

Article

A Qualitative Study Comparing Mindfulness and Shinrin-Yoku (Forest Bathing): Practitioners' Perspectives

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Abstract: The boundary between mindfulness and forest bathing, two conceptually related therapies, is unclear. Accordingly, this study reports the strengths and challenges, similarities and differences, and barriers and facilitators for both. Semi-structured interviews were conducted with seven trained and experienced practitioners of both mindfulness and forest bathing. Reflexive thematic analysis revealed four main themes: (i) differences between the approaches; (ii) the benefits of forest bathing; (iii) biophilia through forest bathing; and (iv) inward versus outward attentional focus as a distinction between the approaches. Both practices were found to benefit well-being, but practitioners revealed key barriers to mindfulness. For vulnerable groups experiencing mental health challenges or difficulties achieving a meditative state, mindfulness may introduce well-being risks. By offering a gentler, more intuitive approach that encourages outward attentional focus, forest bathing was found to overcome this barrier. Forest bathing is suitable for all groups, but adaptations are recommended for those expressing fear or discomfort in forested environments. The findings inform how to position both approaches in practice, as a first step towards social prescribing recommendations. Wider implications concern forest bathing's potential to impact environmental well-being. Future research must garner comparative data, involve young people, and explore the feasibility of a forest bathing social prescription.

Keywords: compassion; environment; forest bathing; mindfulness; nature connection; social prescribing; therapeutic practice



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1. Introduction

1.1. Background

There is a global mental health crisis, with common issues such as depression and anxiety constituting a large burden of disease affecting 13% of the population [1]. In the UK, the resulting economic impact has been estimated at approximately £35 billion per year [2]. Increased urbanization over the years has led to the introduction of multiple life stressors [3]. Additionally, the impact of coronavirus disease 2019 (COVID-19) has presented society with greater and potentially enduring mental health challenges [4–6] as individuals have adjusted to national restrictions, fewer opportunities for social interaction, and uncertainty around evolving circumstances [7]. In attempts to address the mental health crisis, the popularity of third-wave therapies such as mindfulness and meditation has increased over recent years [8], and specifically during the pandemic [9,10]. There are additionally many calls to capitalize upon the multifaceted health and well-being benefits of connecting with nature in attempts to alleviate mental health symptoms [11,12].

Social prescribing is an accessible and potentially effective way of protecting individuals' mental health, by signposting to community-based interventions, such as meditation groups, yoga classes, and nature-based programs [13]. In a social prescription, McEwan et al. [14] evaluated a smartphone app prompting users to notice the good things in

urban nature, which led to clinically significant improvements in mental well-being. There are key policy drivers for the National Health Service (NHS) to more routinely implement social prescribing as an accessible and cost-effective solution. However, to promote uptake, a robust evidence base must be established, making it explicit how to position interventions within practice. Currently, mindfulness and *shinrin-yoku* (forest bathing) are two therapeutic interventions, both originating in Eastern practice, that have been receiving increased attention internationally for their well-being benefits [10,15,16].

1.2. Mindfulness

Defined as the non-judgmental awareness of one's experiences taking place moment-by-moment [17], mindfulness practice developed from Buddhist philosophy for use in the West as a form of therapy, where it is recognized in national-level guidelines [16]. Mindfulness offers individuals the opportunity to effectively process cognitive and affective information through sustained attentional focus [18,19]. It has been suggested that the pathway to mindfulness' therapeutic effects is through this attentional focus, encouraging the development of increased self-regulation of thoughts and emotions, and bringing mental stillness and clarity [18,20,21]. Self-compassion is also suggested to be an effective component [22], where mindfulness places emphasis on non-judgement, detachment, and acceptance; features that foster self-compassion in the face of adversity [23,24].

Mindfulness-Based Cognitive Therapy (MBCT) and Mindfulness-Based Stress Reduction (MBSR) [25] are two frequently implemented examples of therapy. They have gained significant attention [23], being indicated as appropriate for use with a variety of groups and settings owing to their adaptability [26]. In support, evidence has been found for mindfulness-based therapies in improving mental health symptoms for patients experiencing chronic illness [27], depression [28,29], schizophrenia [23], transient ischemic attack [30], and Alzheimer's disease [31], as well as for military populations [32,33]. Among non-clinical populations, mindfulness has been shown to be an effective treatment for stress among the general population [34], and it led to lower stress and higher job satisfaction among urban social work practitioners [35] and schoolteachers [36,37]. The feasibility of an adapted MBCT intervention has been explored among NHS staff, leading to significant improvements in stress management, self-compassion, physical and emotional health, quality of work, and relationships with colleagues [38]. Among young offenders, intervention led to significant improvements in impulsivity, mental well-being, and resilience; and while initial engagement was challenging, those who persisted with the program experienced well-being benefits [39]. Finally, there is evidence that repeated brief MBCT interventions, some as short as five minutes long, can be effective in treating a variety of health concerns [40].

Aligning with the desire to deliver brief interventions which can more easily be integrated into daily routines, there has been a surge in interest around mindfulness-based interventions available online via eHealth programs, making the practice highly accessible [41]. Self-help smartphone apps, aiming to increase mindfulness and improve mental well-being and self-efficacy, have become incredibly popular, and there is evidence supporting their use [42]. However, despite the rise in popularity, unguided practice can present well-being risks, and there is an indication that mindfulness may not be suitable for all [42]. In particular, unguided practice has been met with criticism around the extent to which such apps adhere to formal definitions of mindfulness as seen in therapy [43]. Further risk through unguided practice stems from potential for lack of understanding about what mindfulness is, specifically through the common misconception that it is concerned with emptying the mind of all thought [44]. With regards to those for whom mindfulness may not be suitable, some have proposed that the inward focus can lead to rumination, anxiety, or panic attacks [19,45], depersonalization [46], and recurrence of traumatic memories [47,48]. Where mindfulness practice is not experienced as directed enough, individuals may end up sleeping or feeling like time has been wasted [49]. Finally, to maintain the benefits, a life commitment to the practice is needed, whereby those who

have the highest well-being gains are those who use mindfulness apps regularly, as opposed to only when in a crisis [42]. This commitment may not be feasible for all, leading to high levels of attrition [42,50]. These findings provide an opening for the potentially harmful effects of this practice to be explored more fully and to balance these with the benefits.

In summary, while traditional mindfulness has its limitations, there is evidence that the general public find walking meditation to be a more accessible way to practice mindfulness [51]. Walking, specifically in nature, was revealed in a systematic review to produce mental health benefits, particularly around a reduction in state anxiety [52]. Additionally, natural spaces are increasingly recognized as suitable settings for therapy, where the positive effects of sessions are enhanced by nature connectedness [53–56]. A systematic review and meta-analysis also revealed the effectiveness of nature-based mindfulness practice, especially in forested environments [57]. Together, these findings point to the potential for nature-based therapy to improve well-being. One such therapeutic practice is forest bathing.

1.3. Forest Bathing

Forest bathing, or in its native Japanese *shinrin-yoku*, has been defined as a therapeutic practice to improve well-being [58]. As with the above, forest bathing involves *mindful* immersion in the forest environment and conscious activation of the senses [58–60] (for an overview of example exercises carried out during forest bathing, see McEwan et al. [61]). Originally conceptualized as a form of preventative healthcare, forest bathing is now used as a targeted intervention for specific mental health issues and forms part of the national health service in Japan [59]. Over the past two decades, considerable emerging evidence around the efficacy of forest bathing as a therapeutic practice has been developed, principally stemming from Japan and South Korea [62,63].

A systematic review and meta-analysis conducted by Kotera et al. [11] outlines the evidence in support of forest bathing as an effective mental health therapy, with regards to its capacity to alleviate short-term mood disturbance. Forest bathing could be a suitable therapy, given it is a relatively safe and gentle practice, carried out in a supportive environment. It has been recommended as effective in the treatment of anxiety [11], depression [64], and addiction [58], and has been studied as an intervention for inpatients experiencing affective and psychotic disorders [65]. Miyazaki [59] additionally found support for forest bathing's capacity to increase positive psychological resources, while improving the cardiovascular, immune, and respiratory systems.

Biophilia [66], the predominant theoretical framework used in the East, and Attention Restoration Theory [67,68] have been suggested as contributing to forest bathing's therapeutic effects. The former describes individuals' innate affiliation with and capacity to connect with the natural world, while the latter describes nature's capacity to reduce mental fatigue, restore, and redirect attentional focus. These features of Attention Restoration Theory may have implications for individuals who experience rumination, by providing opportunities for respite from recurring thought patterns. Using Stress Reduction Theory [69] as an additional underpinning framework, it has been suggested that forest bathing's therapeutic qualities arise from an increase in parasympathetic nervous system activity, typically captured by stress biomarkers such as changes in cortisol levels [70–72], lowering of systolic and diastolic blood pressure [73], reduction in heart rate [61,74], and reduction in allostatic load [75]. While Stress Reduction Theory has been explored rather extensively, there is comparatively less evidence in support of Biophilia and Attention Restoration Theory, pointing to a need to further explore their potential roles.

Given most forest bathing research has been conducted in Asia, there is considerable scope and indeed a call to advance UK-based research, not only to replicate findings, but crucially to expand the emerging evidence base [11,62]. McEwan et al. [61] have begun to answer this call by carrying out the UK's first pragmatic controlled trial comparing the well-being benefits of forest bathing and the related construct of compassion. The authors found that forest bathing produced comparative heart rate variability and self-reported

well-being outcomes as an established compassion intervention, paving the way for future UK-based research.

1.4. Summary

Due to their similarities and compatibilities, mindfulness and forest bathing are often employed together to maximize therapeutic effects [10,76,77]. However, given their compatibility, the boundary between the two is unclear. Additionally, while the challenges for mindfulness have been discussed [78,79], those of forest bathing have not yet been explored, with research having focused exclusively on its positive impact rather than its acceptability [62]. To date, there has been no qualitative assessment of forest bathing.

As such, there is a clear need to expand the evidence base by contributing qualitative evidence around both practices. For example, although studies have explored experiences of mindfulness through participants [80–83], research is yet to capture the expertise offered by mindfulness practitioners through their experiences of delivering interventions. Lived experiences constitute an additional form of knowledge to identify where the benefits stem from, and to identify barriers and facilitators to implementation, such as groups for whom the practices may not be suitable. Finally, as most research tends to involve a single target population, a further benefit is that practitioners have the capacity to inform around a variety of groups and individuals simultaneously, constituting a rich source of evidence.

1.5. Aims

Accordingly, this study aims to compare the characteristics of mindfulness and forest bathing through semi-structured interviews with practitioners experienced in both approaches. It will explore how the approaches are similar and different, the strengths and weaknesses of both, and what the barriers and facilitators to implementation are. In addressing these aims, this study provides a novel contribution to the psychotherapy literature by informing around how to position these approaches. The findings may have practical implications for social prescribers, general practitioners, and other health professionals, as a first step towards signposting individuals to specific interventions.

2. Materials and Methods

2.1. Participants

Seven female practitioners of mindfulness and forest bathing were recruited as a convenience sample via The Forest Bathing Institute's professional network of guides. The Forest Bathing Institute is an organization based in Guildford, Surrey, offering forest bathing experiences to the general public. This organization trains practitioners in both mindfulness and forest bathing practice. They are a central hub for UK forest bathing research, practitioner training, and events. With a dedicated team of practitioners spanning a variety of professional backgrounds, they are the UK's principal source of practitioners trained in Forest Bathing +, combining elements of traditional forest bathing and mindfulness. Inclusion criteria comprised being over the age of 18, possessing a relevant qualification, such as completion of the MBSR program, and having a minimum of six months' experience in conducting both mindfulness and forest bathing sessions prior to commencement of the study. Owing to a lack of suitable qualifications and/or experience, one practitioner was unable to participate, despite expressing interest.

2.2. Procedure

Ethical approval was sought and granted by the University of Derby's Ethics Committee (approval code: 280519YK). After providing consent, participants were invited to take part in a semi-structured interview with one of the researchers (FC (MSc), YK (PhD), or KM (PhD)). All interviewers had prior experience in qualitative research and/or therapeutic intervention. At the time of the study, interviewers held occupational titles of Research Associate, Academic Lead, and Senior Research Fellow, and participants only knew that the interviewer was a psychology researcher from a UK university with an interest in

mindfulness and forest bathing. The interviewers and practitioners had no contact before commencement of the study, with the exception of one practitioner who was known to one of the interviewers. Prior to interview, participants received the interview schedule via email. Interviews were carried out and recorded via Skype, following a flexible structure, where participants were instructed to talk about their own personal experiences and reflections. At the start of each interview, the interviewer confirmed privacy by showing the room as otherwise empty of people, and this was reciprocated by interviewees. While questioning, the interviewers took notes for cross-referencing with the results. Participants were encouraged to discuss their perspective on what the main strengths and weaknesses of mindfulness and forest bathing are, the groups for whom the practices are suited, and the main similarities and differences. Questions were not pilot tested prior to interview, as the research itself was exploratory in nature. Interviews lasted on average one hour, after which time participants were debriefed. There was zero dropout of participants. Interviews were transcribed by the corresponding interviewers using Microsoft Word. The interviewers met to discuss data collection progress and agreed that with data from seven participants, it was likely that saturation had been reached. Given the highly specialized training of the practitioners and strict inclusion criteria, the authors agreed to conclude data collection after a lack of additional forthcoming participants.

2.3. Analysis

In line with the most recent recommendations [84], this study applied reflexive thematic analysis. Interview transcripts were thematically analyzed by two female researchers (FC and KM) using NVivo 12 Plus. Taking guidance from Braun and Clarke [85], the researchers (i) initially familiarized themselves with the data, (ii) generated initial codes, (iii) created themes, (iv) reviewed themes, and (v) defined and named final themes. Themes with fewer than ten references were excluded from the analysis. To minimize bias, themes were independently coded by the two researchers, before meeting twice to discuss findings and rationale, and agree on theme definition. To more fully reduce bias, the researchers met with the remaining interviewer (male, YK) to discuss findings and incorporate feedback. Aligning with Braun and Clarke [84], rich, fully developed themes were actively created by researchers through discussion and reflection until consensus was reached. The researchers agreed on the quotes that were most representative of the themes. Participants were subsequently contacted and invited to review the key findings. Those who responded to this invite expressed consensus that the findings conveyed the main messages of their interview.

3. Results

An overview of themes is presented in Table 1. The researchers agreed upon the creation of nine themes, of which the four major themes were defined as (i) Attentional Focus, (ii) Benefits of Forest Bathing, (iii) Biophilia, and (iv) Differences between mindfulness and forest bathing. It was noted that data concerning forest bathing were far richer than those concerning mindfulness.

Table 1. Summary of major and minor themes, with * indicating a major theme.

Theme	N	Brief Description	Example Practitioner Excerpt	Practitioner Number
Benefits of forest bathing *	45	Well-being benefits, e.g., the speed through which results are seen	“You just get in that place much faster”	5
Biophilia *	34	Humans seek out opportunities to connect with nature	“It [the natural world] has that advantage, nature draws in naturally”	3
Attentional focus *	32	Mindfulness focuses on internal state, forest bathing on external environment	“In mindfulness . . . it’s sort of a cerebral discussion. In forest bathing, a lot of the invitations are using your senses to take you out of your brain”	6

Table 1. Cont.

Theme	N	Brief Description	Example Practitioner Excerpt	Practitioner Number
Differences *	30	Key differences, e.g., the incremental benefits of forest bathing	"Forest bathing tends to multiply those benefits and also add a lot more different types of benefits, like feeling more connected to nature"	7
Developments	29	Areas for future research into both practices	"For both practices, . . . I would love these to be more accessible and inclusive, reaching more diverse audiences"	4
Barriers to engagement	27	Barriers to forest bathing, e.g., lack of positive experiences in nature	"Some people even find it quite, almost scary, to take their shoes off [in the forest]"	1
Similarities	25	Shared focus on slowing down, engaging the senses, and deep breathing	"You are slowing down, you are being aware of your senses, and utilizing them. There's a focus on breathing"	2
Intuition	17	Forest bathing comes naturally and with ease	"Feels completely natural to us as humans"	7
Benefits of mindfulness	16	Benefits of non-judgemental awareness, e.g., developing gratitude	"I have found it very beneficial for really getting to become more aware of things . . . get into the present moment and appreciate things a lot more"	2

3.1. Major Themes

3.1.1. Differences

Table 2 summarizes the main conceptual and practical similarities and differences between mindfulness and forest bathing. Researchers reached consensus that the Differences could be divided into three subthemes: accessibility ($n = 7$); incremental benefits of forest bathing ($n = 7$); and structure ($n = 10$).

Table 2. Comparison of the main similarities and differences between mindfulness and forest bathing.

Mindfulness and Forest Bathing	
Similarities	Presence of mind.
	Focus on slow, conscious breathing.
	Requiring a certain level of improvisation and flexibility in delivery.
	Exercises carried out in silence.
	Engaging the senses.
Differences Structure	Effective for mental health: mental disturbances, depression, anxiety, and rumination.
	Mindfulness practice takes place in a structured and controlled "classroom" environment, where a script may be used. In forest bathing, gentle guidance is provided, but there are no highly structured exercises to complete. Individual flexibility is encouraged, bringing out aspects of curiosity and exploration.
	Mindfulness tends to be a more solitary pursuit compared with forest bathing, which has elements of group sharing.
	Forest bathing involves introductory talks and explanations around the history of the practice.
	Frequency of practice and session length: forest bathing sessions are generally recommended to last two hours, once per month, whereas mindfulness practice is carried out in shorter, regular amounts of time, e.g., 20 min per day, every day.
	Practiced indoors versus outdoors.

Table 2. Cont.

Mindfulness and Forest Bathing	
Differences Structure	When setting up for a mindfulness session, the practitioner sets up the environment, whereas in forest bathing the practitioner adapts <i>to</i> the environment.
	Mindfulness is largely stationery, whereas forest bathing involves slow movement.
	Practitioners often carry out 1-2-1 work through mindfulness, depending on individual needs, whereas forest bathing sessions tend to be more generalized.
Incremental benefits of forest bathing	Forest bathing provides incremental benefits, e.g., richer sensory experience in nature. Mindfulness involves awareness of the self, but forest bathing raises awareness of (and potentially compassion towards) others and nature. The senses are engaged to encourage connection to nature.
Accessibility	Positive results are accelerated with forest bathing, even after one session. With forest bathing, results are felt automatically without much effort, whereas mindfulness can be more difficult to grasp. Forest bathing has a gentler entry point and is suitable for most individuals. Looking at aspects of the forest is easier than the mindfulness practice of sitting meditation, where individuals are asked to become aware of thoughts and emotions.

While both practices involve slowing down, conscious breathing, and sensory activation, and both produce well-being benefits through a reduction in depression, anxiety, and rumination, there are key structural differences between the two. For instance, one is normally practiced indoors versus the other which is always outdoors. Another key difference lies in accessibility, where forest bathing is considered more accessible for a wide variety of populations. For example, one practitioner recalled a mindfulness participant who became frustrated, stating, “I’m *trying* to be mindful!”, with the practitioner explaining that “of course that isn’t actually the crux of mindfulness anyway” [practitioner 6]. This reflects the view that mindfulness can be more difficult to grasp. Another difference lies in the added value of forest bathing. For instance, by connecting to nature, this approach offers a richer sensory experience, and has the potential to increase compassion towards the natural world. One practitioner summarized the differences by explaining:

I think, ultimately, they’re kind of the same thing, it’s just a different way to access it. Even in my own healing journey I think that . . . we hope to be sitting more comfortably with perhaps what we have dealt with as an obstacle . . . There are often many different narratives to get into that place [practitioner 6].

This perspective reflects the view that both approaches effectively improve personal well-being. They continue, “Some of that depends on how that relates to your own experiences already in life . . . there’s many ways there and it just depends on what works for you in that moment” [practitioner 6]. This highlights that a key distinction lies in the barriers and facilitators to both. In other words, for an individual who is experiencing extreme anxiety or depression, mindfulness may not always be suitable, owing to potential risk to well-being through re-traumatization. As one practitioner offered, “if you feel depression and are suffering poor mental health, it may not be the best time to do mindfulness, while forest bathing can be used in that case” [practitioner 4].

3.1.2. Benefits of Forest Bathing

The second major theme agreed upon by researchers concerned the Benefits of Forest Bathing ($n = 38$), which captured elements of the potential for forest bathing to facilitate personal insight, relaxation, social connection, gratitude, and reconnecting with the self and emotions. While both practices involve similar activities, in forest bathing, there is “less tendency to judge” oneself [practitioner 4], a result that was not identified for mindfulness. For example, one practitioner described how “it’s OK if you can’t smell very well today, because our nose closes up when we’re in a city, you don’t want to smell all the pollution

that is all around" [practitioner 5], reflecting the perspective that there is no pressure to achieve with forest bathing, which places fewer demands on the individual.

Minor subthemes encapsulated the view that forest bathing can (i) benefit a wide variety of groups; (ii) promote physical well-being; (iii) promote environmental well-being ("it works both ways, it's beneficial for us but it's also beneficial for nature" [practitioner 6]); and (iv) is accessible through its adaptability to accommodate particular needs or respond to unpredictable weather conditions. For example, "sometimes you use just what comes during the session; nature just responds in different ways, and you use what's available there" [practitioner 5].

3.1.3. Biophilia

The third major theme of Biophilia reflects the presence in forest bathing of elements of belonging to nature, nature connectedness, and nature as the facilitator. In describing their experiences of biophilia, one practitioner explained:

We evolved in nature and so intrinsically everyone is aware of that, but it just feels that we're at home basically. Because in our deep psyche we feel at home in nature, even if we haven't spent much time in it, but it can come back really quickly. There is this recognition of 'this is where I belong' or 'this feels comfortable' or 'it feels safe' [practitioner 7].

This reflects the view that the practitioner feels an affinity to the natural world and their belonging within it.

Another practitioner described how forest bathing promotes a connection to nature, by describing how they encourage participants to "take your coat off and feel the rain. Usually you run away from it, but just for one minute, feeling it is great!" [practitioner 3]. This reflects a desire to reconnect with the basic elements of the natural world. Indeed, through urbanization and the leading of hectic lives, humans appear to have drifted from their true nature as organic beings. Yet, when prompted to return to our natural state, such as by showing that humans are a part of nature, it is possible to achieve a connection with nature that is reminiscent of times in childhood when nature was embraced more instinctively. This notion was captured by one practitioner, who explained:

A lot of people, especially when we do the smelling of the earth, loads of people come up with memories of their childhood or they think about their grandmother, doing different things as a child. So that really evokes lots of emotions [practitioner 5].

In addition to nature connectedness, Biophilia reflected the concept that in forest bathing, nature acts as the facilitator for the well-being benefits. For example, "I'm actually really trusting the work and remembering that it is the trees, the nature that does the work and it certainly isn't me . . . the forest has the effects" [practitioner 6]. This quote reflects the view that while the practitioner is important for safeguarding, their role is to act as a guide who offers recommended activities to try. In this practitioner's eyes, connecting with the forest itself produces the well-being benefits, as opposed to the practitioner per se.

3.1.4. Attentional Focus

The final major theme identified by researchers was Attentional Focus, which was divided into two subthemes, internal and external attentional focus. The former relates to the emphasis in mindfulness on awareness and acceptance of internal thoughts and emotions, such as feeling anxious or stressed. For example, "in mindfulness, the emphasis is on being aware of what is exactly present to you, regardless of whether it's pleasant or not pleasant. You try to let that be, be with it" [practitioner 4]. Another practitioner explained:

You start with the senses, but the senses just allow you to slow down and become more aware . . . and then that will increase going more inwards and noticing what is happening to you. So, at the end, of the day, the change happens because

there is a self-awareness . . . and that self-awareness is the one that then allows you to make different choices [practitioner 5].

This reflects the view that mindfulness' ability to facilitate awareness and acceptance of one's internal state underpins the well-being benefits. By improving emotional awareness in this way, mindfulness can lead to personal insight which can help the individual to make decisions, such as how to navigate a personal difficulty.

While both mindfulness and forest bathing involve attention regarding internal processes such as sensory engagement, a slowing down of pace, and mindful breathing, the latter subtheme of external attentional focus reflects the directing of attention in forest bathing towards the external, rather than internal, environment. By engaging with the forested environment through the senses, attentional focus is shifted away from cognitions and emotions, to encourage engagement with nature. For example, in forest bathing, one practitioner encourages participants to "take cues from what the environment is inviting us to do" [practitioner 7]. This reflects the notion that individuals are invited to be responsive to the dynamic nature of the forest. Another practitioner explained that focusing one's attention on the forest is perhaps more accessible than focusing attention on thoughts and emotions. For example:

You can stay on the external things; you don't have to come into internal thoughts . . . The safety of paying attention to the external [practitioner 4].

This reflects that there is perhaps less risk to personal well-being when attention is outwardly directed, echoing a known challenge for mindfulness around risk to well-being through recurrence of trauma.

3.1.5. Minor Themes

The remaining minor themes firstly captured areas for future development around: (i) improved marketing of forest bathing to raise awareness ("that it becomes more acknowledged" [practitioner 1]) and reduce misconceptions ("massive pre-judging, . . . that it's a bit 'woo-woo'" [practitioner 6]; "the term 'forest bathing', . . . it's just a bit misunderstood" [practitioner 2]); (ii) increasing accessibility of mindfulness for males ("getting that word out there for men" [practitioner 6]); (iii) promoting forest bathing as a social prescription ("to have it mainstream" [practitioner 7]); (iv) exploring the feasibility of forest bathing intervention for children and young people; and (v) promoting forest bathing as a way to increase caring motives towards the environment. For example:

How would you see from the heart, how would you smell from the heart, how would you listen from the heart? . . . It's about helping people to fall in love with nature, because then once we really have a heart connection, then there is no way we don't want to spend more time in nature, or there's no way that we wouldn't want to protect it and act in ways to conserve it [practitioner 7].

Minor themes additionally captured barriers to engagement for forest bathing, particularly perceived inaccessibility related to biophobia ("I think it may be hard for someone who has less experience in nature; they need acclimatization" [practitioner 4]; "you are brought up to not get your hands dirty" [practitioner 5]) and barriers to mindfulness, namely, risk to well-being through recurrence of trauma ("their mind just goes all over the place and that brings up a lot of anxiety. And they immediately feel 'I'm no good at this' and they give up" [practitioner 7]). Similarly, risk to well-being was also considered a barrier to engagement with forest bathing ("something occurs to me, as a woman, being able to practice *shinrin-yoku*, you need to feel safe. This can be tricky" [practitioner 4]). This finding highlights the point that being alone in nature may be frightening for some women. Finally, participants expressed the intuitive nature of forest bathing and the ease with which the exercises come to individuals. The last minor theme of Benefits of Mindfulness is described in Table 3, covering aspects of accessibility and well-being.

Table 3. Characteristic strengths and weaknesses of mindfulness and forest bathing.

	Mindfulness	Forest Bathing
Strengths	Generally regarded as accessible for a variety of clinical and non-clinical populations. Can be adapted to suit individual and contextual factors, and can be practiced in a variety of locations.	Positively impacts mental well-being, through encouraging gratitude, facilitating personal insight, reconnecting the self with one's emotions, encouraging relaxation, and increasing social connection to others.
	Mental well-being benefits through non-judgmental acceptance of thoughts and emotions. Focus on breathing connects the individual to their senses which can produce relaxational effects, such as slowing down.	Promotes compassion towards the environment, and engagement in pro-environmental behaviors.
		Benefits physical health through the chemical effects of the forest atmosphere, e.g., air quality, cancer fighting cells, and stress reduction. The forest is viewed as a natural healer that can be more effective than traditional medication.
		Highly accessible to almost anyone and is highly adaptable to suit different personal needs and weather conditions.
		Presents all the main benefits of mindfulness, but incrementally adds to these, such as through the comparatively greater speed at which the benefits are felt.
Weaknesses		Suitable for a wide variety of populations.
	Perhaps more limited in scope.	Biophobia, for individuals who are not used to spending time in nature, may act as a barrier. Some experiences of insect bites and pain while lying down.
	Not as sensorily engaging as forest bathing.	Weather may act as a barrier for some.
	Can be challenging if individuals do not have regular support. Support and check-ins would help with upkeep of practice. Needing access to someone with whom individuals can talk about personal practice and development.	Requires a medium group size to benefit from group sharing elements and to foster social connection. Larger group sizes would require an additional forest bathing guide. Some people feel uncomfortable with group sharing.
	Can be challenging to detach thoughts or avoid rumination.	To maximize the therapeutic effects, forest bathing must take place in a forested environment as opposed to meditating on a house plant: difference between meditating on nature and immersing in the forest environment.
	Mindfulness is considered more challenging and less accessible than forest bathing. Meditation does not come naturally to everyone.	Impractical given most individuals cannot access the forest regularly, or do not have local access to a forest.

3.1.6. Strengths and Weaknesses

Table 3 highlights the comparative strengths and weaknesses of mindfulness and forest bathing. In particular, practitioners discussed the two main benefits of mindfulness: that it is generally regarded as accessible for most groups; and that it can lead to mental well-being gains.

4. Discussion

This study had the novel aim of qualitatively comparing the key characteristics of mindfulness and forest bathing, two conceptually related [10,86] but distinct therapeutic approaches, through an applied lens. Seven practitioners experienced in both approaches were interviewed, and thematic analysis of the data resulted in four major themes. These revealed that: (i) while the approaches share similarities, they are differentiated by forest

bathing's incremental well-being benefits; (ii) the well-being benefits of forest bathing are three-fold (mental, physical, and environmental); (iii) connecting to nature is a central aspect of forest bathing; and (iv) mindfulness promotes awareness of internal states, but forest bathing extends awareness to the external environment.

By capitalizing on trained and experienced practitioners as a rich source of knowledge, this study informed around the similarities, differences, strengths, and challenges for both practices, and defined the key barriers and facilitators to engagement. This is the first study to capture the expertise offered by mindfulness and forest bathing practitioners and qualitatively balance the benefits and challenges for both approaches. Additionally, the results advance understanding around the previously unexplored main features and challenges for forest bathing, by conveying negative experiences such as insect bites, pain lying down, and discomfort in groups. The main barriers to forest bathing were identified as biophobia [87], risk to well-being, misconceptions, the need to increase accessibility, and the need to increase recognition. Both approaches share common well-being benefits, but through acknowledgement of the differences identified by practitioners, forest bathing can be recommended as a highly accessible and effective practice that produces three types of well-being benefit and is suitable for a broad variety of groups. The findings hold wider significance for forest bathing's potential to increase compassion towards nature, a result that did not come out for mindfulness. From a practical standpoint, the results explicitly demonstrate how to position both approaches, and are the first step in developing policy recommendations for social prescribing [12].

4.1. Differences

The major theme of Differences highlights the key practical and conceptual distinctions between mindfulness and forest bathing. The finding that mindfulness is considered less accessible for certain groups (those at risk of re-traumatization, experiencing extreme depression or anxiety, or finding difficulty in achieving a mindful state) lends further support to previous findings around the challenges for mindfulness [19,42,45–48,55,88]. While both approaches were found to produce similar well-being benefits, in terms of stress reduction, emotional regulation, and clarity, forest bathing was shown to introduce incremental benefits, specifically around the extension of the mental well-being benefits to include physical and environmental well-being. While it was expected that practitioners would outline similarities between the approaches, given their shared philosophical underpinnings [10], the fact that the Differences were defined as a major theme clearly highlights the significance of these distinctions. The positive implication of this finding lies in explicitly describing how to position the therapies within practice.

4.2. Attentional Focus

The finding of the second major theme of Attentional Focus is key, as it informs around one of the main distinctions differentiating the practices. Forest bathing's promotion of external attentional focus is novel, as most therapeutic interventions encourage the inward direction of attention. Practitioners placed value on the ability of both internal and external focus to benefit well-being, although they expressed that external focus is more accessible and produces less risk to well-being. When executed correctly, mindfulness brings many mental well-being benefits through non-judgmental awareness and acceptance. However, research would benefit from comparative data from practitioners to further explore the mechanisms behind internal focus.

Aligning with the United Nations' sustainable development goals [89] of climate action and life on land, the results of this study indicate that participation in forest bathing may promote interest and engagement in pro-environmental behaviors [90]. This finding therefore highlights a transfer of benefit from the individual to the environment, whereby increased awareness of the forest holds the potential to increase caring motives towards it. Such a link builds on the findings of McEwan et al. [61] and Lumber et al. [91] around the theoretical connections between forest bathing and compassion. While compassion is

known to relate to mindfulness, it is interesting to note that the present results did not find such an association for this practice. Further research is needed to explore whether this might be due to previous associations having involved self-compassion, whereas forest bathing in this study was associated with external compassion.

4.3. Benefits

The third major theme highlighted the gains of forest bathing, specifically that it is (i) effective for mental, physical, and environmental well-being; (ii) suitable for all groups (including those with mobility issues or vulnerable populations that may require additional support); (iii) easy to grasp and progress is seen quickly; (iv) adaptable to varying personal and environmental conditions; and (v) produces positive group-based experiences. According to practitioners, not only does forest bathing lower the prevalence of mental health symptoms, but it promotes flourishing and general well-being [92]. Indeed, the findings echo the position of Mathias et al. [93], who reported the three-fold benefits of forest bathing as physiological, psychological, and environmental. The present results extend this report, by providing qualitative evidence indicating that forest bathing produces well-being benefits for the self and environment.

4.4. Biophilia

The final major theme of Biophilia highlights that connection to nature and feeling belonging in nature are key facilitators to the well-being benefits of forest bathing. Specifically, by focusing attention on the natural world, forest bathing instils awareness of being part of a greater whole. The personal accounts of practitioners' own health improvements through forest bathing lend support to Kellert's [94] position that nature connectedness leads to meaningful, fulfilling life experiences. Adding to this, Howell et al. [95] found that meaning in life mediates the relationship between nature connectedness and well-being, highlighting that nature connectedness continues to be an important direction for future research. It is, however, worth noting that biophilia is the predominant theoretical foundation for forest bathing in Asia; and identification of this as a major theme may, in part, be a product of formal training.

4.5. Limitations and Future Directions

While this study aimed to compare and contrast mindfulness and forest bathing, the data supplied by practitioners were far richer for the latter. This is reflected by practitioner 6's statement that if they had to choose between the two, their preference would be "100% nature". It is important to note that for inclusion in the study, practitioners were trained in both approaches, actively delivering both approaches, and many began forest bathing through prior training in mindfulness. Throughout the interviews, practitioners were encouraged to offer honest and balanced data on both approaches. Yet, practitioners had far more to say about forest bathing and were overtly positive about its benefits. While the data around mindfulness were therefore not as rich as expected, it is nevertheless interesting that this preference exists.

It is possible that a certain amount of bias was introduced, given that the practitioners were all female. While accurate demographic data concerning practitioners of mindfulness and forest bathing are not generally available, there is a tendency for psychotherapists, yoga practitioners, and the psychology workforce to be largely female-oriented [96]. There is additionally some indication that females may tend to be more environmentally conscious than males [97]. While this does not necessarily represent a difficulty for interpretation of the data, in the future it will be necessary to target male practitioners in addition to female.

Another limitation is the small sample size; however, despite this, practitioners offered rich information and interviewers agreed that data had been saturated. It would be difficult at present to access larger sample sizes, as recruitment was restricted by the criteria of being trained and practicing in both approaches. Currently, there are few organizations offering such specialized training. A final limitation is that most of the practitioners interviewed

deliver sessions through The Forest Bathing Institute. The organization advertised to all of their UK contacts, yet all but one of those interviewed currently practices through this organization. It is worth commenting that the lack of uptake from practitioners in other organizations, or indeed independent practice, is likely due to the inclusion criterion of having formally trained in both approaches. This criterion is a pre-requisite of delivering sessions through the Forest Bathing Institute.

Practitioners offered several leads for future research. Firstly, studies should explore how to raise awareness of forest bathing, and reduce the stigma attached to its title, owing to misconceptions around what it entails. For both mindfulness and forest bathing, research should seek to improve accessibility for males. More research is needed to promote the establishment of forest bathing as a social prescription. The results of this study can be considered a starting point to achieving this goal, adding to those of McEwan et al. [61], to begin the development of policy guidelines. Future research should explore the feasibility of forest bathing intervention among the key demographic of children and young people, as indicated by practitioners. In support, Birch et al. [98] found that connecting with nature fostered a sense of self-identity and increased concern towards others and nature, among young people experiencing mental health difficulties. Future research should also target forest bathing's potential to increase compassion towards nature. In addition, the literature would benefit from cross-cultural comparison with Asian studies, concerning an emerging ontological discussion regarding the extent to which humans are perceived as separate from nature [99]. It will also be important to compare the results with other mindfulness and forest bathing organizations, as currently there are no available qualitative data for comparison. Finally, while stress reduction [69] was revealed as one pathway to forest bathing's therapeutic benefits, the crucial role played by outward attentional focus warrants further investigation.

5. Conclusions

This qualitative study made the original contribution of exploring practitioners' perspectives on the key characteristics of mindfulness and forest bathing. The findings are the first to convey outward versus inward attentional focus as a central distinction between these approaches; a novelty, given that most therapies emphasize inward focus. Additionally, this study is the first to assess negative experiences (barriers and risks) while forest bathing. Reflexive thematic analysis resulted in the creation of four main themes: (i) the benefits of forest bathing, (ii) biophilia, (iii) attentional focus, and (iv) differences between the approaches. Practitioners expressed that while mindfulness produces many stress-relieving benefits, it is not without its risks to well-being. Forest bathing presents unique opportunities to engage a variety of individuals in a safe, gentle, accessible, and effective intervention to not only protect against mental illness, but importantly to promote overall well-being. Accordingly, these findings have practical implications for practice and policy. Firstly, there have been many calls to increase the uptake of social prescriptions as accessible and cost-effective healthcare solutions to reduce the global burden of disease. The results of this study add value by informing around the key barriers and facilitators to engagement with both practices, offering clear guidance on the groups these may (not) be suitable for. Specifically, this study has highlighted the acceptability of mindfulness and forest bathing for those who would benefit from an improvement in well-being. However, through the finding of forest bathing's greater accessibility when compared to mindfulness, this study indicates that further adaptations need to be made to mindfulness practice to increase its acceptability for a wider variety of groups. Those who are at risk of re-traumatization, experiencing extreme mental health challenges, or who experience more difficulty in achieving a mindful state would benefit from additional support and consideration of forest bathing as a gentler pathway to the well-being gains. While generally recommended as suitable for all, further adaptations to forest bathing are necessary when individuals express biophobia, fear, or discomfort in the forest environment; and session length may need to be reduced for more elderly populations. The findings can be used as a

first step to signposting individuals to specific interventions. Finally, compassion for nature as an outcome of forest bathing may have a role in preserving valuable green spaces [3], and planning for the increased quantity and quality of new green spaces.

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