

People and green spaces: promoting public health and mental well-being through ecotherapy

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ecohealth
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Drawing on the author's multi-method research on the viability of specific ecotherapy practitioner training and curriculum design, this paper debates how the use of ecotherapeutic approaches can provide a two-pronged system to achieve both individual health (at micro level) and public and environment health outcomes (at macro level). The research sought the views of service users, practitioners and educationalists through use of interviews, focus groups, a nominal group, and an ethnographic case study group. This research raised other considerations: namely, that people seeking personal recovery also, through stewardship of green spaces, may achieve unanticipated social capital and natural capital outcomes and thereby meet current multi-disciplinary policy targets. This added social value has not been previously considered as an important dimension in people's well-being and recovery from ill health or social exclusion. Such outcomes emerge from the idea of green spaces becoming a 'product' delivered to the community by people whose pursuit of personal recovery also directly contributes to improved public mental health.

RESEARCH

Ambra Burls
Senior lecturer
Anglia Ruskin University

Correspondence to:
Ambra Burls
Institute of Health and
Social Care
Anglia Ruskin University
Bishop Hall Lane
Chelmsford CM1 1SQ

a.burls@
btopenworld.com

There is growing evidence that the quality of our relationship with nature impacts on our mental health. More than 80% of people in the UK live in urban areas (DEFRA, 2004), and there is evidence that 'less green nature means reduced mental well-being, or at least less opportunity to recover from mental stress' (Pretty *et al*, 2005a; p2). This evidence does not, however, seem to have greatly influenced town and country planners; nor has it predisposed the establishment of public health policies that are inclusive of nature.

This situation seems to require a concerted effort and more broad-spectrum solutions (English Nature, 2003a). John Sorrell, chair of the Commission for Architecture and the Built Environment (CABE), affirms that 'a positive and creative relationship between all concerned is of critical importance', and that this would 'enable agencies, organisations and

individuals with different objectives... to work together to a common and successful end' (Sorrell, 2006; p254). Morris *et al* (2006) assert the need for a more strategic public health approach. They highlight that 'in Western societies, the relevance of the environment to health has become obscured... [and] even when this is not the case, the perspective is usually narrow, centring on specific toxic, infectious or allergenic agents in particular environmental compartments' (p889). They emphasise the need for shared concerns across disciplines and sectors.

Barton and Grant (2006) have presented an updated version of the World Health Organization (WHO) health map, introducing the global ecosystem, natural environment and biodiversity to the range of determinants of health and well-being in our neighbourhoods. They state that concerns about physical and mental health problems and

Figure 1: The determinants of health and well-being in our neighbourhoods (Barton & Grant, 2006)



inequalities have forced town planning to take account of factors previously divorced from health agendas. The map (figure 1) was designed to be a 'dynamic tool' to 'provide a focus for collaboration across practitioner professions and across topics' (p253) directly related to sustainable development of healthy neighbourhoods.

National and international policy supports the inclusion of the natural environment in holistic health promotion. For example, the WHO Twenty Steps for Developing Healthy Cities Projects (WHO, 1997) document sets out a multi-pronged planning strategy based on intersectorial action, alongside health awareness and healthy public policy, community participation and innovation. Similarly, the WHO Health Impact Assessment Toolkit for Cities (WHO, 2005a) offers a means to quantify the benefits of green spaces in terms of:

- greater involvement in the processes of making policy and decisions
- potential to extend the democratic process, especially to excluded groups in society
- empowerment
- the development of skills

- consideration of how to reduce sources of disadvantage or inequality
- the development and provision of services that better meet the needs of local people.

These actions would pave the way towards more comprehensive public mental health policies. However, they would be served well by the inclusion of the concept of ecohealth.

The concept of ecohealth

Ecological perspectives have played a part in health promotion models and constructs of health (Hancock & Perkins, 1985; Kickbusch, 1989). These have informed the development of health promotion strategies and practices such as healthy cities, schools and work places. But St Leger (2003) remarks that even these holistic frameworks put more emphasis on health promotion as a way of addressing specific mortality and morbidity outcomes, and that there is generally a tendency to work with the immediate problems of the individual. Specific actions are aimed at creating change in behaviours and life styles, but rarely include the bringing about of tangible change in the natural world around us.

Butler and Friel (2006) report that ‘since 1986, the evidence linking health to ecological and environmental factors (such as climate change, biodiversity loss, and the mental health benefits of exposure to nature) has strengthened considerably, stimulating a new discipline, sometimes called “ecohealth”’. They believe, however, that ‘paradoxically, recognition of the importance of environmental and ecological factors has simultaneously declined among proponents of health promotion’ (p1692). They expose the ‘abandonment of ecology’ by health promoters, in much the same way as exponents of ecopsychology (Roszak *et al*, 1995) denounced the same ‘abandonment’ by contemporary psychology and most prevailing therapy models.

The way we might start to reverse this process is more to do with healing and health care than it is to do with traditional environmental education or social policy. ‘Healing means to “become whole” and Ecotherapy aims to break down the disconnection between self and other’ (Footprint Consulting, 2006). Ecohealth widens the relationship between health and our ecosystem, bringing ecological factors such as biodiversity into play and thus stressing the importance of the relationships between human and non-human species. In considering humans as a part of the global biosphere, this concept inevitably brings the sustainability of our civilisation, and therefore human health, into the systemic, interacting forces that regulate life (Vernadsky, 1998). These concepts are further strengthened by such policies as the Ottawa Charter (1986), which declares: ‘The fundamental conditions and resources for health are peace, shelter, education, food, income, a stable ecosystem, sustainable resources, social justice and equity.’ This implies the existence of synergies between health promotion activities and the well-being of communities, individuals and the environment in which they live. But it also means that the environment needs to be cared for and safeguarded by the people in order for both to benefit. The remit of ecohealth should be to deliver social, economic and environmental goals in an integrated way. This health promotion socio-ecological strategy may well prove to be a refined ‘joined up approach’ for all operative aspects of mental health promotion, including improved community participation, safer and healthier communities and neighbourhoods, successful partnerships in the betterment of public health, the sustainable use of green spaces and the conservation of wildlife.

Green spaces for health

There is already considerable anecdotal, theoretical and empirical evidence that contact with nature is a real asset in the promotion of health for people (see table 1 (Maller *et al*, 2006)). Such contact with nature should therefore implicitly be highly valued as part of public health strategies.

Concrete steps are needed to revitalise communities in the spirit of social capital and to promote social inclusiveness. Natural England (English Nature, 2003b) recommends that ‘provision should be made of at least 2ha of accessible natural greenspace per 1000 population, and that no person should live more than 300m (or five minute walking distance) from their nearest area of natural greenspace’ (p2). For people to find physical and mental health benefits from green spaces on a regular basis (ie. three or more times per week), these need to be local. The concept of ‘nearby nature’ for health (Kaplan & Kaplan, 1989; Kuo & Sullivan, 2001; Taylor *et al*, 2001; Wells, 2000) can and should be supported by statutory and voluntary health and social care providers. Access to ‘nearby’ natural green space resources should become an important target in a climate of aspiration to meet both the therapeutic and ecological values intrinsic in such resources. Whichever way one might want to look at this challenge, it requires both sides of the social and ecological equation to be involved in providing people with real opportunities to experience contact with nature and actual access to gardens, parks and natural spaces.

The report Green Spaces Better Places (Urban Green Spaces Task Force, 2002) also evidences the benefits of partnership working. Developing local strategic partnerships reinforces improvements of green spaces as a resource for health, but also brings about a greater sense of ownership, fostering community cohesion and achieving particular objectives, such as greater access. This has a direct impact on empowerment, collective creative solutions to problems and achievement of common goals by all partners. Some initiatives such as Green Gyms (Reynolds, 2002; Yerrell, 2004) and Pocket Parks (Northamptonshire County Council, 2002) have already procured many communities with positive outcomes.

Maller and colleagues (Maller *et al*, 2002) have referred to Brown’s ‘triple bottom line concept’. This demands the enhancement of ‘individual and community health, well-being, and welfare by following a path of economic development that does not impair the welfare of future generations;

Table 1: What the research demonstrates with certainty (Maller *et al.*, 2006)

Assertion	Evidence			Key references
	A	T	E	
There are some known beneficial physiological effects that occur when humans encounter, observe or otherwise positively interact with animals, plants, landscapes or wilderness	✓	✓	✓	Friedmann <i>et al.</i> , 1983a; Friedmann <i>et al.</i> , 1983b; Parsons, 1991; Ulrich <i>et al.</i> , 1991; Rohde & Kendle, 1994; Beck & Katcher, 1996; Frumkin, 2001
Natural environments foster recovery from mental fatigue and are restorative	✓	✓	✓	Furnass, 1979; Kaplan & Kaplan, 1989; Kaplan & Kaplan, 1990; Hartig <i>et al.</i> , 1991; Kaplan, 1995
There are established methods of nature-based therapy (including wilderness, horticultural and animal-assisted therapy, among others) that have success healing patients who previously have not responded to treatment	✓	✓	✓	Levinson, 1969; Katcher & Beck, 1983; Beck <i>et al.</i> , 1986; Lewis, 1996; Crisp & O'Donnell, 1998; Russell <i>et al.</i> , 1999; Fawcett & Gullone, 2001; Pryor, 2003
When given a choice people prefer natural environments (particularly those with water features, large old trees, intact vegetation or minimal human influence) to urban ones, regardless of nationality or culture		✓	✓	Parsons, 1991; Newell, 1997; Herzog <i>et al.</i> , 2000
The majority of places that people consider favourite or restorative are natural places, and being in these places is recuperative	✓	✓	✓	Kaplan & Kaplan, 1989; Rohde & Kendle, 1994; Korpela & Hartig, 1996; Herzog <i>et al.</i> , 1997; Newell, 1997; Herzog <i>et al.</i> , 2000
People have a more positive outlook on life and higher life satisfaction when in proximity to nature (particularly in urban areas)	✓	✓	✓	Kaplan & Kaplan, 1989; Kaplan, 1992; Lewis, 1996; Leather <i>et al.</i> , 1998; Kuo, 2001; Kuo & Sullivan, 2001
Exposure to natural environments enhances the ability to cope with and recover from stress, cope with subsequent stress and recover from illness and injury	✓	✓	✓	Ulrich, 1984; Parsons, 1991; Ulrich <i>et al.</i> , 1991
Observing nature can restore concentration and improve productivity	✓	✓	✓	Tennessen & Cimprich, 1995; Leather <i>et al.</i> , 1998; Taylor <i>et al.</i> , 2001
Having nature in close proximity, or just knowing it exists, is important to people, regardless of whether they are regular 'users' of it	✓	✓	✓	Kaplan & Kaplan 1989; Cordell <i>et al.</i> , 1998

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providing for equity between and within generations; protecting biodiversity and maintaining essential ecological processes and life support systems' (Brown, 1996; p60). 'Triple bottom line reporting' is a framework for measuring and reporting corporate performance against economic, social, and environmental parameters (Elkington, 1997). Human health and well-being are being given a role in triple bottom line reporting and sustainability, echoing the concept of 'biohistory' established by Boyden (1992; 1996; 1999). This conveys the total reliance of global human health on the health of the biosphere, and that human society and culture have the capacity to affect the biosphere both positively and negatively, and vice versa.

It is interesting to note that green space agencies have already expanded their social focus by

assuming a key role in human health and well-being and 'marketing' the countryside as a health resource. Conversely, nature could similarly be effortlessly integrated into public health if an ecological approach to public health were adopted. By promoting the health benefits of interacting with nature, green spaces could provide the innovation required to advance the 'greening' of public health.

Ecotherapy

Nature has been used by many therapists in differing ways, based on their recognition that the natural environment has a particular potency in the delivery of health outcomes. The term ecotherapy has been critiqued and discussed as one that may not be fully endorsed by all schools of thought in therapy. Burns argues that the term can be interchanged with

ecopschotherapy or nature-guided-therapy, but that the concept of ecotherapy is 'more akin to the terminology of other writers and workers in this field' (Burns, 1998; p21). In conducting the research reported here, I was inspired by many of Burns' standpoints, including his vision that the central goal of ecotherapy is to facilitate healing and accomplish well-being ('an inner state of wellness, including a physical, mental and emotional state of consonance which exists in a healthy environment and is based on an harmonious connection with that ecology' (p20)).

I was also informed by Howard Clinebell (1996), author of the only book with the specific title of Ecotherapy. His model is based on the three-way relationship of person, therapist and nature, wherein nature is a live co-therapist or educator. This model is, in fact, both therapeutic and educational, and works on a continuum from ill-health through to well-being. In this there is scope for therapeutic and recovery work, in phases of intervention that gradually develop into new learning and educative outcomes at later stages. The model leads through a sequence of three main stages:

- raising consciousness of our place in the natural world and our interdependence
- encouraging one to transcend one's own personal problems and develop a sense of being part of a bigger 'whole', thus allowing the spiritual awareness of a relationship with the natural world, our home
- developing the self-directed need to be caring and to preserve and respect our natural world and develop lifestyles that will aid this position.

Clinebell's' model does, however, have some limitations in that it refers to the elements of mind–body–spirit as the areas for health improvement. This leaves a gap in the area of 'social health', and eludes the important outcomes in social capital terms. There is a lack of focus on the kind of experiential learning that leads to internal and external adaptability capacities, skills development and social reintegration through employability and sustained social belonging. These are of particular importance in the remit of public mental health.

Ecotherapy is established through the 'interactional and integrated elements of the nature–human relationship' (Burns, 1998; p20). Most of the existing research shows that healing, derived from a relationship with nature, can be drawn from passive participation or from a more direct positive attitudinal interaction (Burns, 1998).

When I set about defining the remit of my study, I chose to use the term 'contemporary ecotherapy'. This was informed by direct observation and participation in current applications of this form of therapy 'in action'. Research into the therapeutic and restorative benefits of contact with nature has generally looked at three main areas of contact: viewing nature (Kaplan 2001; Kuo & Sullivan, 2001; Ulrich, 1984); being in the presence of nearby nature (Cooper-Marcus & Barnes, 1999; Hartig & Cooper Marcus, 2006; Ulrich, 1999); or active participation and involvement with nature (Frumkin, 2001; Pretty *et al.*, 2005b). All three of these aspects are embraced in ecotherapeutic activities, when guided and developed by the practitioner into a specific and purposeful therapeutic journey for the participant. However, the strongest component of what I call 'contemporary ecotherapy' is in the active participation. This has so far been described as gardening, farming, trekking, walking and horse riding. Specific reference to 'active nature conservation' as an expressed social goal is made tentatively by the literature on green gyms (Reynolds, 2002; Yerrell, 2004). The public health white paper Choosing Health (Department of Health, 2004) refers to them as 'schemes that support people in gardening or local environmental improvement while providing opportunities for exercise and developing social networks' (p79). Also, Hall speaks of 'distinct conservation objectives' for a therapeutic conservation project for offenders, set to 'promote and assist in conservation to jointly benefit wildlife and people undergoing recovery' (Hall, 2004; p7). Only Townsend (2005), Burls and Caan (2005) and Burls (2005) make explicit and direct reference to projects wherein 'working with nature' involves users' direct engagement and contribution to the design, management, restoration and maintenance of public green spaces. Research on these indicates not only health benefits for the users but also concrete outcomes for the environment, such as increase in wildlife and public use of the areas, thus strengthening the social significance of these activities.

Choosing Health (Department of Health, 2004) highlights that social enterprises (businesses with a social purpose) 'also make a positive impact on the health, well-being and prosperity of communities' (p79). Contemporary ecotherapy does not explicitly fall into the parameters of social enterprises (DTI, 2002), but it would certainly fit the white paper's description of 'new approaches that involve communities and extend the power of individuals to act within communities – engaging with families and communities where they are' (p80). The benefits both for the health of those who are actively

involved and for our environment have not yet been crystallised as the provision of healthy green spaces for the community by the community. In the case of contemporary ecotherapy, this twofold impact on health is in extending 'the power of individuals'.

In my research, I have observed two levels of impact: the micro level and the macro level. The micro level refers to the person requiring the re-establishment of health and well-being, the processes to re-establish such goals, and the 'therapeutic' environment in which those processes take place (ecotherapy). The macro level is that in which a multifaceted involvement of the same person with the wider environment, be it social or ecological, takes place in a direct and active way, providing a healthy space for the community (ecohealth) as a result of the activities at the micro level. This amounts effectively to the process of embracement (Burls & Caan, 2004) to which I lay claim and which in this context stands for a wider vision of personal and self-directed empowerment, through the stewardship of a green space for the benefit of the 'other', be it the community and/or the ecosystem.

Biophilia

The hypothesis of biophilia (Kellert & Wilson, 1993; Wilson, 1984) rests on the idea that 'people possess an inherent inclination to affiliate with natural process and diversity... [which is] instrumental in humans' physical and mental development' (Kellert & Derr, 1998; p63). Biophilia has been associated with nine values of nature linked to various aspects of physical, emotional, and intellectual growth and development. Research in the field of adventure therapy has given rise to an in-depth analysis of how these values influence people's relationship with nature (Kellert & Derr, 1998). Kellert and Derr (1998) found generally positive results in their study, which can be summarised as follows:

- aesthetic value (physical attraction and beauty of nature): adaptability, heightened awareness, harmony, balance, curiosity, exploration, creativity and an antidote to the pressures of modern living
- dominionistic value (mastery and control of nature): coping and mastering adversity, capacity to resolve unexpected problems, leading to self-esteem
- humanistic value (affection and emotional attachment to nature): fondness and attachment, connection and relationship, trust and kinship, co-operation, sociability and ability to develop allegiances

- moralistic value (spiritual and ethical importance of nature): understanding of the relationship between human wholeness and the integrity of the natural world, leading to a sense of harmony and logic
- naturalistic value (immersion and direct involvement in nature): immersion in the sense of authenticity of the natural rhythms and systems, leading to mental acuity and physical fitness
- negativistic value (fear of nature): developing a healthy respect for the risks, power and dangers inherent in nature with an equivalent sense of awe, reverence and wonder, leading to learning to deal with fears and apprehensions in a constructive way
- scientific value (knowledge and understanding of nature): developing a cognitive capacity for critical thinking, analytical abilities, problem-solving skills leading to competence
- symbolic value (metaphorical and figurative significance of nature): being able to access the limitless opportunities offered by the processes in the natural world to develop understanding of one's own circumstances, leading to cognitive growth and adaptability
- utilitarian value (material and practical importance of nature): emphasising the practical and material importance of the natural world on which we rely for survival.

Looking at these findings, there is an obvious link to bio-psycho-social and mental health. Moreover, most of these values also came to light in the course of my research and could also be associated with previously illustrated models of ecotherapy (Burns, 1998; Clinebell, 1996; Roszak *et al*, 1995). Nonetheless, Kellert and Derr (1998) reported disappointing results in adventure therapy participants' environmental knowledge and behaviour. At the end of their programme there were few changes in conservation behaviour and little factual knowledge in environmental protection or restoration terms. It seems from these findings, therefore, that, in spite of the influences of biophilia, humans still see nature as an object to use for entertainment, pleasure or even therapy and well-being, and mainly still neglect nature from the point of view of its own needs.

The positive outcomes and environmentally sustainable stewardship that have been observed within the remit of the macro level in contemporary ecotherapy activities were therefore not present in adventure therapy and other researched 'nature

activities' so far. The intrinsic value of safeguarding our habitat has not yet been fully acknowledged as a form of social and natural capital development leading to public health.

Social and natural capital

Maller and colleagues (2006) position gardens, parks and any accessible green area as 'vital health resources', with a crucial role within a socio-ecological approach, protecting essential and interdependent 'systems' such as biodiversity and healthy populations. The 'services' of nature to humanity have been subject to extensive economic analysis by Costanza (Costanza, 1996; Costanza *et al.*, 1997) and other theorists. They contend that it is useful to perceive natural systems as 'capital' because they can be improved or degraded by the actions of man, and that to view them in terms of productive capacity fixed by nature alone is misleading. It is more accurate to see them as yielding benefits that are harvested by humans – that is, as nature's services whose benefits are in some ways similar to those of goods or products.

Natural capital is therefore an idiom that represents the mineral, plant and animal in the earth's biosphere. It is an approach to provide a valuation of our ecosystem. As such, it becomes an alternative to the traditional view that all non-human life is a passive natural resource. Our understanding of the natural environment is still developing, and therefore the concept of natural capital will further develop as more knowledge is gained. However there is a strong connection between social capital and natural capital. Porrit (2003) remarks that, while our modern society celebrates the 'connected world' of telecommunications, there is a counteracting and negative disconnectedness from our communities and neighbourhoods that jeopardises the 'network of relationships and responsibilities that secure the "social capital" on which we depend' (Porrit, 2003; *pix*). Porrit praises Barton and colleagues (Barton *et al.*, 2003) for suggesting that the issues of health, social inclusion, economic vitality and sustainable use of resources should be fully integrated in planning that affects the future of neighbourhoods. Barton heralds 'inclusive and collaborative processes' involving a 'profoundly empowering contribution' by people in the development of neighbourhood sustainability strategies. The findings of my research suggest that people are both the general public at large as well as those individuals within it who are perceived as disadvantaged and/or 'receiving therapy' (at the micro level). However, 'therapy' seems to be

pigeonholed as unconnected to the outcomes of these activities and therefore these individuals are not yet perceived as direct contributors to sustainability and ecohealth strategies at the macro level.

Ecotherapeutic approaches are directly relevant to the achievement of the wider environmental and public health aims, with a high level of added value embodied in the social inclusion outcomes they could generate. Some ecotherapeutic projects studied so far directly contribute to providing the 'accessible natural greenspaces' discussed earlier and are engaged in conserving biodiversity in inner city areas, such as in London (Burls, 2007). The contribution of disadvantaged and vulnerable groups could be one important step towards achieving more than the health of individuals. These groups can be and are, in fact, directly engaged in the provision, conservation and maintenance of natural areas as part of the balanced policies promulgated by agencies such as Natural England (2006) and the Countryside Council for Wales (2002). In developing my research study it seemed clear, however, that such added value was not apparent to the relevant stakeholders.

A creative process of green space planning and management can and should involve all citizens. This model should be viewed as a means of inclusive guardianship and stewardship of natural resources by the diversely able, and as a yardstick for progress towards potential multidisciplinary and multi-agency synergies. The multidisciplinary approach subsumed in this perspective is further strengthened by the fact that it is an 'affordable, accessible and equitable choice' of preventing ill health and restoring public health (Maller *et al.*, 2006; p52). This model could address many local and global ecological challenges. At the same time, the disabled and disadvantaged would draw benefits in terms of rehabilitation and social re-integration, thus benefiting directly from contributing in the provision of green spaces for their communities. The concept of 'kinship systems' at work to heal each other, actively, seems too good an opportunity to leave at the philosophical level or exploited by only a few groups of health promoters and psychotherapists, struggling to be heard in the therapeutic community and suffering from the 'new age' label they are often given.

Natural England (2006) has recently launched a health campaign based on the growing evidence that access to the natural environment is beneficial for health and well-being. The campaign is supported by many, including Mind, which highlights the potential of the natural environment

to tackle mental health problems (Mind, 2007). However, this does not yet fully acknowledge that access to health-promoting 'nearby natural greenspaces' can be directly created, maintained or conserved not just by specialist environment agencies but also through people's own direct engagement. Contemporary ecotherapeutic approaches marry these perspectives, with the addition of the benefits in therapeutic terms of the micro level and those in social terms of the macro level represented by stewardship of 'natural capital' by otherwise disempowered people. Marginalised people reported finding empowerment in caring for the environment (Wong, 1997), which can reawaken a sense of possibility, relief from struggles and the opening of new social opportunities. Contact with 'nearby nature' should therefore be an intrinsic element of public mental health promotion strategies and a measure of social justice and wider participation, thus integrating the goals of social capital with the democratisation of natural capital.

Method

Informed by the complexities of the above issues, I was presented with a dilemma. Should another research study be embarked upon to explore the benefits of contemporary ecotherapeutic approaches as a specialist subject? Or should one develop a framework by which to empower the many people already engaged in this type of activity? There are many projects and activities in this country alone that could benefit from being reassessed for their health impact, thereby acknowledging the importance of their work in public health terms. However it is those who work in these projects who are best placed to undertake research and health impact assessments. The practitioners in particular should be encouraged to document their work in both the micro level and macro level outcomes. For this they need to be confident in their capacities in practice and in research terms. As a health and social care educator, it was my concern that these practitioners go unfairly unrecognised for their consummate skills and wide-ranging farsightedness. I was also cognisant of the need for such practitioners to have a clearly recognisable professional role in their own right. Training for ecotherapy/ecohealth practitioners does not exist in mainstream further or higher education. This seemed a good enough reason to set about on a research study that would inform how to begin to develop such training.

A multi-method approach was required to address differing research parameters.

Interviews with service users

It served the purpose of the study to identify a range of disabled or vulnerable people who are engaged in what could be defined as ecotherapeutic activities. To add to rigour of findings, this component of the method was to partly replicate the interview format of another similar and concurrent study in social and therapeutic horticulture (Sempik *et al.*, 2005). This preliminary enquiry would inform further stages of the research directly related to practitioner training and curriculum design. Semi-structured interviews were used, aided by participants' own 'trigger materials', such as photographs, with individuals from a number of disability and social groups (including people with mental health problems, learning disabilities, physical conditions, long-term and terminal illnesses, blind people, homeless people, and offenders). The areas of enquiry were centred around perceived physical, psychological and social benefits, perceived risks, benefits to and from nature, and perceived training needs for practitioners (see table 2 for specific results).

Focus groups and practitioner interviews

A subsequent set of focus groups with practitioners aimed to draw on the outcomes of the interviews with service users and build on this through discussion of their own world view, also aided by their own trigger materials (ie. photographs, journals). The topics proposed for discussion mirrored those of the service users' interviews but were to lead more directly to the preliminary construction of a curriculum draft outline. Two focus groups (a total of 10 practitioners participated) were to provide information about what kind of processes and activities were found to be useful in achieving desired outcomes of ecotherapy for both practitioners and service users. The main focus was to guide practitioners to identify gaps in their skills and educational needs that could be addressed by new curricula. Those practitioners who could not attend the focus group (three practitioners) opted for an interview with the same parameters of enquiry (see table 3 for specific results).

Nominal group

The results from the previous two stages were primed into a set of parameters for development into a coherent curriculum structure. To consolidate this there was a need for expert input. Consensus was required to draw together the content of a potential curriculum to be tested at a later date. A quantitative approach was selected as appropriate to achieve this and a nominal group method was

chosen, whereby the participants would rank independently and as a group the items they themselves had agreed to be required in a professionally significant and well-regarded curriculum. The experts required for this stage of the research were considered to be relevant educators in further and higher education provision and the practitioners already engaged in the day-to-day activities (a total of 10 participants). The educators would bring their expert advice to the practicalities of designing and delivering curricula and their views of the economical aspects of this kind of provision. The final analysis of the nominal group responses is discussed later in this paper.

Ethnographic case study

Throughout this time I was also engaged in a one-year ethnographic study of a Mind project (Burls, 2007) as a participant observer and volunteer (a secondary project was also used for additional and comparative information). The project, considered to be a 'model project', is a natural public green space that is primarily wildlife habitat promoting and is managed and maintained by people with mental health problems and their mentors (practitioners). The activities and aims of the project were perceived to be the closest to the contemporary ecotherapy model that I have described above. The ethnographic study provided me with an inside view of the micro and macro levels of activities, and allowed me to consolidate and reflect on the practice and educational features that would help to define 'contemporary ecotherapy' and to design and test an appropriate curriculum. My own field notes were complemented by project group discussions, a project 'research diary' compiled by service users and practitioners, and additional information considered of value to the research study. The processes that I observed 'in action' were to further inform curriculum design, both from the point of view of the micro level and the macro level outcomes (see table 4 for responses from research diary and meetings).

Results

The results are described in tables 2–4 below.

Analysis

In analysing the findings from the interviews and focus groups, it was interesting to note a difference in emphasis between the responses of the service users and those of the practitioners. The service users seemed to value greatly their new-found or existing relationship with nature, the mutual

nurturing, and their wish to further the relationship into stewardship, encouraging community involvement in respect for nature and the care of it. Their own skills development and recovery was also important, but this was much more of a prominent and desired outcome among the practitioners. They considered users' employability as among the most incisive of the outcomes. In terms of rehabilitation, therefore, it seemed that practitioners had a more 'one-dimensional outcome' world view, as opposed to the more multidimensional and outreach stance of the service users. I suggest that this may stem from a traditional therapeutic and rehabilitative role, which is often driven by health and social care provision targets to be achieved at the micro level. However, the discovery of wider policy-related outcomes that could be achieved at the macro level of public health and ecohealth did stimulate new-found appeal among the practitioners.

Analysis of researcher's field notes

As an ethnographer, my interest was in being a participant, observing the activities and exploring the participants' viewpoint of their situation. This 'model project' would help to develop a set of indicators and information that would augment and clarify the data gathered from the other methods. The aim was to crystallise the practice and education needs of practitioners and inform training. It did, however, provide me with much more than that. In fact, it was the exploration of these activities and their outcomes that led me to discern the dual level of impact of ecotherapy, micro and macro. I began to see that the skills development and training that the project was set up to provide for users amounted to much more complex and incisive consequences in health and social terms. This was so at the individual level, the group level and the community level, but also at the environmental and socio-political levels. The activities could easily be considered as 'ecological gardening' or 'green space maintenance'. However, I could observe other distinct actions, such as 'experiential learning', 'creativity', 'peak experience', 'environmental literacy', and 'skills development and employability'.

Recovery and sustainability or, as I would prefer to call it, 'sustainable recovery', seemed a tangible outcome in terms of participants' personal health. But a wider context of their work transpired in making available and maintaining this public green space as a real contribution, directly connected with public health and environmental

sustainability. Accessible green spaces are, in fact, part of solutions to deal with people's inactivity and associated obesity and poor mental health (Bird, 2007). The most powerful outcomes were therefore social capital and natural capital elements. In becoming skilled and developing not only a sense of self and place, but also new 'environmental literacy', the participants were effectively acting as stewards of this piece of nature. A kind of 'natural community' and social enterprise were developing in tandem. Participants (both service users and practitioners), while crafting a green space 'product', were 'cultivating' well-being, renovating and repairing both self and the environment, giving sustenance to wildlife and biodiversity, but, most of all, connecting with the public and having a direct impact on public health. Far from feeling exploited in doing work that would generally be seen as the

responsibility of public agencies, participants felt a sense of civic engagement, ownership and personal agency, which raised their social profile and identity. Further development of such community identity seemed to bring about the new concept of embracement (Burls & Caan, 2004). This active and self-directed embracing of socio-political issues led some people to engage further and become agents of change in educative, public health and environmental spheres. I began to see that the added value was also the abating of stigma in their interaction with the public as contributors to ecohealth promotion.

Analysis of nominal group discussion

The nominal group discussion provided a very clear set of parameters for a comprehensive curriculum to prepare the specialist ecotherapy/ecohealth

Table 2: Responses from interviews with service users

Physical benefits

Being out in the open; fresh air; being outdoors; being outside; dexterity; resistance; exercise; active

Psychological benefits

Sense of peace; relaxing; solace in nature; taking an interest; being aware; enjoyment; calming; pleasure; always changing; never boring; learning; reflection; feel safe; keeps your mind active; increasing my vocabulary; reviving; fascinating

Social benefits

Responsibility; respect; skills; employment; helps get me out the house and meet people and join in the activities; participating in the community and doing something for the community; direct involvement; pleasing people; meet people; contact with others; benefits that I am doing for the community in general; help each other out; everybody working together for the same thing; more friends; working as a team

Relationship with nature

Nature doesn't answer back or judge, it holds no spite or malice; helps spiritual growth, nurture and pride; helps accept and cope with our illnesses/difficulties; I don't think there is anything more enjoyable than being out in the fresh air with nature, you never know what you're going to see, what you're going to bump into; is forgiving and doesn't demand clinical accuracy when being dealt with; I like nature for therapy; it's a very good therapy; it is more enjoyable than it is dealing with people; it's always changing; people don't understand nature and they don't respect it, if only they would just understand it a little bit more they might give it a bit more respect and get a bit more pleasure out of it; nature's way of healing... we heal in the same way; you appreciate it, it doesn't cost anything, it's out there and you've got to get out there and enjoy it

Benefits to the environment

Our work is beneficial to nature; for the benefit of the birds; we create an environment for wildlife; we've got trees established now, probably some of them are 25 feet tall; it's not just this plot of land, it's not just for these birds and this wildlife but it's for the people as well; for other people to look at in years to come; greater understanding of plants, nature and ecology; regeneration; the birds have somewhere to nest, the frogs have somewhere to spawn, it makes the world go round

Risks

No more than normal life risks; only risks you put yourself in, but not other than that; it could happen in life anyway; it's safer than me riding my bike on the road

Training for practitioners

They need the proper therapeutic training; they can improve lives of people; it involves both sides... knowledge about nature and counselling

Table 3: Responses from practitioner focus groups

<p>Physical benefits Exposure to sunlight; being outside</p>
<p>Psychological benefits In the outdoors there's a change in mood, atmosphere, attitudes, people become a lot calmer; barriers come down, they begin to notice their environment, become more receptive, engage in conversation and feel safe to express themselves; aesthetics, nurturing and interest; achievement; metaphorical meanings; mental health; 'wow factor'; feeling part of growth, nature and life, maybe unconsciously taps into some fundamental instinctive thing; pleasure or calmness from a landscape scene; taking care of our environment and feeling that we are part of it; some level of power and energy</p>
<p>Social benefits Lends itself very much to be a group activity; a shared team effort; sense of belonging; social inclusion/networking; purposeful daily activities; self-esteem; employment and paid work; social capital; interaction with the public; community involvement (system); knowledge acquisition; skill development and training</p>
<p>Processes in the green space as a therapeutic environment A chance to get people out into a green space... it's very different to all of the environments in mental health services elsewhere; day centres are just not going to have this kind of atmosphere; it brings people into a green space, when they wouldn't be using any type of green space locally; people need perhaps a reason to go out and interact with outdoors and nature, to actually go somewhere where they're getting involved hands on; there's a difference in going to a park and being a spectator but actually getting your hands onto a plant or into the soil is a different experience; it's the engagement between the therapist and individual and the medium being nature: that's one of the most crucial elements of being successful; beneficial outcomes for both individuals and the practitioner; an organic sort of process which takes place, personally learning to appreciate nature; becomes part of people's own personal development; other therapies are absolutely dependent on input, whereas working with the force of nature puts the person in touch with elemental forces... something outside the self</p>
<p>Benefits to the environment Field research by project staff and volunteers reveals consistent... increase of wildlife species and native flora</p>
<p>Risks Fewer risks than in many other activities; high awareness of health and safety</p>
<p>Training for practitioners Requires the right balance of integrated skills... training should address the whole spectrum of therapy approaches as well as conservation/ecology/horticulture; it should lead to a registrable qualification</p>

Table 4: Responses from model project case study: fractional findings drawn from participants' research diary and meetings

<p>Physical Energy; body awareness; exercise and relaxation; physical balance</p>
<p>Psychological Tranquillity; reflection; enjoyment from little things; contentment; discovery; surprise; fun and amusement</p>
<p>Social Hope; self-esteem; connectedness; social integration; a sense of place; employment; self-worth; collective/group fulfilment</p>
<p>Quality of life Personal fulfilment; sense of self; reconciliation with self; adaptation</p>
<p>Emotional balance Sensitivity to perpetual renewal through awareness of life and death; natural cycles</p>
<p>Being part of a system Reciprocal nurturing; direct and spontaneous relationships; reciprocal respect; reevaluation of social positions based on co-existence with nature rather than supremacy</p>
<p>Healthy fear of risks Acceptance of bacteria/bugs/micro-organisms/soil; eliciting intuitive, visceral stimuli</p>

practitioner. This was informed by the ideas generated in the focus groups' discussions. The ranking exercise typical of this technique gave the participants the opportunity to revisit their thinking and information provided by the focus groups and interviews and elaborate on more specific training needs, course content, academic levels and vehicles to professional recognition. Their discussion was structured and purposefully aimed at achieving consensus on these pre-agreed parameters. The ranking produced a list of essential items to be included in a potential curriculum.

The first five items represent the 'key first level skills' considered to be essential for this new practitioner profile:

- project management skills
- skills in evidence-base building and research (social, health and economic cost/benefit analysis)
- communication skills – including both the process and practice of communication
- teaching/training skills
- psychotherapeutic knowledge (skills and experiences of multiple therapeutic approaches, use of metaphors from nature).

A set of 'key complementary skills' was also ranked:

- risk management and assessment skills (person/environment)
- working with specific groups with the ability to assess and recruit appropriate partners and collaborators from the community
- 'self-experience' of nature (eg. reflective experiences, extended personal development or personal therapy)
- understanding of environmental psychology and cultural background of environmental approaches
- developing eco-psychological paradigms and philosophies of ecotherapy (types of relationship people have with nature) within the activities both at the micro and macro levels
- undertaking to work within a holistic socio-political context (integrating diversity of needs and societal aspects, public health and civic participation)
- inclusion – working towards sustainable development, public health and community leadership; collective social engagement, targeting the widest possible range of people; changing people's perception of human–nature connections.

The results also indicated that there should be flexible course delivery, integrated with other

specialist educational providers through co-operation. A graded series of levels should be provided across the diversity of practitioners' needs, with the potential for designated courses/modules as part of continuing professional development or as part of discrete undergraduate–postgraduate provisions. In order to be credible and sustain multidisciplinary scrutiny, the training would need to provide a qualification comparable to other allied health and social care professionals and be strengthened by registration.

Discussion

The practice of ecotherapy seems to have a definitive 'mutuality' (Halpern & Bates, 2004; Kelly & Thibaut, 1978) that can support collective behavioural change. Halpern and Bates (2004) talk of behavioural interventions that tend to 'be more successful where there is an equal relationship between the influencer and the influenced and where both parties stand to gain from the outcome' (p25). In public mental health, such mutuality can be seen in the relationships between practitioners and service users, where the latter assume greater responsibility towards personal behaviour change. In ecotherapeutic approaches, there seems to be a further level of mutuality: the role of the influencer is adopted by people who would normally be classed as the influenced. In benefiting from personal lifestyle changes and associated recovery, the service users help to develop a framework for reciprocity towards the environment and the community. In doing so, the community is influenced to care for and respect the environment and, in addition, to see their local green spaces as a source of health and well-being. The sense of agency and expertise developed in the course of 'therapy' brings service users to a position of legitimacy by identification with the public. This powerful social force and their face-to-face interactions with the public can be highly effective as an approach to changing public behaviour by example. Far from being expensive or impractical, these approaches could actually be a viable and innovative route to better public mental health.

The practitioners are also in a position to become highly visible leaders, working to achieve positive outcomes in the micro level of the therapeutic environment, but also influencing key policy areas based on the outcomes at the macro level. Their kudos would certainly emerge from direct value for money results and from a professional and respected profile as ecohealth educators. Policy makers should therefore take a holistic view of these activities within the context

of public health and be influenced by the evidence that important targets can be met through their facilitation and wider promotion (see table 5).

Conclusions

Maller and colleagues (2002) recommend not waiting for 'complete knowledge' before taking action to halt lifestyles that are not sustainable and may damage the biosphere beyond repair. I suggest that the many and diverse disciplines concerned with contact with nature should begin to allow a certain 'osmosis' of cross-disciplinary thinking, which will lead them to widen their often narrow standpoints and strengthen the common denominators. This would undoubtedly support

further cross-disciplinary research and encourage further integration of public green spaces as a resource for public mental health in their 'inner' and 'outer' dimensions. The value for money of these provisions would soon be seized by 'hard-up for cash' service providers as an enlightened innovation, but the real champions would be those people at the grassroots and stewards of healthy green spaces (service users and practitioners). A step in the right direction has already been taken to raise their profile. In response to the outcomes of this research, a creative collaboration has developed with the researcher and two universities in Italy, as well as two further education/higher education providers in the UK, to develop ecotherapy/ecohealth training.

Table 5: Meeting targets

Proficient/qualified practitioners would be key players in achieving outcomes that will/could meet a number of policy targets

At the micro level (recovery, rehabilitation, social, personal and health outcomes for individuals as a result of ecotherapeutic activities)

- Supporting people back to work (as advocated by the New Deal programmes and the Pathways to Work programmes (Department for Work and Pensions, 2002; Skills for Health, 2006)).
- Enabling people to find social roles and the opportunity to fulfil their potential (in line with the Lisbon Strategy agenda (HM Treasury, 2006)).
- 'Building personal capacity' that is founded on equipping vulnerable or disabled people with confidence, self-esteem and communication skills that enable them to articulate their needs; knowledge of how the system works (in line with Social Exclusion Unit policies (2005)).

At the macro level (social capital and natural capital, personal and direct involvement in the wider socio-economic parameters of community and environment sustainability)

People with disabilities being directly involved in partnership working and community involvement in:

- **social capital**
 - in having broader responsibility to improve the mental and emotional well-being of the general public, particularly those (like themselves) who are at risk or more vulnerable and those with identified mental health problems, their carers and families (in line with the aims of the WHO EU Disability Action Plan 2006-2015 (WHO, 2005b; WHO, 2006))
 - in contributing to public service delivery, playing a key role in helping to build aspirations and ensuring that the community at large benefits from their contributions (in line with Social Exclusion Unit policies (2005))
 - in having successful interactions with frontline staff in order to become active participants in health promotion strategies, contributing to increased health gains for the public at large (in line with the Lisbon Strategy agenda (HM Treasury, 2006))
 - in 'actively promoting effective participative systems of governance in all levels of society engaging people's creativity, energy, and diversity' (in line with Securing the Regions' Future (DEFRA, 2006; WHO 2002))
 - **natural capital**
 - in enabling individuals and communities to work towards regenerating their local neighbourhoods; showing new ways to deliver public services; helping to develop an inclusive society and active citizenship; helping increase environmental regeneration (in line with DEFRA's social enterprise position statement (2005))
 - in improving people's lives in their neighbourhood by contributing to the provision of good quality parks and green spaces that are important in determining quality of life and restoring civic pride (in line with Social Exclusion Unit's Neighbourhood Renewal National Strategy Action Plan (2001); WHO (1997))
 - developing local strategic partnerships that reinforce improvements of green spaces as a resource for health, greater sense of ownership, fostering community cohesion and achieving particular objectives such as greater access (in line with Urban Green Spaces Task Force (2002)).
-

The provision of experimental short courses and the design of masters level modules have been initiated in what I believe will be an evolving educational journey in this field. Sustainability, sustainability, sustainability may well be the slogan driving the future development of contemporary ecotherapy, for sustainable therapy and recovery, sustainable public mental health and sustainable healthy public green spaces already seem to be visible driving forces within it. ☼

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