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Review

# 'Into the Wild': A meta-synthesis of talking therapy in natural outdoor spaces

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## HIGHLIGHTS

- Psychologists, counsellors, and psychotherapists are increasingly using talking therapy outdoors.
- Individualised assessment and formulation is required to determine client suitability.
- Outdoor therapy benefits from holism, mutuality, freedom, and interconnectivity.
- Most common in private practice due to barriers in organisational cultures.
- A framework is provided with key considerations for the outdoor therapy process.

## ARTICLE INFO

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Clinical psychology
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## ABSTRACT

Time spent in natural outdoor spaces has physiological and psychological benefits, such as reduced stress responses and improved mood. Mental health practitioners have begun to harness nature's restorative capacity by challenging convention and taking talking therapies outdoors. This review synthesises the experiences of these practitioners and their clients, with the aim of establishing a framework for best practice. A thematic synthesis was used to provide a systematic and integrative exploration of multiple therapy professions. Articles ($N$ = 38, published from 1994 to 2019) comprised 322 practitioners and 163 clients. A mixed-method meta-synthesis resulted in a framework of higher and lower level themes. The outdoor context for therapy ranged in intensity from sitting or walking in urban parks and woodland to remote wilderness expeditions. The outdoors provided either a passive backdrop to therapy or was more actively incorporated through behavioural analysis, relationship building, metaphor, narrative therapy, role play, modelling, and stabilisation. Practical, therapeutic, and organisational issues were mitigated through assessment and formulation, informed consent, process contracting, enhancing predictability where possible, and awareness of professional competency. Therapy was subsequently enriched by added mutuality, freedom of expression, mind-body holism, interconnectedness with the natural world, and practitioner well-being. The question of whether therapy in natural spaces should become a more mainstream option for clients and practitioners is discussed.

Spending time in natural, outdoor spaces is said to nurture our physical, emotional and spiritual existence, enabling individuals "to sense, think, feel and act as interdependent beings, interconnected within the whole community of life" (Conn, 1998, p.181). Theoretical support for such anecdotes has been provided by the biophilia hypothesis, which suggests humans have an innate and biological attraction to natural environments (Wilson, 1984). Grounded in evolutionary psychology, the human mind and body has been shaped by millions of years living in small communities immersed in nature (Kellert, 1993). Even today, we are still thought to possess the positive survival characteristics of being attracted to natural scenes that offer safety and nourishment (e.g., lush vegetation, running water, and high ground) and have a healthy fear of scenes that pose a threat to survival (e.g., cliff edges, dangerous animals, and poisonous insects; Stevens & Price, 2015). Ecopsychology is a growing movement that seeks to study and further understand the relationship between humans and the natural world (Duncan, 2018). The basis of this movement is a belief that our detachment from nature, caused by industrialisation and urbanisation, is a root cause of psychological distress (Roszak, 1992), with some going as far as labelling the condition 'nature deficit disorder' (Louv, 2010). This issue is particularly prevalent in cities, where green space has become a prized commodity. These urban areas currently house around 50% of the world's population, a figure that is predicted to rise to more than 70% by 2050 due to further expansion (United

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Nations, 2014).

Early evidence for the restorative effects of nature was provided in a 10-year study by Rodger Ulrich, who found hospital patients with natural views from their bedside windows recovered from surgery faster than those with urban views (Ulrich, 1984). This landmark finding was later replicated (Verderber & Reuman, 1987), including in prisons, where cell window views of nature were associated with lowered stress and physical illness (Moore, 1982; West, 1985). In other experiments, adults who completed a cognitively demanding task felt more relaxed after taking a walk through a wooded area compared to urban areas (Hartig, Mang, & Evans, 1991), patients in hospital waiting rooms reported feeling less stressed when seated next to plants (Beukeboom, Langeveld, & Tanja-Dijkstra, 2012), and exposure to sunlight (producing vitamin D) and negative air ions, which are more prominent in outdoor spaces, are found to significantly enhance mood (Nakane, Asami, Yamada, & Ohira, 2002; Terman, Terman, & Ross, 1998).

These restorative effects of nature are explained by Bronfenbrenner's (1979) ecological systems theory. This theory formulates how our individual characteristics interact with our surrounding environment, which together determine our growth and development. According to Bronfenbrenner's model, our surrounding environment can be categorised into five interconnected systems that range from our immediate environment such as our family, friends and where we live (microsystems), to our broader social, cultural, political and ecological environments (macrosystems). Fundamentally, humans can be thought of as living cells in a reciprocal relationship with the living body of Earth. What humans do to their outer world they also do to their inner world (Roszak, 1992); for example, when we take the time to plant trees and nurture our land, we are nurtured in return by the fruit we harvest. This relationship was evidently more powerful in early humans, who operated more directly with nature to ensure their physical, social, and spiritual existence (Kellert, 1993).

A range of systematic reviews are further expanding the evidence-base for nature restoration. For example, greenspace exposure is associated with positive physiological effects, such as decreased heart rate and blood pressure (Twohig-Bennett & Jones, 2018); exercising in the outdoors has more beneficial effects on revitalization, engagement, tension, confusion, anger and depression, compared to exercising indoors (Coon et al., 2011); outdoor adventure activities are effective social and emotional interventions for disadvantaged youths and students (Bowen & Neill, 2013; Cooley, Burns, & Cumming, 2015); outdoor activities such as gardening and walking are effective in improving mental health and neurological conditions (Annerstedt & Währborg, 2011; Cipriani et al., 2017); and looking at nature has positive effects on mood, stress, concentration, and self-esteem (Bratman, Hamilton, & Daily, 2012). Most recently, evidence now suggests that exposure to nature of $\geq$120 min per week is related to optimal health and well-being, initiating calls for public health guidelines similar to that of physical activity (White et al., 2019).

These restorative effects of nature exposure have given rise to various practices such as walking therapy (Revell & McLeod, 2016), horticultural therapy (Corazon, Stigsdotter, Moeller, & Rasmussen, 2012), Shinrin-yoku (or 'forest bathing'; Morita et al., 2007), and adventure therapy (Bettmann & Jasperson, 2008). There is, however, an ongoing debate around whether the term 'therapy' is applicable to all of these practices. For example, Revell, Duncan, and Cooper (2014) distinguish between nature exposure that occurs whenever we are outdoors (e.g., walking a nature trail or participating in a gardening group), and that which occurs as part of a structured mental health therapy session (e.g., walking a nature trail or gardening whilst engaged in talking therapy with a clinical psychologist). Both forms of exposure may be therapeutic, and both may result in mental health benefits; however, the confusion lies in that both are often referred to under the same umbrella terms, such as 'nature therapy' and 'outdoor therapy'. Becker (2010) therefore recommends a clearer distinction between what is 'therapeutic' and what is 'therapy'. Although one approach is not considered greater or more valuable than the other, the term nature therapy is recommended for describing experiences that are led by a licenced practitioner, such as when talking therapy is used with a natural environment providing the backdrop (Becker, 2010; Revell et al., 2014). Alternative terms such as 'therapeutic adventure' and 'nature experiences' are suggested for other therapeutic uses of nature that do not involve therapy (Becker, 2010).

Despite the use of nature restoration dating back to humans' early existence, such as ancient Shaman healing rituals and the monastic, medicinal gardens of the Middle Ages (Al-Krena, 1999), its incorporation into modern day therapy remains a relatively new area of practice. Since 'the talking cure' was conceived by the likes of Freud (1900s), Perls (1940s) and Beck (1960s), therapy has traditionally been a verbal, cognitively-mediated activity, with the relationship between therapist and patient at the core, and that almost exclusively takes place indoors (Freud, 1973). Therapy only usually ventures outdoors when specific behavioural interventions are required, such as when clients expose themselves to phobias to desensitise fear responses and build coping mechanisms (Antony & Swinson, 2000). With the exception of this type of in vivo behavioural therapy, practitioners are beginning to question why most other forms of therapy are typically confined to four white and sometimes windowless walls (Pearson & Wilson, 2012). Practitioners who break with convention and take their work outdoors are pioneering a significant shift in paradigm, with non-essential contact outside the therapy room previously frowned upon as a boundary violation (Zur, 2001).

Recent studies of counsellors, clinical psychologists, and psychotherapists highlight positive experiences of taking therapy outdoors. Their anecdotal accounts and qualitative evidence suggest mental health outcomes are at least as effective, if not more effective in certain individuals, than those obtained indoors (e.g., Jordan, 2014; King & McIntyre, 2018; McKinney, 2011; Revell & McLeod, 2016; Revell & McLeod, 2017; Wiggins, 2018). Some clients and practitioners feel they benefit from a greater sense of shared ownership of a natural space (Berger & McLeod, 2006) and that therapy outdoors offers a more existential, humanistic approach that is sometimes lost in clinical settings (Santostefano, 2008). It is also suggested that whilst a therapy room can provide a safe, stable and containing space, it can also be anxiety provoking for those clients who find a more formal and clinical face-to-face encounter intimidating (Jordan & Marshall, 2010). Natural spaces have therefore been found to support those who may not ordinarily engage with therapy (Scheinfeld, Rochlen, & Buser, 2011). Practitioners also share how clients benefit not only from the talking therapy, but also from the restorative effects of nature (Berger, 2009).

To progress this field, this relatively small community of practitioners have called for "a more comprehensive model of how to practice therapy in outdoor natural spaces" (Jordan, 2015, p.30). Indeed, whilst the previous aforementioned reviews have explored various physiological, psychological and social outcomes resulting from nature exposure in general, no previous review has focused specifically on nature exposure used by mental health practitioners alongside talking therapy.

## 1. The present review

The present review aims to explore the experiences of practitioners and clients who have practiced talking therapy in natural, outdoor spaces, using a thematic synthesis (Thomas & Harden, 2008). Of particular interest are the approaches used and their appropriateness and acceptability. From a social constructivist standpoint, the review seeks to better understand the phenomena from multiple lenses and vantage points, looking for similarities, differences, and relationships between primary themes (Paterson, 2012). The resulting thematic synthesis is expected to generate a level of understanding that is greater than the sum of its parts (Thomas & Harden, 2008), which will lend itself to establishing guidelines for best practice. With these aims in mind, a

**Table 1**
PICOS statement.

| PICOS | Area | As defined in the present review |
|---|---|---|
| P | Participants | Certified mental health practitioners and clients |
| I | Intervention/Exposure | Talking therapy in a natural, outdoor spaces |
| C | Comparison | Experiences of the therapy process from multiple lenses |
| O | Outcome/Endpoint | A framework of considerations for taking therapy into natural outdoor spaces |
| S | Study design | No epistemological and methodological discrimination applied |

liberal approach is adopted towards the inclusion of various mental health practitioners, each of whom are uniquely trained and practice talking therapy outdoors from a variety of modalities. This approach is particularly suited to clinical psychology, whose practice itself is similarly integrative (Davey, Lake, & Whittington, 2015).

## 2. Method

The review methods were guided by the PRISMA (Moher, Liberati, Tetzlaff, & Altman, 2009) and ENTREQ (Tong, Flemming, McInnes, Oliver, & Craig, 2012) frameworks, for enhancing transparency in systematic reviews and the synthesis of qualitative research. The search strategy was based upon the PICOS statement in Table 1 (Santos, Pimenta, & Nobre, 2007).

## 3. Researcher backgrounds

The researcher backgrounds together comprised a variation of prior experiences and attitudes towards nature therapy. The lead researcher (SC) is a Chartered Psychologist with the British Psychological Society (BPS), with a first degree in sport and exercise sciences, a Ph.D. in outdoor adventure education, and post-doc in youth development through experiential learning and outdoor activities. He is currently completing a doctorate in clinical psychology (DClinPsy) with a focus on how talking therapy can be facilitated outside the therapy room.

CJ is a practicing occupational psychologist and lecturer in clinical psychology, with an MSc and Ph.D. in occupational psychology. She has research and applied expertise in organisational and individual resilience, leadership, innovations, and the use of horticultural interventions in primary care to improve clients' psychological wellbeing.

AK is a dual qualified clinical psychologist and psychoanalytic psychotherapist who works as a senior clinical tutor, researcher, and sees psychotherapy clients in private practice. Her expertise is in demystifying therapy and the way we reflect on it, including relational dynamics and submerged and unconscious meanings. AK does not currently practice therapy outdoors.

NR is a professor of clinical and health psychology, programme director of a clinical psychology doctorate training course, consultant clinical psychologist in the NHS, and a fellow of the BPS. She has particular expertise in the areas of physical health, implementing research evidence, enhancing therapeutic alliance, and staff distress and resilience. NR does not currently practice therapy in an outdoor setting.

## 4. Search strategy

In December 2019, the following electronic bibliographic databases were searched: The Allied and Complementary Medicine Database (AMED), Cumulative Index of Nursing and Allied Health Literature (CINAHL), GreenFILE, MEDLINE, PsycINFO, PubMed, and SCOPUS. A prior scoping review identified the following search terms used to describe talking therapy that takes place in outdoor, natural environments: “Nature therapy” or “outdoor therapy” or “outside therapy” or “nature guided therapy” or “nature assisted therapy” or “horticultural therapy” or “garden therapy” or “walking therapy” or ecotherapy or ecopsychology or “bush therapy” or “wilderness therapy” or “adventure therapy” or “natural space therapy” or “adventure based counsel*” or “outdoor behavioural healthcare”. A title, abstract, and keyword search was conducted with no limits placed on the years searched. The search was limited to peer-reviewed publications, dissertations/theses, and the English language. In addition, a manual search was conducted of relevant books, reference lists, forward searches, and online journals.

### 4.1. Selection strategy

Article selection was guided by these inclusion criteria: (a) qualitative, quantitative, mixed-method, or professional practice articles, which explore client or practitioner experiences of therapy in natural outdoor spaces; (b) a focus on talking therapy used to support mental health difficulties, neurological impairment, forensic rehabilitation, or to provide psychological support in physical health settings; and (c) professionals qualified to provide talking therapy and who are regulated by a professional governing body. For simplicity, these various professionals will be referred to collectively as ‘practitioners’ in reference to the talking therapy aspect of their profession. Professional practice papers (e.g., brief reports, commentaries, narratives, and reflective accounts) were included as they are known to provide valuable and candid insights that do not always feature within empirical research (Paez, 2017).

The literature search and selection process is presented in the PRISMA flow diagram (Fig. 1; Moher et al., 2009). Common reasons for rejection were the outdoors being used therapeutically in the absence of talking therapy, interventions not being led by registered mental health practitioners, non-clinical populations, therapy taking place indoors with the outdoor component incorporated only as homework tasks, and

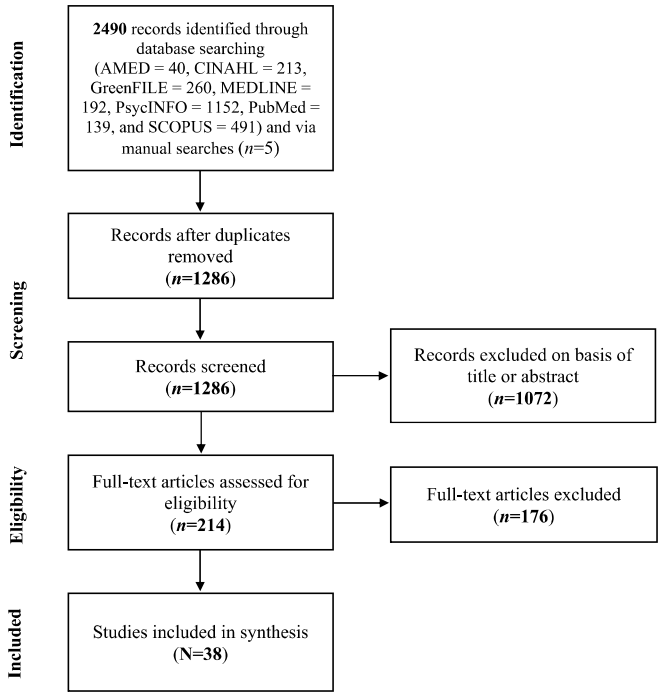


**Fig. 1.** PRISMA flow diagram.

articles without sufficient detail to satisfy the aforementioned inclusion criteria.

## 5. Critical appraisal

Articles were subject to critical appraisal using Kmet, Lee, and Cook (2004) standard quality assessment criteria for evaluating primary research papers from a variety of fields. The professional practice articles were scored as qualitative, with non-applicable items relating to study design and data analysis removed. Given the valuable contributions that can be lost by filtering out non-academically rigorous or 'grey literature' (Paez, 2017), and the subjectivity and high likelihood of bias inherent in critical appraisal tools (Katrak, Bialocerkowski, Massy-Westropp, Kumar, & Grimmer, 2004; Kmet et al., 2004), critical appraisal was used to provide reflexivity during theme generation, rather than for exclusion purposes (The Joanna Briggs Institute, 2017).

## 6. Data extraction and thematic synthesis

As articles sometimes include additional data outside the scope of a review, an extraction template was created to separate the data set from the data corpus. This extraction template (see online supplementary material) was informed by the Template for Intervention, Description, and Replication (TiDieR; Hoffmann et al., 2014), which outlines 12 key areas to be addressed when reporting an intervention.

Once the data set had been extracted (27,507 words), it was entered into NVIVO (version 12), for synthesis. This thematic synthesis (Thomas & Harden, 2008) was led by author SC and involved an iterative and reflexive process, whereby data from the original articles were assigned descriptive codes line-by-line, and grouped into descriptive themes that captured similarities, differences, and relationships that remained close to themes within the original articles (Paterson, 2012; Thomas et al., 2004). These descriptive themes were then further interpreted into analytical themes that at times went beyond the primary data, generating additional constructs and explanations, whilst remaining grounded in the primary data through constant comparison (Thomas & Harden, 2008).

The synthesis of mixed-methods was informed by the Joanna Briggs Institute's recommendations for mixed-methods synthesis, which involved a separate synthesis of quantitative findings before pooling these with the qualitative synthesis to result in one single thematic map (Pearson, White, Bath-Hextall, et al., 2015). Within the resulting thematic map, the largest overarching themes were termed first level themes, which were heterogeneous to one another (Patton, 2015) and typically reflected 'domain summaries' (e.g., 'potential issues', 'potential solutions', 'client characteristics' etc.; see Braun & Clarke, 2019). Within these first level themes, distinct yet related sub themes were termed second level themes, which comprised patterns of shared meaning. In some cases, these second level themes were further broken down into third level themes (Patton, 2015). During theme development, data and themes were presented and discussed with co-authors (CJ, AK, and NR) for collaborative reflexivity (Braun & Clarke, 2019).

## 7. Results

### 7.1. Article characteristics

The 38 articles included were published between 1994 and 2019 (see the online supplementary materials for an article summary table). The majority were professional practice papers ($n$ = 22, 57.9%), over half of which included clinical case examples ($n$ = 13). Qualitative studies made up 36.8% of articles ($n$ = 14) and used interview and open-ended survey methods guided by ethnographical, grounded theory, interpretative phenomenological analytic, narrative, phenomenological, and realist methodologies. Only two articles (5.3%) used quantitative methods (quasi-experimental and cross-sectional).

Quality appraisal scores ranged from 0.6 to the maximum score of 1 ($M$ = 0.81; $SD$ = 0.10). This range of scores would typically be considered acceptable for inclusion in a literature review according to the findings of Kmet et al., 2004. Strengths were evident in clear and theoretically driven research questions, study design, and well supported conclusions. Some studies (23.7%) scored partial marks for data collection, mostly due to comprising a limited range of possible cases and therefore constraining conceptual generalisation. Other articles (26.3%) did not provide sufficient descriptions of approaches to data collection and analysis to receive full scores. The majority (94.7%) scored full or partial marks for their use of verification procedures to promote reflexivity, which were mostly prolonged engagement, triangulation, and/or peer debriefing. The main limitation was a lack of reflective accounts regarding how personal characteristics and philosophical stance may have influenced interpretations of data (provided in full or in part by 42.1% of authors).

### 7.2. Sample characteristics

The 38 articles comprised 322 practitioners (58.4% female, 36.3% male, 5.3% undisclosed) and 163 clients (57.7% male, 42.3% female). The sample frequencies (Fig. 2) show that psychotherapists and counsellors were the most frequent professions (featuring in 36.8% and 31.6% of articles, respectively), with an integrative modality most popular (55.3% of articles). The most frequent settings were private practice (44.7%) and educational/academic settings (29.0%), located in the USA and UK (36.8% and 21.1%, respectively). The clients within the articles comprised children/adolescents (29.0% of articles), adults (29.0%), older adults (7.9%), or a non-specified/mixed age range (44.7%), who were most commonly taking part in individual or group therapy (50.0% and 44.7%, respectively). The outdoor activities were mostly of low intensity (e.g., sitting and walking; 50.0%).

### 7.3. Themes

The first and second level themes are depicted in Fig. 3. This framework for taking therapy into outdoor natural spaces begins with the *client* and *practitioner characteristics* being mutually attuned to natural spaces. The activity within the *natural space* can vary from a low to high intensity interaction with nature, and the *therapy approach* can involve either a passive or active incorporation of nature. The framework also considers the *potential issues* resulting from the natural space, *potential solutions* to these issues, and *enrichment* to therapy. Each of these themes will be described in turn, with first level themes sub-headed, second level themes italicised, and third level themes described in text (see the online supplementary material for a more detailed table of themes, definitions, and data extracts). The example quotes provided from the original articles are from clients, practitioners, and article authors.

### 7.4. Practitioner characteristics

Practitioners reported having a natural *affiliation with nature*, which involved feeling connected and at peace in natural spaces, having a "belief in the restorative and curative potential" (Revell & McLeod, 2017, p.276), and a "passion and excitement for what could be accomplished" (Wiggins, 2018, p.88). Incorporating therapy in natural spaces also required a *flexible modality*, with practitioners being creative in adapting their conventional therapy model or integrating multiple models. Practitioners felt they were engaging "in a therapeutic process that is fluid, emergent and integrative" (Revell & McLeod, 2017, p.276) and that "trying to define one particular way of doing it would work against its basic philosophy and concepts and kill the field" (Berger, 2010, p.67).

Practitioners also reported a need for *professional confidence* to overcome the "sense of professional 'difference' due to offering a therapeutic activity that disrupts a commonly held perception of where

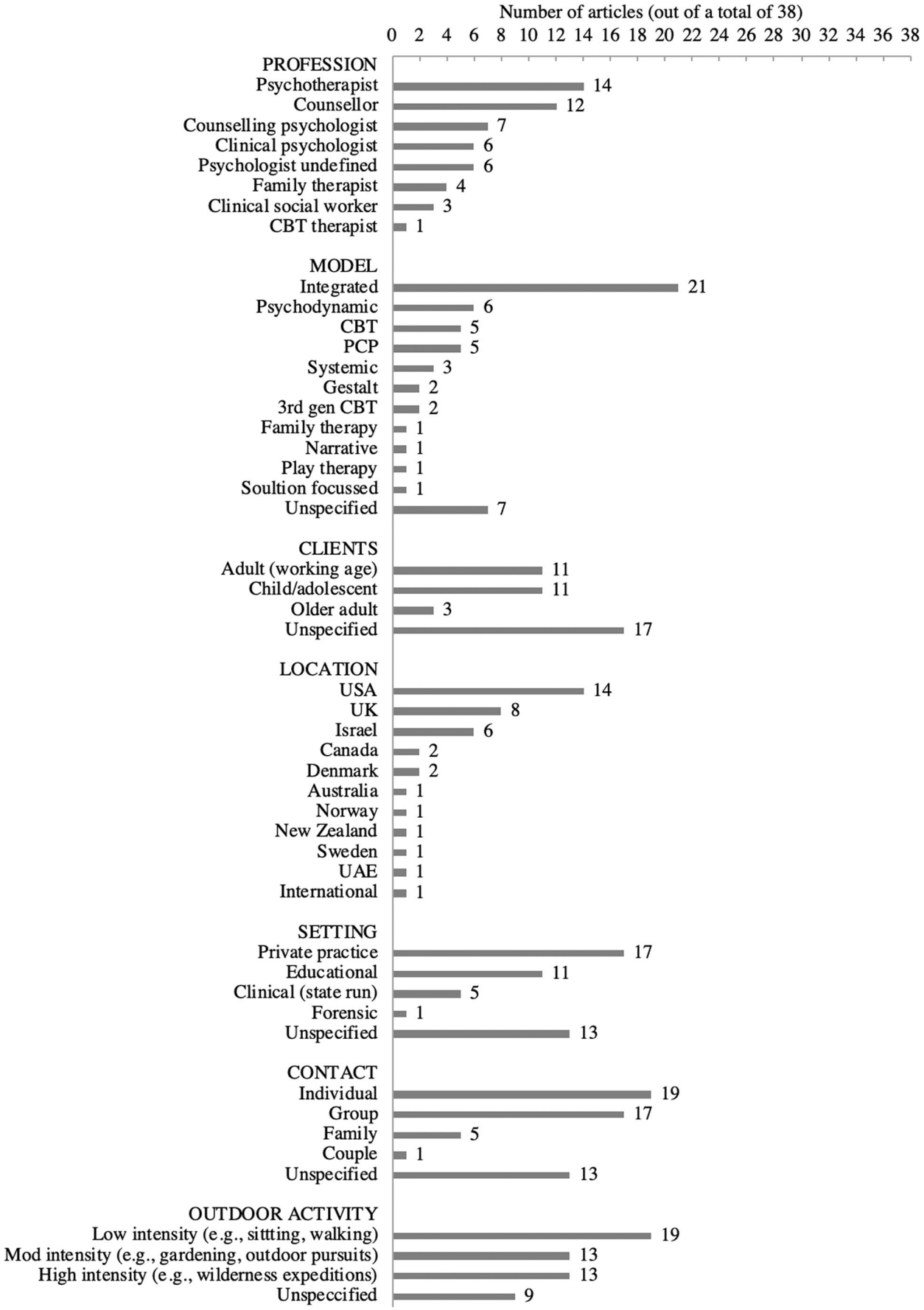


**Fig. 2.** Characteristics featured within the 38 articles.

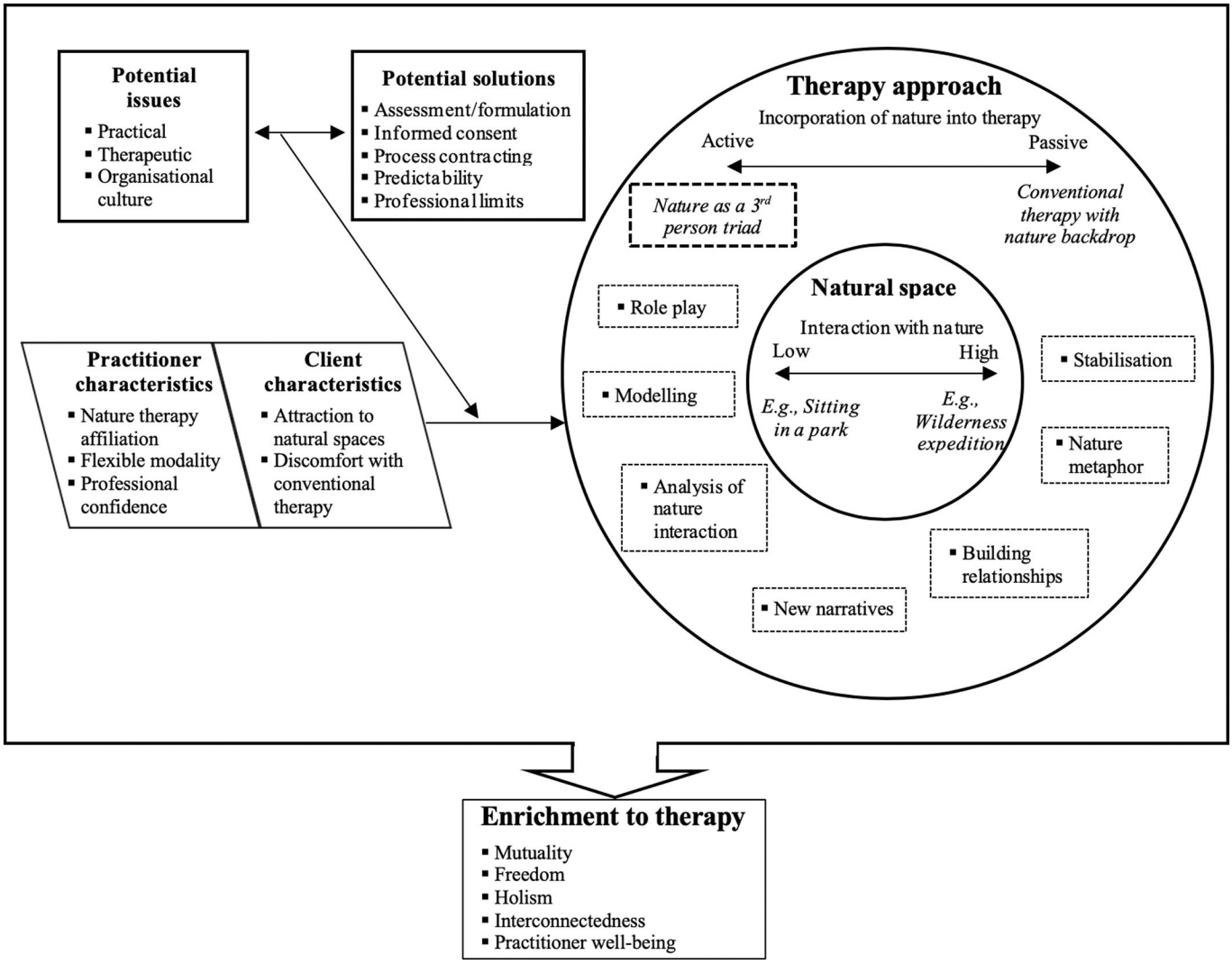


**Fig. 3.** A framework for talking therapy in outdoor natural spaces.

and how therapy is offered" (Revell & McLeod, 2017, p.277). Some practitioners reported having to manage "feeling exposed, as though aspects of my professional identity were stripped from me" (Jordan & Marshall, 2010, p.356). Others described needing an ability to trust in themselves and the therapy process "in an environment outside the one in which I have (largely) been trained to work" (Tarrant, 2019, p.22).

### 7.5. Client characteristics

Given the wide heterogeneity across articles (e.g., age, gender, setting, mental health presentation etc.; Fig. 2), suitability for outdoor therapy could not be specified to any particular client group or presenting problems. Instead, its incorporation was determined via more person-centred considerations and formulation (Milton, 2009). These considerations included clients demonstrating an *attraction to natural spaces*, which stemmed from either feeling at ease in nature, excited by it, or connected to nature, such as through positive childhood experiences. Santostefano (2008) described this connection from an attachment perspective:

> … when aspects of nature and inanimate environments are available, the child can enter these environments to negotiate the tasks life presents and continue to do so in the future. From this point of view, I argue that healthy psychological development involves a child, significant others, nature, and inanimate environments all growing together, beginning during the first years of life, and becoming closely connected within the fabric of a child's matrix of embodied life-metaphors. (p.525)

Often clients had already experienced "a personal moment of healing that occurred for them in nature" (King & McIntyre, 2018, p.122) and incorporating nature was found to add a degree of familiarity into the therapy; for example, "most of us have walked with friends [in natural environments] before" (McKinney, 2011, p.90).

Some clients also voiced a feeling of *discomfort with conventional therapy*, which was typically driven by a perceived formality to the encounter, feelings of anxiety, pressure and tension towards the face-to-face interaction, or feeling trapped within an indoor space, which at times caused them to find it "very, very difficult to sit in a room for any period of time" (Jordan, 2014, p.369). Sometimes the natural environment was seen to better suit a client's presentation or developmental stage, for example by offering "children a less demanding environment, thus decreasing the pressure for them to perform verbally" (Portrie-Bethke, Hill, & Bethke, 2009, p.325). Others felt the indoors was lacking a level of excitement needed for them to engage (e.g., "there is no way in hell that I will sit in a [therapy room] and be bored to death! I am too restless to sit around like that" Fernee, Mesel, Andersen, & Gabrielsen, 2019, p.1372).

### 7.6. Natural space

During outdoor therapy, the relationship between person and nature varied from a low to high intensity of physical interaction, duration of exposure, and interdependence. *Low intensity interactions* included sitting, walking, and passive sensory experiences in the outdoors (e.g., Corazon et al., 2012; Corazon, Stigsdotter, Jensen, & Nilsson, 2010). Sometimes these interactions were in areas of natural beauty, such as lakes, mountains and coastal locations (e.g., Revell & McLeod, 2016), and other times they comprised 'nearby nature' such as sitting outside the back of a therapy room, or walking in local parks and on footpaths (e.g., McKinney, 2011). These low intensity interactions were more common in 1-to-1 therapy, with a duration similar to that of "the traditional therapy hour" (Jordan & Marshall, 2010, p.347) or "between one and two hours in length" (Revell & McLeod, 2016, p.37). At times, clients would have the autonomy to locate their own space:

> This culminated in her wanting us to take a completely different route and explore a nearby unknown area. Interestingly, this latter route and sitting space became for both of us, a more a truly co-created place [sic], a mutually created physical container for the therapy.
>
> (Jordan & Marshall, 2010, p.351)

In other articles, clients' physical interactions and interdependence with nature were of *moderate intensity*, such as gardening, problem-solving (e.g., crossing a river and rope courses), constructing dens and shelters out of natural materials, and outdoor pursuits (e.g., hiking, climbing, and paddle sports; e.g., Hartford, 2011). In these interactions, the time spent in nature was typically longer, such as a few hours to a day, and clients would more often take part in groups (e.g., Corazon et al., 2010). The *high intensity* end of the scale typically comprised one-off wilderness expeditions in remote locations, where groups would build shelters and live outdoors for days or weeks and engage in intermittent group and individual therapy (e.g., Scheinfeld et al., 2011).

In the majority of cases, there was flexibility to move up and down the continuum between low and moderate intensity activities depending on perceived suitability (e.g., Adevi, Uvnäs-Moberg, & Grahn, 2018), yet for many of the higher intensity interactions, the experience was inherently more predetermined given the more adventurous and immersive nature of expeditions (e.g., Tucker, Widmer, Faddis, Randolph, & Gass, 2016). Occasionally, some practitioners reported pushing the intensity of the interaction with nature to just outside the comfort zone of the client, "to appropriately enhance treatment by fostering the development of eustress (i.e., the positive use of stress) as a beneficial element in the therapeutic experience" (DeMille & Montgomery, 2016, p.4). In contrast, other practitioners reported a need to ensure the intensity remained within the client's (and practitioner's) comfort levels, so as not to be distracted from the talking therapy itself (e.g., McBride & Korell, 2005).

### 7.7. Therapy approach

The degree to which nature was incorporated into the talking therapy also varied. When nature was incorporated *passively*, the talking therapy was little different to that of conventional indoor therapy, with the natural environment providing a passive backdrop (e.g., "traditional counseling but the only thing different is that we will be walking instead of sitting in an office." McKinney, 2011, p.88). When nature was used more *actively*, it was incorporated as a third person in the therapy, using a range of approaches some of which are discussed below. In many cases, practitioners switched between active and passive by shifting "attention from the person-to-person (practitioner-client) relationship to the client-nature relationship, remaining the mediator between them." (Berger & McLeod, 2006, p.89); for example:

> The therapist may take a central position, working directly with the client and relating to nature as a backdrop or tool provider. The therapist may also take a quieter role, remaining in the background, allowing the client to work directly with nature while the therapist acts as a witness, container, and mediator.
>
> (Berger & McLeod, 2006, pp.87–88)

Some of the more active approaches included using nature for *stabilisation*. During times of distress, nature supported clients to feel safe, contained, and grounded in the present moment. For example, this was achieved by taking "short walks, to participate in simple sensory stimulation activities" (Corazon et al., 2012, p.341). Clients described this process as "feeling held by being among life, where death happens and life goes on. It feels spiritual; it feels connected." (Tarrant, 2019, p.21).

The use of live *nature metaphors* was another more active approach to incorporating nature. Nature-based metaphor was firstly used to foster acceptance by relating human difficulties to "the uncontrolled dynamics of nature" (Berger, 2009, p.47), such as "leaves falling in the autumn, uncontrollable weather, [and] planting seeds but [being unable] to control the outcome" (Corazon et al., 2012, p.341). Nature metaphors were also used to support clients in finding new meaning and becoming more self-aware. For example, one client identified with their internal emotion when looking out at rough sea and reflecting "that's how I feel - just churned and churned and churned, and I'm just constantly going around in circles" (Revell & McLeod, 2017, p.279). Lastly, metaphor was used to internalise the power of nature, building strength and value-driven behaviour (e.g., "Julia brought seeds of yellow-weed and said, 'I want to free myself; to fly and go where the wind takes me, just like these seeds." Berger, 2010, p.69).

At the more active end of the continuum was the *analysis of nature interactions*. In this approach, the practitioner would observe the client's behaviour, such as when selecting a place to sit, building a shelter, or engaging in an outdoor pursuit activity. The practitioner and client drew meaning from how the client thinks, feels, and behaves in response to these interactions. This form of psychoanalysis benefitted from seeing clients in real life situations (e.g., "there is so much I can read from a client because of their pace. Are they walking fast, plodding along, or is there heaviness to their walk?" McKinney, 2011, p.103). Practitioners felt nature therefore provided a valuable window into the conscious and subconscious internal world of the participant:

> … as [the client] spent time in the outdoors and had opportunities to contrast his old familiar environment with his new unfamiliar environment, he began to identify aspects of his life that he did not want to maintain going forward.
>
> (DeMille & Montgomery, 2016, p.8)

Nature was also used to *build relationships*, social support and social competencies, between clients, families, and practitioners. This occurred through 'being' with one another in nature, sharing vulnerabilities, learning from each other, and systemic observations of "personalities, structure of discipline, family values, and relationships" (Portrie-Bethke et al., 2009, p.329). One article described the practitioner's role as "both a guide and also just to be with them and moving them along, someone who could point things out along the way or deepen the experience that they're on, like a co-journeyer, co-adventurer" (King & McIntyre, 2018, p.122). Relationships were also developed between the client and nature, in such a way that nature became a secure and familiar base, such as in clients who reported feeling "reassured when they return to base camp after some days away…" (Bettmann & Jasperson, 2008, p.55).

Other approaches for actively incorporating nature included experiential learning through *role play* activities (e.g., fictional adventures or building homes/therapeutic spaces in nature), which used concepts from drama therapy and distancing "to allow participants to experience roles and situations which might be difficult for them to cope with in their everyday life" (Berger & McLeod, 2006, p.83). Clients were also able to learn from others who were *modelling* effective and appropriate

behaviour whilst negotiating nature's challenges. For example, "men being non-judgmental and vulnerable with other men increased participants' ability to share and be vulnerable." (Scheinfeld et al., 2011, p.190), as well as the re-modelling of certain prejudices in those growing up in difficult social systems:

> Central to our work is a mixed-gender therapy team. We believe it is important for the adolescents to see women in leadership roles, men and women cooperating and taking care of each other, men listening and validating women's opinions and men behaving in non-abusive ways and respecting others …
>
> (Lambie et al., 2000, p.103).

Finally, through actively incorporating nature into therapy, clients were able to build *new narratives* for their life experiences, for example:

> It is common for abused women to focus on their failings. By tapping into the courage needed to tackle perceived difficult challenges such as hiking up a mountain, a powerful opportunity to question negative self-definitions opens up.
>
> (McBride & Korell, 2005, pp.4–5)

Sometimes activities were used to encourage and embed these new narratives, such as throwing old narratives into an open fire or river:

> On arriving at a narrow bridge crossing the river, participants were asked to find a physical element from the surroundings that symbolized a sensation, feeling, or thought from which they would like to depart, say something about it, and throw it into the river.
>
> (Berger & McLeod, 2006, p.90)

### 7.8. Potential issues

Practitioners needed to be acutely aware of potential practical, therapeutic, and organisational issues. *Practical issues* included the weather and terrain and the potential risk to physical safety. On occasion, some clients "… did not come prepared with adequate or appropriate footwear/clothing…" (Revell & McLeod, 2016, p.40). Other times, the chosen activity was found to be "too physically demanding" (Jordan & Marshall, 2010, p.350) or the "rain, cold and windy conditions – all affect[ed] the session in some way." (Revell & McLeod, 2016, p.40). Another practical issue was access; difficulty accessing natural spaces from the therapy room (e.g., "the placement of our office by a busy highway with very little grassy area" Wolsko & Hoyt, 2012, p.19), or when practitioners were outdoors, they were unable to access useful resources and computers back in the therapy room (e.g., Revell & McLeod, 2016).

The main *therapeutic issue* was the unpredictability of the natural space "that does not necessarily have human-made boundaries [and] is open to the world's influences" (Berger, 2010, p.71), which made it more difficult for practitioners to maintain structured boundaries or frames. For example, keeping to time was more challenging than indoors, as was negotiating "back to back appointments, needing to change clothes to accommodate outside sessions." (Wolsko & Hoyt, 2012, p.19). Relational boundaries were also found to take on different forms, as described by Jordan and Marshall (2010):

> This had given her a strong sense of mutuality as described above, but also wanting to lose the asymmetrical part of our relationship. I, in turn, found myself struggling with this challenge in the sense that I began to wonder if indeed a friendship would be OK, but felt that I 'ought' to hold the boundary. Working in the outdoors had increased my sense of involvement with the client, and the increased sense of mutuality began to seem to lead naturally to friendship. (p.355)

Occasionally, it was also difficult to predict "the client's psychological condition and/or the different ways in which the environment can influence it" (Berger, 2010, p.72). At times, exposure to nature prompted "feelings of insecurity and disempowerment." (McBride & Korell, 2005, p.11) and at worst was found to have "reactivated a posttraumatic experience, which completely overwhelmed her" (Berger, 2010, p.73). There were also reports of clients and practitioners being distracted from therapy due to the dynamic scenery, physical exertion, or because non-verbal cues were difficult to detect when positioned side-by-side:

> … the physicality of walking side by side, sometimes resulted in not hearing clients clearly, therefore had the potential to interrupt the therapeutic process … Both clients' and therapists' attention could [also] be affected by the view, and this was seen to raise the potential for the therapeutic process to be interrupted.
>
> (Revell & McLeod, 2016, p.40)

A final therapeutic issue related to unpredictability was a difficulty controlling ethical practice guidelines, in terms of beneficence (do good) and non-maleficence (do no harm) (e.g., "When therapy occurs within an indoor space, variables that affect the safety and comfort of the client can be controlled for with relative ease" Hooley, 2016, p. 216). This issue centred predominantly around maintaining confidentiality, whereby therapy in public outdoor spaces would at times be exposed to passers-by (e.g., "there are moments where I want to go deeper with the client and we may be in too much of a public situation to delve into it." McKinney, 2011, p.101). This included an increased risk of clients being seen by someone they knew, and/or revealing a therapy encounter the client wished to remain confidential.

The *organisational issues* firstly comprised a perceived dominance of the biomedical model, described as the viewing of presentations as diagnostic symptoms that need to be "conquered or eliminated", rather than "as feedback within a larger system which includes the more-than-human world" (Conn, 1998, p.182). Jordan (2014) spoke of how the current system is "convincing the public its sufferings are internal and therefore treatable by the status quo that exists within traditional therapeutic models" rather than "positing problems within the industrial growth of society and the ills this brings to bear upon both the planet and the species who inhabit it" (p.369). A biomedical standpoint was felt to be more suited to clinical therapy room settings and controllable, repeatable therapy models, rather than more unstructured and holistic therapy in natural spaces:

> Counseling psychology is currently struggling to uphold the value of different ways of working in health providing services that are dominated by an ideology that extols the provision of one, easily manualised, short term therapy which can be offered by large numbers of people with relatively little training on the grounds that it is 'evidence based' (Goldstein, 2007). The drive to efficiency, calculability, predictability, the control and use of non-human technologies, and the irrationality of rationality – or 'McDonaldisation' (Strawbridge, 2002) is hard for counseling psychologists to avoid, particularly if they are employed with the label of Scientist-Practitioners in industry and education as well as the NHS. While it is important that we offer the best service to our clients, it is questionable that such a 'one-size-fits-all' approach will in the longer term, be as effective and efficient as fundholders hope.
>
> (Shillito-Clarke, 2008, p.87)

Another, related organisational issue was a perceived lack of guidance and support from the wider profession, which comprised a lack of policy guidelines, theoretical frameworks, likeminded supervisors, funding, and specialist training:

> I don't have anyone for supervision who does walk and talk therapy, so a lot of things, I just make up as we go. It requires a lot of figuring out on my own. There are no leaders.
>
> (McKinney, 2011, p.98)

It was suggested that "educators could lead the training effort by developing ethical guidelines and best practices for ecotherapy and by teaching core beliefs of ecotherapists in the core coursework of mental

health counseling and psychology programs" (King & McIntyre, 2018, p.123).

### 7.9. Possible solutions

The possible solutions for mitigating issues began with a thorough *assessment and formulation* of clients' physical and psychological suitability and potential benefits of outdoor therapy. Health screening questionnaires "were utilised as a means of assessing physical suitability" (Kyriakopoulos, 2010, p.314) and clients were asked to check with their GP if there were any physical concerns. Clinical judgement was used to establish the suitability of mental health presentations and appropriateness at particular stages of therapy (e.g., stabilisation vs. trauma processing); for example, "I [the practitioner] wouldn't want to process traumas on the trails, I think sitting in an office in a contained space is more ethical" (McKinney, 2011, p.98). Practitioners also incorporated the relationship with nature into their assessment and formulation:

> For those of us who primarily draw on Western models of therapy and of formulation, it would be useful to consider what a formulation would look like that brought ecological or evolutionary factors into account alongside the cognitive and psychodynamic … Alongside traditional questions such as 'Tell me about your Mom and Dad,' or 'Describe your relationship with your partner,' I find that clients often respond well to an invitation to 'Tell me about your relationship to the natural world'.
>
> (Milton, 2009, p.11)

Potential adaptations to the natural space were also considered during this time, such as movement up or down the aforementioned continua of intensity of the interaction with nature and the active or passive way it is incorporated into the talking therapy (Fig. 3; e.g., "Working in a natural environment, near the hospital, within a limited time frame, minimized the workshop's risks and reduced anxieties, allowing this population to benefit from a creative encounter with nature." Berger, 2010, pp.69–70). Assessment and formulation led to clear functions and individualised treatment plans for taking therapy outdoors, as well as careful considerations of how a client might respond to different settings:

> Working with different clients in varied environments, at different times of the year and different times of the day, it became clear to me that this factor influences the entire therapeutic encounter, as it shapes the emotional, physical, and imaginary spaces. As such, working in a shaded forest will create a different atmosphere than working in a hot desert, and working on a windy morning on the beach will foster different progress than working on the same beach under the moonlight. Exploring and articulating nature therapy, it became clear that people are influenced by different characteristics, including not only their feelings and sensations but also the memories they evoke, their way of thinking, and the metaphors they encounter.
>
> (Berger, 2007, p.42)

Formulation was also used to ensure that the decision to work outdoors was not driven solely by the practitioners' biases and personal affiliation with nature:

> I wrestled with the sense that moving outside could be seen as an enactment on my part, a physically embodied way of wanting to move away from being stuck with this particular client.
>
> (Jordan & Marshall, 2010, p.356)

*Informed consent* was the next solution, whereby the practitioners firstly provided "a presentation of particular experiences and risks the client may encounter, especially related to experiences and risks that may differ from traditional psychotherapy taking place within indoor, bounded spaces." (Hooley, 2016, p.219). The practitioner and client could then work together in contracting these potential barriers and the steps they would take to mitigate them. These discussions ensured the client was fully informed of what could and could not be controlled in the outdoors, as well as alternative indoor treatment options, before giving their informed consent. For example:

> How might they respond if they meet another person? What will be important for the client and therapist to do in that moment? In this way, the client and therapist can negotiate a strategic response before an event occurs, allowing the client to collaborate in the process of protecting his privacy and confidentiality … Therapists who communicate clearly to the client the ways in which his or her privacy will be respected and the particular limits of confidentiality lay the groundwork for a productive therapeutic alliance with the client.
>
> (Hooley, 2016, p.219)

Once this initial contract was agreed, *process contracting* became imperative, which involved regularly referring back to and adapting the agreed contract as the relationship progressed and as new issues arose within the dynamic outdoor environment (e.g., "I do a mini assessment in the beginning of the session to see if sitting or walking is best for them that day." McKinney, 2011, p.92). Process contracting was described as "a reiterative, collaborative and co-constructed contracting process" (Revell & McLeod, 2017, p.281). Sometimes this involved holding "the client at the edge of their experience in a way that maybe uncomfortable but will not become overwhelming." (Jordan & Marshall, 2010, p.352) and other times the therapy work was considered more suitable indoors (e.g., "there may be instances when meeting in an office may be more appropriate for certain issues." McKinney, 2011, p.92).

Although there were aspects of outdoor therapy that could not be controlled, containment was still achieved by introducing *predictability* in other aspects of the therapeutic frame, including pre-planned time frames (e.g., "The total walk and talk time allotted was 45 minutes but because of time needed to dress appropriately, actual walk and talk time was about 30 minutes." Doucette, 2004, p.379), maintaining agendas, using private outdoor spaces, and combining indoor and outdoor therapy (e.g., "I always hold initial sessions indoors, in a safe and controlled setting, before suggesting we try outdoor work." Tarrant, 2019, p.22). Jordan and Marshall (2010) describe how the outdoor environment is not entirely uncontrollable:

> It is still possible and maybe at times desirable, for the therapist to assert some sense of control of the outdoor space rather as they might indoors, introducing more elements of predictability into the mix. This might involve providing a specially created outdoor space (Santostefano, 2004), or sticking to a prescribed route or place to sit. One of the authors has found it easier to conduct one to one therapy outdoors in a space that mimics the indoors in the form of a willow dome.
>
> (Jordan & Marshall, 2010, p.355)

The final solution for safeguarding practice was through risk assessment and being *aware of professional limits* of competence, such as knowing when and how to seek external guidance. For example, some practitioners worked alongside outdoor pursuit instructors when incorporating more adventurous activities (e.g., "…professional guides are used on activities where there is a high risk of injury; for example, caving, white water rafting and abseiling." Lambie et al., 2000, p.103). Hooley (2016) discovered a need for seeking more creative supervisory collaborations:

> an occupational therapist might offer perspective in understanding the ways a client might respond to the physical demands of a nature-based therapy. A horticulturist might assist in identifying safe and appropriate plants for use in therapy. A seasoned river guide might help identify potential hazards in an adventure therapy excursion. In

> the absence of supervision by a qualified psychologist, such creative collaboration and oversight can contribute to a deeper understanding and implementation of both theory and practice.
>
> (Hooley, 2016, p.218)

This collaboration also included checking "with my indemnity insurer as to any safeguards I need to make" (Tarrant, 2019, p.21). In addition, practitioners were required to be proactive in seeking out additional training opportunities not routinely provided in their standard professional training, such as "knowledge of the chosen wilderness context" and "first aid" (Hooley, 2016, p.218). Hooley (2016) warned that the current lack of professional guidance "does not represent an excuse to proceed with a novel intervention without first developing professional competency" (p.217).

### 7.10. Enrichment

Whilst the practitioner-client dyad inevitably retained some degree of asymmetry (i.e., the client remained a client and practitioner remained their practitioner), clients felt like their encounter in a natural space provided a greater sense of *mutuality* compared to that of a consultation room. This included greater mutuality of space:

> the client is free to choose the setting that feels right for them. Sometimes this is a conscious decision; sometimes they let their 'body do the walking', often surprising themselves when they find their 'right spot'. They choose their seat; I check out where they would like me to be before sitting where they want me to sit or where feels appropriate….
>
> (Tarrant, 2019, p.21)

And mutuality of relationship:

> a key intervention for inviting the therapist to flatten hierarchies, to encourage the client to take ownership of their process, and to facilitate the therapeutic alliance … She reported experiencing a stronger sense of me, her therapist, as a 'real' person in the 'real world' experience of her therapy, rather than as a more separate professional closeted in the therapy room.
>
> (Jordan & Marshall, 2010, p.349–355)

This dynamic was particularly beneficial in "theoretical approaches that focus on mitigating the power differential such as feminist, social constructivist, narrative, and many multicultural approaches to psychotherapy" (King & McIntyre, 2018, p.123).

Clients also reported feeling removed from day-to-day norms and from their mental health diagnoses and 'symptoms', providing greater *freedom* for emotional expression, which helped some to detach and "open up in a way they did not experience in a counseling office" (Wiggins, 2018, p.114). Some felt this was because the outdoors provided a less pressurised environment:

> To date, my clients primarily come with issues around relationships: most notably, controlling and abusive relationships. They feel huge pressure at work and at home. They report that the indoor therapies they've experienced so far have also felt pressured. Outdoors, they feel and relish the freedom.
>
> (Tarrant, 2019, p.22)

One client noted, "if you sit around in a hospital, it just reminds you that you are ill" (Fernee et al., 2019, p.1372), and another client said,

> I have often felt very constrained in consultation rooms, particularly when I am in a strong emotional state. I have on occasion felt limited by the typically neat and - importantly – small space and often to really explore emotional states I want to move.
>
> (Jordan & Marshall, 2010, p.353)

Therapy was also enriched by combining mental processes with bodily interactions with nature, resulting in a powerful and *holistic* integration of mind, body, spirit, and place. Clients became more physically active, in tune with their bodies, emotions and behaviours, and also more connected with the practitioner at a deeper holistic level. For example,

> They have got stuff going on in their head, stuff going on in their body and they don't integrate the two. When we are doing the walking and talking, their mind and body are integrating… If they are stuck in something I just find that walking forwards and being in motion helps.
>
> (Revell & McLeod, 2017, p.278)

Physical movement also helped practitioners to connect with clients psychologically (e.g., "tuning in to the rhythm of their movements– so it's a physical sort of empathy …" Revell & McLeod, 2017, p.278). Other practitioners spoke of the bilateral movement providing neurological benefits similar that that of Eye Movement Desensitization and Reprocessing therapy (e.g., "it gets you out of the left brain such as EMDR." McKinney, 2011, p.93).

Clients also experienced greater *interconnectivity* with nature, often described as feeling a part of something larger and more meaningful. This interconnectivity was also referred to as providing an opportunity for an "other than Human experience" (Tarrant, 2019, p.21) and a "technological disconnection" (Fernee et al., 2019, p.1363). For example, one client developed "a sense of peace and connection to the natural rhythms of the world that was more meaningful than his high-pressured business world and lifted his depression more effectively than any amount of talking" (Shillito-Clarke, 2008, p.86). This interconnection at times resulted in improved community and environmental behaviours (e.g., "she became transformed from a girl who threw rocks at birds to one who tried gently to approach them and stroke them." Doucette, 2004, p.384), and clients felt like their relationship with the outdoors provided a 'therapy room' they could return to by themselves to self-sooth or "empty out the self" (Revell et al., 2014, p.285).

The final area of enrichment to therapy regarded the *practitioners' well-being*. Firstly, outdoor therapy increased their habitual physical activity, which served to mitigate negative impacts of more sedentary therapy approaches (e.g., "physical improvements such as better sleep, decreased body fat, decreased cholesterol, and reduced risk of heart attack." McKinney, 2011, p.104). Secondly, practitioners reported a reduction in stress and emotional fatigue. For example, one practitioner described how the physical movement left them feeling "lighter … like it hasn't left me with their feelings that sometimes I feel like I get left with in a therapy room" (Revell & McLeod, 2017, p.280). Other practitioners described how nature as a third person in the therapy shouldered some of the therapeutic work, leaving them feeling "less weighed down by the responsibility for being helpful" (Revell & McLeod, 2017, p.280). Outdoor therapy was therefore considered both a "stress reliever and self-care for the therapist" (McKinney, 2011, p.105). Lastly, therapy outdoors was found to bolster therapeutic skills in practitioners, such as trust, confidence, and creativity:

> My own self-confidence as outdoor therapist is also growing, as my clients and I explore how outdoor therapy can help them. And with this growing confidence comes a growing trust in my client and how to be with my client. Outside, I generally feel more spontaneous, more creative, more in touch with us, both in relationship to each other and within the wider world. I take my experience, learning and ethics from inside to the outside. I hope that the reverse can also be true: that I can bring back indoors my increasing spontaneity, creativity and wider perspective for the benefit of both the client and me.
>
> (Tarrant, 2019, p.22)

Some practitioners described feeling empowered by a new sense of versatility:

> I think it has given me faith in my ability; faith in the fact that

> therapy as a whole can happen literally anywhere … it's given me a lot of confidence just in the fact that I can offer this ….
>
> (Revell & McLeod, 2017, p.281)

## 8. Discussion

The aim of the present review was to explore the experiences of practitioners ($n$ = 322) and clients ($n$ = 163) who have practiced talking therapy in natural, outdoor spaces. The resulting themes were organised into a framework (Fig. 3) to support future practice and research in this area. This framework started with considerations surrounding the suitability of the client and practitioner dyad to working outdoors. Decisions are then made regarding the appropriate type of outdoor environment and activity, such as walking in a local park (low intensity) or a weekend wilderness retreat (high intensity). The natural environment could either provide a passive backdrop to conventional talking therapy, or be an active mechanism in the therapy.

There was a wide variety of approaches to therapy outdoors, which were effective in heterogeneous contexts, client groups, and presenting problems. Therapy outdoors was also integrated with a range of therapy modalities (e.g., CBT, third wave, psychoanalytical, relational, psychodynamic, and systemic). This heterogeneity is reflected in the fact that many articles provided a general commentary on therapy outdoors without specifying a particular client group or presenting problem (see Fig. 2). Thus deciding 'when to use outdoor therapy?' is not a question that can be answered within absolute parameters. Rather, practitioners are required to use their skills in individualised assessment and formulation, considering such questions as, 'does the client want to work outdoors and why?', 'is it physically and psychologically safe for this work to be taken outdoors?', 'what additional benefits would the outdoors provide?', 'how does the outdoors fit with the client's recovery goals?', 'is the outdoors appropriate for what we have planned today?'. For example, these formulations could be as simple as a client in need of coping skills for anxiety, who reported feeling disconnected from a previously positive relationship with nature, which led to the use of outdoor mindfulness exercises (Corazon et al., 2012). In this way, the process of deciding on the suitability of therapy outdoors is little different to how an integrative indoor practitioner would set about determining what type of therapy model to use with a particular client. The resulting framework (Fig. 3) is therefore recommended as a source of reflexivity for those formulating whether and how best to combine nature and therapy, rather than to offer causally related mechanisms.

The typical issues encountered when working in nature included the physicality of the outdoors, the unpredictability and distraction that could affect therapy work, and difficulty guaranteeing ethical processes such as confidentiality. These issues were supported by informed consent, process contracting, instilling predictability in elements of the therapeutic frame that could be controlled (e.g., timings, locations, agendas), and being aware of professional competency. Fundamental to ethical practice was ensuring that if at any point outdoor therapy was deemed unsuitable, the work was taken indoors. In adhering to these approaches, a beneficial partnership between therapy and nature was demonstrated across all articles.

Opinions varied when comparing the effectiveness of therapy outdoors to conventional indoor therapy. Some practitioners and clients felt engagement with nature enhanced the speed of recovery (e.g., McKinney, 2011; Shillito-Clarke, 2008; Wiggins, 2018), whilst others suggested that effectiveness appeared no different to indoor therapy with both settings offering equally valid alternatives (e.g., Jordan & Marshall, 2010; Revell & McLeod, 2016). Either way, there was agreement that natural spaces can offer a unique contribution in terms of freedom for expression, mind-body holism, interconnectivity, and practitioner wellbeing. Therapy outdoors was also found to enhance the therapeutic relationship through a greater shared ownership of space and a more balanced power dynamic within the therapeutic relationship (i.e., mutuality); an important finding given that the therapeutic relationship is known to account for as much variance in therapy outcomes as the treatment modality itself (Norcross & Lambert, 2011).

In line with the aforementioned theories of biophilia (Wilson, 1984) and ecological systems (Bronfenbrenner, 1979), the therapy outcomes and their maintenance were often associated with the connectivity to nature that had deepened over the course of therapy (e.g., Berger & McLeod, 2006; McBride & Korell, 2005; Revell et al., 2014). For these reasons, and given the prior evidence for the restorative capacity of nature (e.g., Bratman et al., 2012), many practitioners in the present review not only explored a client's state of connectivity with nature as part of their initial assessment, but also integrated it within their formulation (e.g., Milton, 2009; Wolsko & Hoyt, 2012).

Incorporating nature connectivity and nature restoration into formulations is not a new consideration. If we return to the original propositions of the bio-psycho-social formulation model, the 'biosphere' is positioned as the broadest system of influence in which our biological, psychological, and other social systems reside (Engel, 1980). Engel explained that "neither the cell nor the person can be fully characterized as a dynamic system without characterizing the larger system(s) (environment) of which it is a part." (p. 537). Despite these prior theories and the wealth of empirical evidence for nature restoration mentioned earlier, conventional formulation rarely considers systems of influence beyond that of the immediate human systems surrounding a client (Johnstone et al., 2018). In the words of the founder of ecopsychology (i.e., the study of humans' relationship with earth), conventional therapies "seek to heal the alienation between person and person, person and family, person and society", whereas therapy outdoors has the additional objective of healing "the more fundamental alienation between the person and the natural environment" (Roszak, 1992, p.320). Given the findings of the present review, it is perhaps timely to update traditional Western models of talking therapy, which were devised nearly 150 years ago, and in an age of rapid increases in urbanisation and post-industrial revolution (Jordan, 2015; Roszak, 1992).

Incorporating therapy outdoors would also be in line with more recent calls for practitioners to take greater responsibility for environmental behaviours and climate change (e.g., The American Psychology Association Task Force on the Interface Between Psychology and Global Climate Change, 2010). The present review included evidence to suggest that greater connectivity with nature, resulting from therapy outdoors, led to improved community and environmental behaviour (e.g., Doucette, 2004). This relationship has been confirmed by a number of studies showing nature connectivity to have a positive relationship with an individual's environmental concerns and positive environmental behaviours such as recycling and consumerism (e.g., Gkargkavouzi, Halkos, & Matsiori, 2019; Nisbet & Zelenski, 2013).

However, rather than embracing this more holistic approach to psychological intervention, health services in the present review largely favoured traditional Cartesian clinical approaches, more aligned to a reductionist, biomedical model of treatment (Conn, 1998; Jordan, 2014). This is perhaps why the majority of practitioners were working in private practice or academic institutions, offering them more freedom and flexibility to break away from convention and work outdoors (Shillito-Clarke, 2008). Perhaps due to these issues surrounding organisational culture, this review identified a disparity in the distribution of professionals, in which counsellors and psychotherapists featured more prominently, with clinical psychologists markedly less so. On one hand, this finding may be surprising, given that psychodynamic psychotherapy and psychoanalysis is typically associated with greater rigidity in the boundaries of the therapeutic frame, and with clinical psychology typically operating more flexibly across models (Lemma, 2015). However, it is also possible that the high client volume, biomedically-informed, and protocolised services that clinical psychologists often find themselves operating within make taking their work outside of the clinical setting more challenging (Johnstone et al., 2018; Mind, 2013).

If outdoor therapy was more recognised and supported by professions and public health services, it would also have the potential for important service-level impact. Notably, it could provide clients with greater flexibility in treatment options and therefore increase equity of access for those averse to indoor therapy. As an adjunct, therapy outdoors could also mitigate demand for clinic rooms; all of which are common limitations of mental health services (Mind, 2013). From a financial standpoint, articles in the review tended not to discuss the costs associated with therapy outdoors, but one did report passing on their savings to private clients, "in moving outside we contracted for her to pay less as we didn't have to cover the costs of the room, she agreed to this arrangement as she was struggling with the costs of the therapy" (Jordan & Marshall, 2010, p.356).

An additional service-level implication is the engagement of both mind and body within the one treatment. A more holistic approach to therapy may benefit the challenge of multi-morbidity currently faced by health services, with mental health difficulties presenting alongside physical health problems associated with sedentary lifestyles (Bramley & Moody, 2016; NICE, 2016). The present review also revealed benefits to practitioner well-being as a result of working more holistically. It is often said that 'one cannot serve from an empty vessel' (Brown, 2014), and yet, mental health services often report high rates of staff burnout and absenteeism (Rupert, Miller, & Dorociak, 2015). A treatment approach that is found to benefit both the client and practitioner should therefore be considered a significant asset.

Given that therapy outdoors is increasing in popularity, calls were made in the present review for this to be reflected in practitioner training curricula (e.g., King & McIntyre, 2018). Ethically, this may be an important and necessary addition given that some practitioners drawn to this way of working find themselves having to 'make it up as they go' without any formal training or guidance from their core training (e.g., Hoover & Slagle, 2015; McKinney, 2011). Findings from this review suggests training could include raising awareness of the potential benefits of nature connection and therapy outdoors, assessment and formulation techniques to determine suitability, how to integrate existing therapy models, and the safe facilitation of outdoor therapy. In collating the body of literature in the field thus far, the present review may help to instigate and guide such training provision.

## 9. Limitations and future research

Future research is now needed to further explore and develop the framework for outdoor therapy presented herein. Consonant with the majority of articles included within it, the review sought to provide a general overview of therapy outdoors. This overview included a range of complex topic areas, many with their own literature-base in conventional indoor therapy (e.g., informed consent, confidentiality, therapeutic and relational boundaries, formulation, risk etc.). It is for this reason that readers are directed to the table of themes in the online supplementary material for a more extensive presentation of the data surrounding each aspect of the framework. Future research may be required to expand upon specific areas of this framework. In addition, given that the findings of the present review were limited to articles written in English, the field may also benefit from greater exploration of other countries where outdoor therapy practice is well established.

Organisational constraints noted in this review, suggesting practitioners wishing to practice outdoors may be enabled better in private rather than public health services, risks constraining the growth of outdoor therapies if rigidly adherent to medicalised treatment models. Such constraints may force practitioners from mainstream services, reducing access to ethical and effective approaches to therapy outdoors, which become the preserve of clients who can afford to access them privately. Research approaches, such as those guided by implementation science (see Nilsen, 2015), could explore how therapy outdoors could be better incorporated into mainstream services. For example, case studies could be carried out in services where therapy outdoors is introduced to explore the barriers, enablers, and resulting impact on clients, practitioners, and service outcomes.

A further limitation of the present review is that the included research is almost exclusively conducted by pioneer practitioners and researchers who are homogenous in their personal and professional affiliation with nature. Limited in number relative to the wider practitioner population, their views are invaluable in ascertaining what therapy outdoors can look like as a treatment model. However, further research is now required with practitioners, service users, policy makers, educational leaders, and service leads, who may view this practice with less enthusiasm. Such perspectives may help to guide and implement future outdoor practice.

## 10. Conclusions

In summary, this review is the first to provide an extensive review of client and practitioner experiences of combining talking therapy with the outdoors. A systematic search of the literature revealed a wealth of articles dating back 25 years. Following meta-synthesis, a framework is provided outlining key considerations for the planning and facilitation of this novel and enriching practice. Therapy outdoors was effective not only in connecting clients with the natural world, but also through enriching the therapeutic encounter; providing novel ways of incorporating conventional therapy approaches, with added mutuality, holism, freedom of expression, and enhanced practitioner wellbeing. Benefits of therapy outdoors were not exclusive to particular client groups, and its use is therefore recommended using a person-centred approach based on individualised formulation. Future research is now needed to shape the implementation of therapy outdoors in practitioner training programmes and mainstream services.

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## Contributors

Authors SC and NR designed the study. Author SC conducted the literature review and wrote the first draft of the manuscript. All authors contributed towards the analysis. All authors contributed to and have approved the final manuscript.

## Declaration of competing interest

All authors declare that they hold no conflicts of interest.

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## Appendix A. Supplementary data

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## References*

*Adevi, A. A., Uvnäs-Moberg, K., & Grahn, P. (2018). Therapeutic interventions in a rehabilitation garden may induce temporary extrovert and/or introvert behavioural changes in patients, suffering from stress-related disorders. *Urban Forestry & Urban Greening, 30*, 182–193. https://doi.org/10.1016/j.ufug.2018.02.010.

Al-Krena, A. W. (1999). An overview of rituals in western therapies and interventions:

* Indicates articles included in the meta-synthesis.

Argument of their use in cross-cultural therapy. *International Journal for the Advancement of Counseling, 21*(1), 3–17.
American Psychological Association Task Force on the Interface Between Psychology and Global Climate Change (2010). *Psychology and global climate change: Addressing a multi-faceted phenomenon and set of challenges.* Washington, DC: American Psychological Association.
Annerstedt, M., & Währborg, P. (2011). Nature-assisted therapy: Systematic review of controlled and observational studies. *Scandinavian Journal of Public Health, 39*(4), 371–388. https://doi.org/10.1177/1403494810396400.
Antony, M. M., & Swinson, R. P. (2000). *Phobic disorders and panic in adults: Guide to assessment and treatment.* Washington, DC: American Psychological Association.
Becker, S. P. (2010). Wilderness therapy: Ethical considerations for mental health professionals. *In Child & Youth Care Forum, 39*, 47–61. https://doi.org/10.1007/s10566-009-9085-7.
*Berger, R. (2007). Choosing the 'right' space to work in: Reflections prior to a nature therapy session. *Australian Journal of Outdoor Education, 11*(1), 41–45. https://doi.org/10.1007/bf03400846.
*Berger, R. (2009). Being in nature: An innovative framework for incorporating nature in therapy with older adults. *Journal of Holistic Nursing, 27*(1), 45–50. https://doi.org/10.1177/0898010108323010.
*Berger, R. (2010). Nature therapy: Thoughts about the limitations of practice. *Journal of Humanistic Psychology, 50*(1), 65–76. https://doi.org/10.1177/0022167809333999.
*Berger, R., & McLeod, J. (2006). Incorporating nature into therapy: A framework for practice. *Journal of Systemic Therapies, 25*(2), 80–94. https://doi.org/10.1521/jsyt.2006.25.2.80.
*Bettmann, J. E., & Jasperson, R. A. (2008). Adults in wilderness treatment: A unique application of attachment theory and research. *Clinical Social Work Journal, 36*(1), 51–61. https://doi.org/10.1007/s10615-007-0134-0.
Beukeboom, C. J., Langeveld, D., & Tanja-Dijkstra, K. (2012). Stress-reducing effects of real and artificial nature in a hospital waiting room. *The Journal of Alternative and Complementary Medicine, 18*(4), 329–333. https://doi.org/10.1089/acm.2011.0488.
Bowen, D. J., & Neill, J. T. (2013). A meta-analysis of adventure therapy outcomes and moderators. *The Open Psychology Journal, 6*, 28–53. https://doi.org/10.2174/1874350120130802001.
Bramley, D., & Moody, D. (2016, November 25). Multimorbidity – The biggest clinical challenge facing the NHS? [blog post]. Retrieved from https://www.england.nhs.uk/blog/dawn-moody-david-bramley/.
Bratman, G. N., Hamilton, J. P., & Daily, G. C. (2012). The impacts of nature experience on human cognitive function and mental health. *Annals of the New York Academy of Sciences, 1249*(1), 118–136. https://doi.org/10.1111/j.1749-6632.2011.06400.x.
Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health, 11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806.
Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.
Brown, E. (2014, November 2). Self-care is NOT selfish. Retrieved from http://www.eleanorbrownn.com/blog2/self-care-in-not-selfish.
Cipriani, J., Benz, A., Holmgren, A., Kinter, D., McGarry, J., & Rufino, G. (2017). A systematic review of the effects of horticultural therapy on persons with mental health conditions. *Occupational Therapy in Mental Health, 33*, 49–69. https://doi.org/10.1080/0164212x.2016.1231602.
*Conn, S. A. (1998). Living in the earth: Ecopsychology, health and psychotherapy. *The Humanistic Psychologist, 26*, 179–198. https://doi.org/10.1080/08873267.1998.9976972.
Cooley, S. J., Burns, V. E., & Cumming, J. (2015). The role of outdoor education in facilitating groupwork in higher education. *Higher Education, 69*, 567–582. https://doi.org/10.1007/s10734-014-9791-4.
Coon, T. J., Boddy, K., Stein, K., Whear, R., Barton, J., & Depledge, M. H. (2011). Does participating in physical activity in outdoor natural environments have a greater effect on physical and mental wellbeing than physical activity indoors? A systematic review. *Environmental Science & Technology, 45*(5), 1761–1772. https://doi.org/10.1021/es102947t.
*Corazon, S. S., Stigsdotter, U. K., Jensen, A. G. C., & Nilsson, K. (2010). Development of the nature-based therapy concept for patients with stress-related illness at the Danish healing forest garden Nacadia. *Journal of Therapeutic Horticulture, 20*, 33–51.
*Corazon, S. S., Stigsdotter, U. K., Moeller, M. S., & Rasmussen, S. M. (2012). Nature as therapist: Integrating permaculture with mindfulness-and acceptance-based therapy in the Danish Healing Forest Garden Nacadia. *European Journal of Psychotherapy & Counselling, 14*(4), 335–347. https://doi.org/10.1080/13642537.2012.734471.
Davey, G., Lake, N., & Whittington, A. (2015). *Clinical psychology.* UK: Routledge.
*DeMille, S. M., & Montgomery, M. (2016). Integrating narrative family therapy in an outdoor behavioral healthcare program: A case study. *Contemporary Family Therapy, 38*, 3–13. https://doi.org/10.1007/s10591-015-9362-6.
*Doucette, P. A. (2004). Walk and talk: An intervention for behaviorally challenged youths. *Adolescence, 39*(154), 373–388.
Duncan, R. (2018). *Nature in mind: Systemic thinking and imagination in ecopsychology and mental health.* London: Routledge.
Engel, G. L. (1980). The clinical application of the biopsychosocial model. *The American Journal of Psychiatry, 5*, 535–544. https://doi.org/10.1176/ajp.137.5.535.
*Fernee, C. R., Mesel, T., Andersen, A. J., & Gabrielsen, L. E. (2019). Therapy the natural way: A realist exploration of the wilderness therapy treatment process in adolescent mental health care in Norway. *Qualitative Health Research, 29*(9), 1358–1377. https://doi.org/10.1177/1049732318816301.
Freud, S. (1973). *New introductory lectures on psychoanalysis.* London: Penguin Books.
Gkargkavouzi, A., Halkos, G., & Matsiori, S. (2019). A multi-dimensional measure of environmental behavior: Exploring the predictive power of connectedness to nature, ecological worldview and environmental concern. *Social Indicators Research, 143*(2), 859–879. https://doi.org/10.1007/s11205-018-1999-8.
Goldstein, R (2007). Chair's Notes. *Counselling Psychology Review, 22*(3), 3–5.
*Hartford, G. (2011). Practical implications for the development of applied metaphor in adventure therapy. *Journal of Adventure Education & Outdoor Learning, 11*(2), 145–160. https://doi.org/10.1080/14729679.2011.633383.
Hartig, T., Mang, M., & Evans, G. W. (1991). Restorative effects of natural environment experiences. *Environment and Behavior, 23*(1), 3–26. https://doi.org/10.1177/0013916591231001.
Hoffmann, T. C., Glasziou, P. P., Boutron, I., Milne, R., Perera, R., Moher, D., ... Lamb, S. E. (2014). Better reporting of interventions: Template for intervention description and replication (TIDieR) checklist and guide. *British Medical Journal, 348*(1687), 1–12. https://doi.org/10.1136/bmj.g1687.
*Hooley, I. (2016). Ethical considerations for psychotherapy in natural settings. *Ecopsychology, 8*(4), 215–221. https://doi.org/10.1089/eco.2016.0008.
Hoover, S. M., & Slagle, C. P. (2015). A preliminary assessment of ecopsychology education in counseling psychology doctoral training programs. *Ecopsychology, 7*(3), 160–165. https://doi.org/10.1089/eco.2014.0061.
Johnstone, L., Boyle, M., Cromby, J., Dillon, J., Harper, D., Kinderman, P., ... Read, J. (2018). *The power threat meaning framework: Towards the identification of patterns in emotional distress, unusual experiences and troubled or troubling behaviour, as an alternative to functional psychiatric diagnosis.* Leicester: British Psychological Society.
*Jordan, M. (2014). Moving beyond counselling and psychotherapy as it currently is—taking therapy outside. *European Journal of Psychotherapy & Counselling, 16*(4), 361–375. https://doi.org/10.1080/13642537.2014.956773.
Jordan, M. (2015). *Nature and therapy: Understanding counselling and psychotherapy in outdoor spaces.* London: Routledge.
*Jordan, M., & Marshall, H. (2010). Taking counselling and psychotherapy outside: Destruction or enrichment of the therapeutic frame? *European Journal of Psychotherapy and Counselling, 12*(4), 345–359. https://doi.org/10.1080/13642537.2010.530105.
Katrak, P., Bialocerkowski, A. E., Massy-Westropp, N., Kumar, V. S., & Grimmer, K. A. (2004). A systematic review of the content of critical appraisal tools. *BMC Medical Research Methodology, 4*(22), 1–11. https://doi.org/10.1186/1471-2288-4-22.
Kellert, S. (1993). The biophilia hypothesis. In S. R. Kellert, & E. O. Wilson (Eds.). *The biophilia hypothesis.* Washington, DC: Island Press.
*King, B., & McIntyre, C. J. (2018). An examination of the shared beliefs of ecotherapists. *Ecopsychology, 10*(2), 117–126. https://doi.org/10.1089/eco.2018.0014.
Kmet, L. M., Lee, R. C., & Cook, L. S. (2004). *Standard quality assessment criteria for evaluating primary research papers from a variety of fields.* Canada: HTA Initiative, University of Galgary.
*Kyriakopoulos, A. (2010). Adventure based counselling, individual counselling and object relations: A critical evaluation of a qualitative study. *European Journal of Psychotherapy and Counselling, 12*(4), 311–322. https://doi.org/10.1080/13642537.2010.530104.
*Lambie, I., Hickling, L., Seymour, F., Simmonds, L., Robson, M., & Houlahan, C. (2000). Using wilderness therapy in treating adolescent sexual offenders. *Journal of Sexual Aggression, 5*(2), 99–117. https://doi.org/10.1080/13552600008413302.
Lemma, A. (2015). *Introduction to the practice of psychoanalytic psychotherapy.* UK: John Wiley & Sons.
Louv, R. (2010). *Last child in the woods: Saving our children from nature-deficit disorder.* London: Atlantic Books.
*McBride, D. L., & Korell, G. (2005). Wilderness therapy for abused women. *Canadian Journal of Counselling, 39*(1), 3–14. https://doi.org/10.1300/j015v14n03_14.
*McKinney, B. L. (2011). *Therapist's perceptions of walk and talk therapy: A grounded study.* Unpublished PhD thesisUniversity of New Orleans.
*Milton, M. (2009). Waking up to nature: Exploring a new direction for psychological practice. *Ecopsychology, 1*, 8–13. https://doi.org/10.1089/eco.2008.0004.
Mind (2013). *We still need to talk: A report on access to talking therapies.* London: Mind. Retrieved from https://www.mind.org.uk/media/494424/we-still-need-to-talk_report.pdf.
Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine, 6*(7), e1000097. https://doi.org/10.1371/journal.pmed.1000097.
Moore, E. O. (1982). A prison environment's effect on health care service demands. *Journal of Environmental Systems, 11*, 17–34. https://doi.org/10.2190/km50-wh2k-k2d1-dm69.
Morita, E., Fukuda, S., Nagano, J., Hamajima, N., Yamamoto, H., Iwai, Y., ... Shirakawa, T. (2007). Psychological effects of forest environments on healthy adults: Shinrin-yoku (forest-air bathing, walking) as a possible method of stress reduction. *Public Health, 121*(1), 54–63. https://doi.org/10.1016/j.puhe.2006.05.024.
Nakane, H., Asami, O., Yamada, Y., & Ohira, H. (2002). Effect of negative air ions on computer operation, anxiety and salivary chromogranin A-like immunoreactivity. *International Journal of Psychophysiology, 46*(1), 85–89. https://doi.org/10.1016/s0167-8760(02)00067-3.
NICE (2016, September). *Multimorbidity: Clinical assessment and management.* NICE guidelines. Retrieved from https://www.nice.org.uk/guidance/NG56.
Nilsen, P. (2015). Making sense of implementation theories, models and frameworks. *Implementation Science, 10*, 53. https://doi.org/10.1186/s13012-015-0242-0.
Nisbet, E. K., & Zelenski, J. M. (2013). The NR-6: A new brief measure of nature relatedness. *Frontiers in Psychology, 4*, 813. https://doi.org/10.3389/fpsyg.2013.00813.
Norcross, J. C., & Lambert, M. J. (2011). Evidence-based therapy relationships. In J. C. Norcross (Ed.). *Psychotherapy relationships that work: Evidence-based responsiveness* (pp. 3–24). New York: Oxford University Press.
Paez, A. (2017). Gray literature: An important resource in systematic reviews. *Journal of Evidence-Based Medicine, 10*(3), 233–240. https://doi.org/10.1111/jebm.12266.

Paterson, B. L. (2012). "It looks great but how do I know if it fits?": An introduction to meta-synthesis research. In K. Hannes, & C. Lockwood (Eds.). *Synthesizing qualitative research: Choosing the right approach* (pp. 1–20). Oxford, UK: John Wiley & Sons.
Patton, M. Q. (2015). *Qualitative research and evaluation methods: Integrating therapy and practice.* London: Sage.
Pearson, A., White, H., Bath-Hextall, F., et al. (2015). A mixed-methods approach to systematic reviews. *International Journal of Evidence-Based Healthcare, 13*(3), 121–131. https://doi.org/10.1097/xeb.0000000000000052.
Pearson, M., & Wilson, H. (2012). Soothing spaces and healing places: Is there an ideal counselling room design? *Psychotherapy in Australia, 18*(3), 46–53.
*Portrie-Bethke, T., Hill, N., & Bethke, J. (2009). Strength-based mental health counseling for children with ADHD: An integrative model of adventure-based counseling and Adlerian play therapy. *Journal of Mental Health Counseling, 31*(4), 323–337. https://doi.org/10.17744/mehc.31.4.908822151555t5x7.
*Revell, S., Duncan, E., & Cooper, M. (2014). Helpful aspects of outdoor therapy experiences: An online preliminary investigation. *Counselling and Psychotherapy Research, 14*(4), 281–287. https://doi.org/10.1080/14733145.2013.818159.
*Revell, S., & McLeod, J. (2016). Experiences of therapists who integrate walk and talk into their professional practice. *Counselling and Psychotherapy Research, 16*(1), 35–43. https://doi.org/10.1002/capr.12042.
*Revell, S., & McLeod, J. (2017). Therapists' experience of walk and talk therapy: A descriptive phenomenological study. *European Journal of Psychotherapy & Counselling, 19*(3), 267–289. https://doi.org/10.1080/13642537.2017.1348377.
Roszak, T. (1992). *The voice of the earth: An exploration of ecopsychology.* New York: Simon & Schuster.
Rupert, P. A., Miller, A. O., & Dorociak, K. E. (2015). Preventing burnout: What does the research tell us? *Professional Psychology: Research and Practice, 46*(3), 168–174. https://doi.org/10.1037/a0039297.
Santos, C. M. D. C., Pimenta, C. A. D. M., & Nobre, M. R. C. (2007). The PICO strategy for the research question construction and evidence search. *Revista Latino-Americana de Enfermagem, 15*(3), 508–511. https://doi.org/10.1590/s0104-11692007000300023.
Santostefano, S. (2004). *Child therapy in the great outdoors: A relational view.* London: Hillside Press.
*Santostefano, S. (2008). The sense of self inside and environments outside: How the two grow together and become one in healthy psychological development. *Psychoanalytic Dialogues, 18*(4), 513–535. https://doi.org/10.1080/10481880802198384.
*Scheinfeld, D. E., Rochlen, A. B., & Buser, S. J. (2011). Adventure therapy: A supplementary group therapy approach for men. *Psychology of Men & Masculinity, 12*(2), 188–194. https://doi.org/10.1037/a0022041.
*Shillito-Clarke, C. (2008). Journey into the natural world of the counselling psychologist. *Counselling Psychology Review, 23*(2), 81–90.
Stevens, A., & Price, J. (2015). *Evolutionary psychiatry: A new beginning.* London: Routledge.
Strawbridge, S. (2002). "McDonaldisation" or "Fastfood therapy" *Counselling Psychology Review, 17*(4), 20–24.
*Tarrant, N. (2019). A walk on the wild side: Nick Tarrant reflects on the risks and benefits of talking therapy outdoors. *Therapy Today, 30*(6), 21–22.
Terman, M., Terman, J. S., & Ross, D. C. (1998). A controlled trial of timed bright light and negative air ionization for treatment of winter depression. *Archives of General Psychiatry, 55*(10), 875–882. https://doi.org/10.1001/archpsyc.55.10.875.
The Joanna Briggs Institute (2017). *Joanna Briggs Institute reviewers' Manual* (2017 edition). Australia: The Joanna Briggs Institute. Retrieved from https://reviewersmanual.joannabriggs.org.
Thomas, J., & Harden, A. (2008). Methods for the thematic synthesis of qualitative research in systematic reviews. *BMC Medical Research Methodology, 8*, 45. https://doi.org/10.1186/1471-2288-8-45.
Thomas, J., Harden, A., Oakley, A., Oliver, S., Sutcliffe, K., Rees, R., ... Kavanagh, J. (2004). Integrating qualitative research with trials in systematic reviews. *British Medical Journal, 328*(7446), 1010–1012. https://doi.org/10.1136/bmj.328.7446.1010.
Tong, A., Flemming, K., McInnes, E., Oliver, S., & Craig, J. (2012). Enhancing transparency in reporting the synthesis of qualitative research: ENTREQ. *BMC Medical Research Methodology, 12*(1), 181–189. https://doi.org/10.1186/1471-2288-12-181.
*Tucker, A. R., Widmer, M. A., Faddis, T., Randolph, B., & Gass, M. (2016). Family therapy in outdoor behavioral healthcare: Current practices and future possibilities. *Contemporary Family Therapy, 38*(1), 32–42. https://doi.org/10.1007/s10591-015-9370-6.
Twohig-Bennett, C., & Jones, A. (2018). The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research, 166*, 628–637. https://doi.org/10.1016/j.envres.2018.06.030.
Ulrich, R. (1984). View through a window may influence recovery from surgery. *Science, 224*, 420–421. https://doi.org/10.1126/science.6143402.
United Nations (2014). *World urbanization prospects: The 2014 revision.* New York, NY, USA: United Nations, Department of Economic and Social Affairs, Population Division.
Verderber, S., & Reuman, D. (1987). Windows, views, and health status in hospital therapeutic environments. *The Journal of Architectural and Planning Research, 4*(2), 120–133.
West, M. J. (1985). *Landscape virsus and stress response in the prison environment* (unpublished doctoral thesis)Seattle, WA: Department of Landscape Architecture, University of Washington.
White, M. P., Alcock, I., Grellier, J., Wheeler, B. W., Hartig, T., Warber, S. L., ... Fleming, L. E. (2019). Spending at least 120 minutes a week in nature is associated with good health and wellbeing. *Scientific Reports, 9*(1), https://doi.org/10.1038/s41598-019-44097-3 7730, advanced online publication.
*Wiggins, E. C. (2018). *A phenomenological study: The lived experiences of holistic counselors and their development of self-efficacy* (Unpublished Doctoral thesis)Adams State University.
Wilson, E. O. (1984). *Biophilia: The human bond with other species.* Cambridge, MA: Harvard University Press.
*Wolsko, C., & Hoyt, K. (2012). Employing the restorative capacity of nature: Pathways to practicing ecotherapy among mental health professionals. *Ecopsychology, 4*, 10–24. https://doi.org/10.1089/eco.2012.0002.
Zur, O. (2001). Out-of-Office Experience: When crossing office boundaries and engaging in dual relationships are clinically beneficial and ethically sound. *The Independent Practitioner, 21*(1), 96–100.

## Further Readings

*Bandoroff, S., & Scherer, D. G. (1994). Wilderness family therapy: An innovative treatment approach for problem youth. *Journal of Child and Family Studies, 3*(2), 175–191. https://doi.org/10.1007/bf02234066.
*Berger, R. (2008a). Going on a journey: A case study of nature therapy with children with a learning difficulty. *Emotional and Behavioural Difficulties, 13*(4), 315–326. https://doi.org/10.1080/13632750802440361.
*Berger, R. (2008b). Building a home in nature: An innovative framework for practice. *Journal of Humanistic Psychology, 48*(2), 264–279. https://doi.org/10.1177/0022167807306990.
*Burns, G. (2000). When watching a sunset can help a relationship dawn anew: Nature-guided therapy for couples and families. *Australian and New Zealand Journal of Family Therapy, 21*(4), 184–190. https://doi.org/10.1002/j.1467-8438.2000.tb00448.x.
*Christian, D. D., & Perryman, K. L. (2018). Adventures in supervision: Implications for supervision of adventure based counseling. *Journal of Creativity in Mental Health, 13*(1), 19–30. https://doi.org/10.1080/15401383.2017.1345670.

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