share a common concern with the human–nature relationship and its potential contribution to health and well-being. Recent studies have also highlighted the wider public health and economic value of green environments, including reduced healthcare costs, improved community health outcomes and greater recognition of parks and gardens as preventive health infrastructure (Buckley & Chauvenet, 2022; Feng, 2024; Staton, 2022). The concept of therapeutic gardens, as exemplified by ornate imperial gardens in East Asia and monastic gardens in mediaeval Europe, has undergone significant evolution over time (Kaplan & Kaplan, 1989). Various landscape settings, including healthcare settings (Santos et al., 2023), cityscapes and urban landscapes (Zhang et al., 2024), office workers (Kim & Shin, 2021), senior residences (Razani et al., 2018), and school and university students (Bonan et al., 2023), have been the subject of numerous studies that have investigated the impact of ecotherapy.

Selangor-Japan Friendship Garden, located in Shah Alam, was selected as the study area because it contains several landscape characteristics that are closely related to the ecotherapy concept. This two point four (2.4) hectare Japanese garden was developed as a symbol of friendship between Selangor and Japan while also functioning as an urban public open space in the city. The park was designed by Sitelink (M) Sdn. Bhd., a prominent landscape consultant in Malaysia. It has attracted a high number of visits from local and international tourists since opening in 2021. Japanese gardens are particularly relevant within ecotherapy discourse because their spatial composition and symbolic landscape elements are designed to promote calmness, balance, reflection, and sensory harmony (Wang & Kunii, 2025); therefore, this research is not only to identify landscape scenery but also its potential to function as an ecotherapy landscape within an urban community setting. This is also consistent with the Shah Alam Sustainable Community Action Plan 2025–2030, which highlights the importance of inclusive public parks, community landscapes, and spaces that support both mental and physical health (Shah Alam City Council, 2025; Mohammad Sabri & Ponorahono, 2024; Jamean & Abas, 2023). This study aims to investigate community insights into the role of the Selangor-Japan Friendship Garden as an ecotherapy space in Shah Alam. The objectives of this study are to:

- (i) Identify the reasons and expectations of respondents when visiting the garden.
- (ii) Analyse demographic characteristics in relation to open space use as an ecotherapy function.
- (iii) Evaluate landscape views that contribute to ecotherapy functions.

Methodologically, this study uses questionnaire survey data collected from garden visitors and analyses their perceptions of selected landscape views and ecotherapy-related experiences. By focusing on community insights, this study contributes to the understanding of how urban gardens can support mental health, therapeutic landscape planning and future public open space management in Malaysia.

LITERATURE REVIEW

Brief History of Ecotherapy

In ecotherapy studies, therapeutic gardens are among the garden settings that feature specific design elements capable of supporting healing effects. Historical records indicate that more than a thousand years ago, Asian and Western cultures recognised the therapeutic benefits of plants and gardens for patients (Ulrich & Parsons, 1992). During the 1800s, European and American hospitals frequently incorporated gardens and medicinal plants into healthcare settings (Nightingale, 1860). However, following the Industrial Revolution, many therapeutic gardens were gradually replaced by more functional and less holistic medical environments. The Back to Nature movement, which began in the 1960s and continued into the 1990s, renewed interest in restoring natural spaces for human health and well-being. By the 1990s, the concept of ecopsychology and the recognition of humanity's need for healing through nature had gained broader acceptance. According to Ulrich and Parsons (1992), ecotherapy can be categorised into several nature-related practices, including adventure therapy, animal-assisted therapy (AAT), urban farming, wilderness therapy, art and craft therapy and therapeutic or horticultural therapy. Existing evidence on nature-based outdoor activities and nature exposure therapies further suggests that outdoor engagement with green environments can support mental health outcomes, including stress reduction and improvement in depressive symptoms (Coventry et al., 2021; Paredes-Céspedes et al., 2024). Evidence on ecotherapy also suggests its potential contribution to depression management, although findings on anxiety remain more varied and require further empirical validation (Rueff & Reese, 2023).

Medical Science Benefits

In psychoneuroimmunology studies, the interaction among the nervous system, psychological processes, and the immune system provides an important basis for understanding how therapeutic landscapes may influence human well-being. Guizzo (2023) found that exposure to contemplative landscape settings was associated with measurable brainwave responses, suggesting that therapeutic landscapes may influence visual attention, relaxation, and emotional regulation. Othman et al. (2020), through a combined landscape and neuroscience study, revealed positive brainwave patterns among people with pro-environmental behaviour. Saskovets et al. (2025) also provided neurophysiological evidence that environmental sound is a key therapeutic factor in reducing stress among adults, reducing cortisol release and promoting neural calm. The parasympathetic nervous system, which is associated with relaxation, was observed to become dominant when participants repeatedly shifted their gaze across a Japanese garden (Goto et al., 2025). These findings suggest that therapeutic landscapes may support restoration through visual attention, sensory exposure, physiological calming, and emotional regulation. An additional approach practised by medical professionals in countries such as Canada, New Zealand, and Japan is the use of a “green prescription,” which encourages contact with nature to support patients with early cardiac and mental health conditions alongside medical treatments. Although the present study does not measure clinical or physiological outcomes, this body of medical science evidence is important because it provides a theoretical explanation for why certain garden elements, such as water, vegetation, shade, pathways, and contemplative spaces, may be perceived by visitors as psychologically, physically, or spiritually restorative.

Socio-Behavioural Benefits

Previous review-based evidence has demonstrated the effectiveness of ecotherapy in improving socio-behavioural outcomes, including psychological and health benefits from gardening activities in schools and among prisoners (Mohammad Sabri & Ponorahono, 2024). Sensory experience in hospital gardens has been associated with cognitive function and memory improvement among Alzheimer’s patients (Kim & Shin, 2021) and schizophrenia patients (Staton et al., 2022). Staton et al. (2022) also indicated that ecotherapy may produce beneficial psychopathological outcomes for schizophrenia patients, including relaxation responses and calm behaviour. The significance of ecotherapy in the reduction of trauma has also been demonstrated in research. Putman et al. (2009) demonstrated that a sense of accomplishment derived from wilderness experiences can have a positive influence on traumatised workers, while Paharia et al. (2005) introduced an animal-assisted therapy (AAT) model for survivors of sexual abuse experiencing post-traumatic stress. Rachel et al. (2025) aimed to incorporate natural benefits into indoor therapeutic environments by developing nature-based techniques that were adapted for indoor use with trauma-informed clients. Dzulraidi et al. (2025) investigated the therapeutic components of Islamic religious practices and proposed a trauma intervention design.

In the context of Japanese garden studies, socio-behavioural evidence is particularly relevant because users’ restorative experiences are shaped by their visual preferences, cultural interpretations, movement patterns, and emotional responses to landscape elements. Studies on Japanese garden styles, such as Rokuon-ji Garden, have demonstrated that the interplay between natural elements, primarily green, and artificial elements, such as brown and grey, establishes a balance mechanism that contributes to healing effects. Six (6) primary psychological factors, namely openness, decorativeness, clarity, naturalness, unity, and complexity, for a substantial proportion of variance in garden landscape perception (Wang & Kunii, 2025). Analysis of visitor eye movements in Japanese gardens has shown greater effectiveness in reducing pulse rate and enhancing mood (Goto et al., 2025). ‘Forest bathing’, or ‘Shinrin-yoku’, is a popular term for ecotherapy in Japan. It may increase natural killer cell activity in the human body and act as intracellular anticancer proteins when humans are exposed to essential oils emitted by forest trees (Li et al., 2010).

RESEARCH METHODOLOGY

This study employed a quantitative survey-based questionnaire survey. The questionnaire survey was designed to capture visitors' reasons for visiting the garden, demographic characteristics, and perceptions of selected landscape views that may contribute to respondents' psychological, physical, and spiritual feelings. The methodology consisted of study area identification, questionnaire design, photograph selection, face-to-face survey distribution, and Statistical Package for the Social Sciences (SPSS) software for analysis.

Study Area

The Selangor–Japan Friendship Garden in Shah Alam, Selangor, Malaysia, was selected as the study area because it represents a Japanese-style public garden located within the urban context of Shah Alam, Selangor. The garden covers approximately two point four (2.4) hectares with a traditional Japanese garden design that is achieved through specific techniques and principles in design by the landscape architect. The elements of Japanese gardens were associated with restorative and contemplative, which established visual balance, spiritual depth and a deep sense of peace which is related to ecotherapy needs. Curated landscape elements such as the symbolic rock, water flow and water fountain, bamboo pathway, lantern, moon bridge, koi pond and minimalist planting arrangements have created a wonderful design at every corner of the garden. Figure 1 shows the geographical location of the study area.

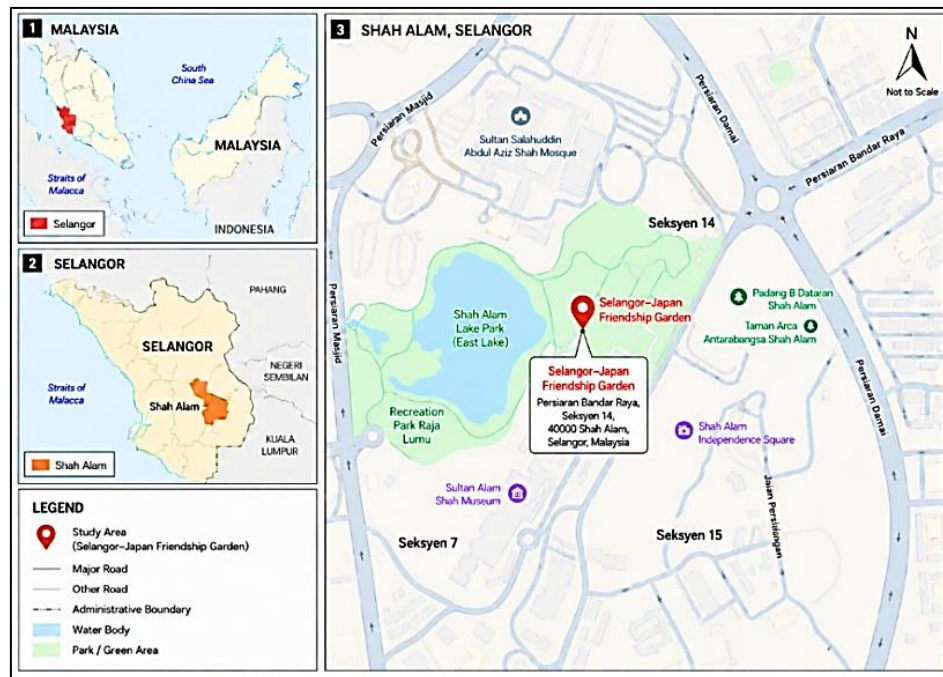


Fig. 1. Location of Selangor–Japan Friendship Garden, Shah Alam, Selangor, Malaysia

Source: Authors (2025)

Figure 2 illustrates the overall layout of the garden. The figure was prepared based on the on-site garden plan, field observation, and photographic documentation. The eight (8) selected landscape views were used as visual and experiential references in the questionnaire survey. These views were selected because they

represent key Japanese garden characteristics and ecotherapy-related elements, including 1) main entrance, 2) reflexology path, 3) picturesque bridge and lakeside, 4) Terrace Garden, 5) Zen Garden, 6) Traditional Garden, 7) Maze Koi Pond, and 8) Second entrance.



Fig. 2. Overall Layout of Selangor–Japan Friendship Garden

Source: Shah Alam City Council (2025)

Research Design

The research methodology employed in this study included the development of a structured research questionnaire, the collection and selection of photographs, face-to-face surveys, data analysis, discussion, and recommendations. Field data were collected during late April 2025. The study was quantitative in nature and supported by a photographic rating assessment. The photographs were used as visual references to help respondents evaluate selected garden views consistently. Respondents were asked to assess the perceived healing quality of each landscape view based on their actual experience of the garden and the corresponding photographic scenes.

Sampling and Respondents

A total of 120 garden visitors were selected as respondents. Respondents were selected by author aged 18 years and above, willing to participate voluntarily, and able to understand the purpose of the questionnaire. A stratified sampling approach was used to ensure that respondents represented key demographic groups, including gender, age, and ethnicity. According to Pallant (2020), stratified random sampling is a probability sampling design that divides the population into strata and then randomly selects subjects from each stratum. It was estimated that approximately 1,200 visitors visited the garden during the relevant fieldwork period (April 2025), and 10% of the estimated visitor population was selected as the sample of respondents. The sample was primarily treated as an on-site visitor-based sample rather than a full population-representative survey.

Questionnaire Design

The questionnaire consisted of three (3) main sections that were aligned with the aim and objectives of the study: Section A: Respondent's Background; Section B: Reason and Expectation When Visiting the Garden. Section C: Views that Contribute to Ecotherapy Feelings. Section A focused on respondents' background, including gender, ethnicity, age, occupation, and visitation characteristics. Section B examined respondents' reasons and expectations when visiting the garden, including mental well-being, physical activity and health, therapeutic and restorative functions, social interaction, meditation, and educational purposes. Section C evaluated landscape views that may contribute to ecotherapy-related feelings. Section C used a five-point Likert scale to measure respondents perceived healing quality of selected landscape views. The scale ranged from 1 to 5 (1 = highly unhealing, 5 = extremely healing). Eight (8) landscape views were selected around the garden based on their Japanese garden characteristics and relevance to ecotherapy elements. These views included i) main entrance; ii) reflexology path; iii) picturesque bridge and lakeside; iv) terrace garden; v) Zen Garden; vi) traditional garden; vii) Maze Koi Pond; and viii) second entrance.

Data Collection Procedure

A series of photographs was taken at the garden as part of the pre-survey documentation. The photographs were used to record existing landscape views and ensure consistency between the photographed scenes and the actual site environment during data collection by authors. Captured over two (2) consecutive weekdays, all photographs depicted clear-sky conditions and mild evening weather between 5:00 p.m. and 7:00 p.m. This collection was created one (1) week before the assessment day to ensure that the quality of the panoramic views was consistent with respondents' survey hours. Wang and Kunii (2025), studied psychology and colour extraction in Rokuon-ji Japanese Garden, suggested that minimal atmospheric interference and consistent hours of photography are important data-collection considerations. During data collection, respondents were approached face-to-face at selected points within the garden.

Data Analysis

Data were analysed using descriptive and inferential statistical analysis. Frequency and percentage were used to present respondents' demographic profiles and visitation reasons, while mean score and ranking were used to evaluate the perceived healing quality of the eight (8) selected landscape views. The reliability of the Likert-scale items was assessed using Cronbach's Alpha to examine the internal consistency of the healing perception measures. Cronbach's Alpha was applied because it is commonly used to evaluate the internal consistency and reliability of measurement instruments (Izah et al., 2023). Normality testing was also conducted using the Kolmogorov-Smirnov and Shapiro-Wilk tests to examine the distribution of the Likert-scale items measuring ecotherapy feelings when viewing the scenery.

Since the normality test showed that the Likert-scale items were not normally distributed, parametric tests such as the independent samples t-test and one-way ANOVA were not conducted. The analysis therefore focused on descriptive statistics, mean ranking and chi-square analysis, which were considered suitable for the nature of the data. Inferential statistical analysis was conducted to examine whether respondents' therapy-related responses differed across the selected landscape views. Chi-square analysis was used to compare 'Yes' and 'No' responses for psychological, physical and spiritual therapy categories across the eight (8) selected photographs. The level of statistical significance was set at $p < 0.05$. Overall, this analytical approach enabled the study to examine community perceptions of the garden not only through visual healing scores, but also through therapy-related responses associated with the selected landscape views.

RESULTS AND ANALYSIS

Reliability Analysis

Reliability analysis was conducted to assess the internal consistency of the eight (8) items measuring ecotherapy feelings in Section C of the questionnaire. Cronbach's Alpha was applied because it is commonly used to evaluate the internal consistency and reliability of measurement instruments (Izah et al., 2023). The results showed that all 120 cases were valid and no cases were excluded from the analysis. The Cronbach's Alpha value was 0.886, indicating good internal consistency. Therefore, the measurement items were considered reliable and appropriate for further analysis.

Normality Test

Normality testing was conducted on a Likert scale of eight (8) scenarios using the Kolmogorov-Smirnov and Shapiro-Wilk tests (Mishra et al., 2019). The results showed that seven (7) items had p-values of less than 0.001, indicating that the data were not normally distributed. The normality test for Photo 1: Main Entrance could not be computed because the responses were constant. Since the items were measured using a five-point Likert scale, this result is acceptable because Likert-type data are ordinal and may not follow a normal distribution (Sullivan & Artino, 2013; Mircioiu & Atkinson, 2017).

Reason for Visiting the Open Space

From Table 1, 35% of respondents visited the garden for therapeutic and relaxation functions, 25% for social interaction, 15% for beautiful scenery, 10% for physical activity such as jogging and brisk walking, 8% for meditation, and 7% mentioned they came for school assignments. These percentages reflect a strong emphasis on the therapeutic and restorative benefits of the garden, social interaction and education. According to Wang and Kunii (2025), seeking refuge and restorative experiences can be seen as priority needs for urban citizens. Identifying significant correlations between specific garden design elements and enhanced experiences of ecotherapy.

Table 1. Reason for Visiting the Open Space

No.	Reason for Visiting the Open Space	Frequency (n)	Percentage (%)
1.	Therapeutic and relaxation functions	42	35.0
2.	Social interaction	30	25.0
3.	Beautiful scenery	18	15.0
4.	Physical activity, such as jogging and brisk walking	12	10.0
5.	Meditation	10	8.0
6.	Others	8	7.0
Total		120	100.0

Source: Authors (2025)

Frequency Analysis on Demographic and Garden Visit

(i) Gender Aspect

Table 2 presents community insights based on gender and the reasons for visiting the open space. The findings show that female respondents formed the majority of the sample, representing 75.0% of the total respondents, while male respondents accounted for 25.0%. Among male respondents, 8.3% visited the garden for therapeutic and relaxation functions, 10.0% for physical activity such as jogging and brisk walking, and 6.7% for other reasons. Meanwhile, among female respondents, 26.7% visited the garden for therapeutic and relaxation functions, followed by social interaction at 25.0%, beautiful scenery at 15.0% and meditation at 8.3%. From the results, it can be concluded that women respondents perceive the environment as providing a more relaxing experience than men do, and they value spaces that offer emotional respite. Analysis on socio-psychological functions (Jeong et al., 2025) shows that women scored higher than men in finding restorative feelings at the park. Stress response mechanisms are biologically different between gender factors; women may have different vulnerabilities or restorative needs (e.g., the need for emotional restoration) compared to men. This supports the idea that women may more often seek environments (such as gardens) that support stress reduction and emotional well-being and repair (Weitzman, 2024) due to their psychoneuroimmunology and nervous system factors. In the context of garden design, it should not only focus on aesthetics and ecotherapy, but also prioritise safety and inclusive features, especially for women who accompany children within the study area.

Table 2. Gender and Reason for Visiting the Open Space

No.	Gender	Reason for Visiting the Open Space	Frequency (n)	Percentage (%)	Total	
					Frequency (n)	Percentage (%)
1.	Male	Therapeutic and relaxation functions	10	8.3	30	25.0
		Physical activity, such as jogging and brisk walking	12	10.0		
		Others	8	6.7		
2.	Female	Therapeutic and relaxation functions	32	26.7	90	75.0
		Social interaction	30	25.0		
		Meditation	10	8.3		
		Beautiful scenery	18	15.0		
Total			120	100.0	120	100.0

Source: Authors (2025)

(ii) Ethnicity Aspect

The ethnicity profile of the respondents is presented in Table 3. The findings show that Malay respondents formed the largest ethnic group, representing 60.0% (n = 72) of the total respondents. This was followed by Chinese respondents at 25.0% (n = 30) and Indian respondents at 15.0% (n = 18). In terms of gender distribution, the overall sample consisted of 25.0% male respondents (n = 30) and 75.0% female respondents (n = 90). Among Malay respondents, 15.0% (n = 18) of the total respondents were male and 45.0% (n = 54) were female. For Chinese respondents, 6.7% (n = 8) were male and 18.3% (n = 22) were female. Meanwhile, Indian respondents consisted of 3.3% (n = 4) male and 11.7% (n = 14) female respondents. Overall, the findings indicate that the study involved a multi-ethnic respondent profile, with Malay, Chinese and Indian visitors represented within the sample. Table 3.0 indicates that the respondents consisted of a multi-ethnic group, with Malay, Chinese and Indian visitors represented in the study. Although female respondents formed the majority of the overall sample, the ethnicity profile shows that the garden was used by visitors from different ethnic backgrounds. This suggests that the Selangor-Japan Friendship Garden functions as an inclusive public open space that supports social interaction and helps reduce social fragmentation among urban communities. The diverse community engagement observed at the garden reflects its potential to support long-term inter-ethnic bonding, consistent with its objective of fostering friendship and cross-cultural understanding. This finding also aligns with the broader direction of the Shah Alam Sustainable Community Action Plan 2025 - 2030, which emphasises public health, inclusive public spaces and social cohesion across diverse communities.

Table 3. Ethnicity Aspect

No.	Ethnicity	Gender		Total	
		Male (n, %)	Female (n, %)	Frequency (n)	Percentage (%)
1.	Malay	18 (15.0)	54 (45.0)	72	60.0
2.	Chinese	8 (6.7)	22 (18.3)	30	25.0
3.	Indian	4 (3.3)	14 (11.7)	18	15.0
4.	Others	0 (0.0)	0 (0.0)	0	0.0
Total		30 (25.0)	90 (75.0)	120	100.0

Source: Authors (2025)

(iii) Age Group Aspect

Table 4 presents the community insight based on the age group aspect. The findings show that respondents aged 18 to 25 years formed the largest age group, representing 40.0%. This indicates that the garden primarily served younger adults, who may visit the garden for recreation, socialisation, stress relief and informal outdoor activities. The second highest group was respondents aged 26 to 35 years, accounting for 27.6%. This group may represent working adults and family users who use the garden as a multi-generational open space for leisure, relaxation and time spent with dependents. Respondents aged 36 to 45 years represented 13.3%, while those aged 46 to 55 years represented 10.0%. The senior age group was categorised as 56 to 60, and 61 and above, representing 7.5% and 2.5%, respectively. These suggest that the garden also attracts older users who may value calmer, quieter and

more restorative environments. Overall, the findings indicate that the Selangor-Japan Friendship Garden functions as a multi-generational open space that supports younger adults, family users and older visitors through recreational, social and restorative experiences.

Table 4. Age Group Aspect

No.	Age Group	Frequency (n)	Percentage (%)
1.	18-25 years	48	40.0
2.	26- 35 years	32	27.6
3.	36-45 years	16	13.3
4.	46-55 years	12	10.0
5.	56- 60 years	9	7.5
6.	61 years and above	3	2.5
Total		120	100.0

Source: Authors (2025)

Mean Value for Each Photo and Analysis on Ecotherapy Feeling

Table 5. Mean Value and Ranking of Landscape Views that Promote Ecotherapy Function

Rank	Landscape View	Mean Value	Interpretation
1	Photo 1: Main Entrance	5.00	Extremely healing
2	Photo 2: Reflexology Path	4.88	Extremely healing
3	Photo 3: Picturesque Bridge and Lakeside	4.83	Extremely healing
4	Photo 7: Koi Pond	4.70	Healing to Extremely healing
5	Photo 8: Second Entrance	4.70	Healing to Extremely healing
6	Photo 5: Zen Garden	4.64	Healing
7	Photo 6: Traditional Garden	4.51	Healing
8	Photo 4: Terrace Garden	3.45	Moderate healing

Source: Authors (2025)

From Table 5, the first three (3) landscape views recorded 'extremely healing' mean values were identified for Photo 1 (Main entrance=5.00), Photo 2 (Reflexology Path=4.88), and Photo 3 (Picturesque Bridge and Lakeside=4.83). These components collectively evoke the unique and tranquil atmosphere of a Japanese garden. A combination of coherence (uniformity) and legibility (distinctive elements) contributed to their preferences. Photo 7 (koi pond = 4.70) and Photo 8 (second entrance = 4.70) recorded similar mean values. Photo 5 (Zen Garden = 4.64) ranks sixth (6th) among pictures with ecotherapy elements. Photo 4 (Terrace Garden = 3.45) had the lowest mean value. It discovered that visual stimuli are based on the particular object a participant was viewing Goto et al., (2025) and concentration patterns (Wang and Kunii, 2025). Although it received the lowest rate, the views still include some ecotherapy elements. None of the respondents rated the photos as unhealing or highly unhealing.



Photo 1: Main Entrance (Mean value: 5.00)



Photo 2: Reflexology Path (Mean value: 4.88)



Photo 3: Picturesque Bridge and Lakeside (Mean value: 4.83)



Photo 4: Terrace Garden (Mean value: 3.45)



Photo 5: Zen Garden (Mean value: 4.64)



Photo 6: Traditional Garden (Mean value: 4.51)



Photo 7: Koi Pond (Mean value: 4.70)



Photo 8: Second Entrance (Mean value: 4.70)

Fig. 3. Photographs and Mean Value (1- Highly Unhealing, 2-Unhealing, 3-Moderate Healing, 4- Healing, 5- Extremely healing)

Source: Authors (2025)

Analysis on Ecotherapy Feeling

Based on Figure 3, different landscape views have supported different dimensions of ecotherapy healing. For psychology therapy, the most significant results were Picturesque Bridge and Lakeside and Second Entrance photos. Both reported 79 Yes responses (65.8%), followed by Main Entrance with 78 Yes responses (65.0%), indicating contribution to calmness and restorative experience. For physical therapy, the Reflexology Path showed the strongest significant result, with 105 Yes responses (87.5%) and $p < 0.001$, suggesting its role in supporting bodily movement and active healing. Meanwhile, for spiritual therapy, the Zen Garden recorded the strongest significant result, with 111 Yes responses (92.5%) and $p < 0.001$, indicating that contemplative and symbolic landscape elements may support inner peace, reflection and spiritual calmness. Overall, the findings suggest that ecotherapy healing is influenced by the specific character of each landscape views in the photo.

There are several photos reported to have significant differences but with high No responses. Zen Garden received fewer ecotherapy feelings under psychological and physical categories, with 101 No responses (84.2%) and $p < 0.001$ and 99 No responses (82.5%) and $p < 0.001$, respectively. Under the spiritual category, Traditional Garden and Second Entrance recorded 117 No responses (97.5%) and $p < 0.001$ for both photos. It is anticipated that the concept of Zen Gardens and their associated design elements are less familiar to the local respondents, which may have influenced respondents' evaluations of the ecotherapy-related feelings. Although the results for some photos were found to be less significant, this does not imply that the sceneries are unimportant. The elements and spatial layout contribute substantially to the coherence, support the visual identity and cultural character of the Japanese Garden.

Table 6. Analysis of Significant Differences Between Photographs and Therapy Function

Photo	Psychology therapy (n = 120)			Physical therapy (n = 120)			Spiritual therapy (n=120)		
	Yes	No	p-value	Yes	No	p-value	Yes	No	p-value
Photo 1: Main entrance	78 (65.0)	42 (35.0)	0.001	59 (49.2)	61 (50.8)	0.855	43 (35.8)	77 (64.2)	0.002
Photo 2: Reflexology path	27 (22.5)	93 (77.5)	< 0.001	105 (87.5)	15 (12.5)	< 0.001	47 (39.2)	73 (60.8)	0.018
Photo 3: Picturesque bridge and lakeside	79 (65.8)	41 (34.2)	0.001	43 (35.8)	77 (64.2)	0.002	26 (21.7)	94 (78.3)	< 0.001
Photo 4: Terrace garden	48 (40.0)	72 (60.0)	0.028	43 (35.8)	77 (64.2)	0.002	69 (57.5)	51 (42.5)	0.100
Photo 5: Zen garden	19 (15.8)	101 (84.2)	< 0.001	21 (17.5)	99 (82.5)	< 0.001	111 (92.5)	9 (7.5)	< 0.001
Photo 6: Traditional garden	12 (10.0)	108 (90.0)	< 0.001	59 (49.2)	61 (50.8)	0.855	3 (2.5)	117 (97.5)	< 0.001
Photo 7: Koi pond	58 (48.3)	62 (51.7)	0.715	41 (34.2)	79 (65.8)	0.001	38 (31.7)	82 (68.3)	< 0.001
Photo 8: Second entrance	79 (65.8)	41 (34.2)	0.001	61 (50.8)	59 (49.2)	0.855	3 (2.5)	117 (97.5)	< 0.001

Notes: The result is significant when $p < 0.05$ and not significant when $p > 0.05$. Bold p-values indicate most significant differences at $p < 0.05$.

Source: Authors (2025)

DISCUSSIONS

Ecotherapy and Community Insight Perspectives

The study showed that the Selangor-Japan Friendship Garden has received positive community insight in psychological, physical and spiritual aspects. These research findings can be interpreted as three (3) basic key factors that provide more profound understanding of the observed outcomes. The first key factor is respondents' reason to visit the garden; the second is the selected photo that contributes to ecotherapy feelings; and the third is the age factor category. Under the first category, 35.0% of respondents have answered that their reason to visit is because of therapeutic and relaxation benefits. According to Lachazette (2023), therapy garden could help individuals re-enter communities after prolonged illness or burnout. It is supported by Othman et al. (2020) that outdoor space design that is integrated with neuro-landscape approach will be able to attract pro-environment behaviour. Thus, strategic development of open space design should therefore be viewed not merely as an aesthetic function but as remediation to strengthen the human-nature relationship. Under the second factor, age categories have influenced community perceptions. It is found that participation above 55 years old and young generation between 18 to 35 years old, which is equivalent to 50% of all respondents, have given potential for the park to serve multi-generational users. It is recommended that future open space planning should prioritise safety and the needs of different age groups. The younger generation who visited the garden primarily for educational purposes should also be acknowledged. Despite the fact that this age group comprised only 7% of the respondents, their presence highlights the garden's role as an educational resource. Providing meaningful learning opportunities could foster appreciation towards the natural environment and encourage lifelong learning.

Private-Public Partnership and Community Involvement

The Malaysian government has underlined the Public-Private Partnership (PPP) in PIKAS 2030 (Public-Private Partnership Master Plan 2030). It is an initiative to drive national growth that includes infrastructure, health, education, digitalisation and sustainable development that will foster sustainable economic growth and reduce fiscal burden. To ensure the long-term viability and sustainability of gardens and open spaces, the Shah Alam City Council has undertaken significant initiatives to strengthen PPP. The council continues to enhance collaboration with private developers, educational institutions, and community organisations to support the planning, development, and management of green spaces. These efforts demonstrate the council's commitment to fostering shared responsibility and sustainable urban landscape development. By implementing the PPP, social cohesion and public participation can be strengthened (Ng, Shari, & Hassan, 2025), and robust network potential between the government sector and stakeholders (Noorzai et al., 2026) to support green infrastructure and sustainability within cities.

CONCLUSION

In conclusion, the contemplative and symbolic Japanese garden elements have supported both ecotherapy and positive community insight. To strengthen the garden's role, it is suggested to the city council to foster collaboration in public-private partnership and promote community involvement to maintain the quality of open space and meet future demand.

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CONFLICT OF INTEREST STATEMENT

The authors agree that this research was conducted in the absence of any self-benefit, commercial, or financial conflicts and declare that there are no conflicts of interest with the funders.

AUTHORS' CONTRIBUTIONS

Noralizawati Mohamed carried out the research, wrote and revised the article and conceptualised the central research idea. Siti Fatimah Hashim conducted data analysis and verified the analysis method. Masbiha Mat Isa supervised the research methodology and the progress of data collection. Mohamad Syafi Mohd Sani prepared a literature review and site background study. Majidah Md. Ali shared on the the importance of public- private partnership for sustainable park agenda in Shah Alam City.

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