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horticulture: evidence and
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Social and Therapeutic Horticulture: evidence and messages from research

A summary of the main findings of a review of the literature on *social and therapeutic horticulture* – the use of horticulture and gardening to promote health, well-being and social inclusion among vulnerable people.

- Although horticulture in many different forms has been used as a therapy or as an adjunct to therapy, hard evidence as to its effectiveness is scant and of variable quality.
- From the available literature the review examined the use of social and therapeutic horticulture for a number of different client groups and analysed emergent messages and themes including the benefits of gardening and horticulture to these groups.
- Groups include those recovering from major illness or injury, those with physical disabilities, learning disabilities and mental health problems, older people, offenders and those who misuse drugs or alcohol.
- The reported benefits of social and therapeutic horticulture include increased self-esteem and self-confidence, the development of horticultural, social and work skills, literacy and numeracy skills, an increased sense of general well-being and the opportunity for social interaction and the development of independence.
- In some instances involvement in social and therapeutic horticulture programmes can also lead to employment or further training or education.

‘Horticultural therapy is the use of plants by a trained professional as a medium through which certain clinically defined goals may be met’.

‘Therapeutic horticulture is the process by which individuals may develop well-being using plants and horticulture. This is achieved by active or passive involvement’
(Growth Point, 1999, p. 4).

Social and therapeutic horticulture is the term now used by the charity Thrive.

The literature in context

The literature review forms part of a larger study which aims to examine how social and therapeutic horticulture promotes social inclusion, health and well-being for vulnerable adults. More than 300 articles were examined in detail in the course of the review from approximately 1000 available titles. These were identified by searching library databases, references from known published work and by consulting with researchers in the field. It is possible to identify some broad themes in the literature relating to rehabilitation, horticultural therapy and psychology, including landscape and environmental psychology.

The reported benefits and outcomes of therapeutic horticulture

Benefits and outcomes of social and therapeutic horticulture are reported among a wide range of individuals and groups of vulnerable or socially excluded people. Although less evidence is available on the beneficial effects of horticulture and gardening in terms of improvement of physical health, a number of studies have looked at outcomes here for stroke patients, those with aphasia, the victims of car accidents and children with cerebral palsy for example. One study looking at aphasia concluded:

'Most endeavours require some degree of verbal skill, and it is always a challenge to find recreational activities which are suitable for individual with aphasia. Clearly, the nature of horticultural activities lend themselves easily to communicative disabled individuals'

(Sarno and Chambers, 1997, p. 89).

Evidence is more widely available concerning the impact of horticulture and gardening in terms of improving mental health. In 1955, O'Reilly and Handforth were among the first authors to examine the value of horticulture as a therapy for psychiatric patients. They evaluated the efficacy of a horticultural programme for 14 women patients who had been considered refractory to all forms of treatment.

'Of the 14 patients who participated in our pilot project, only one has failed to show a striking degree of improvement' (p. 766).

Improving self esteem, self confidence and social interaction are also seen as significant outcomes for people with mental health problems and those with learning difficulties.

Smith and Aldous (1994) for example found students with learning disabilities increased their

'feelings of value and worth in that they considered themselves more desirable than before as individuals. Therapeutic horticulture provided each individual with the opportunity to express themselves in a positive way...'(p. 217).

The link between physical activity and health in older people has been extensively researched and there is a

mass of evidence which suggests that physical activity is associated with good health and reduced risk factors for heart disease and other illnesses. However, gardening is seen as only one of many factors here and few studies have looked specifically at the benefits, both physical and psychological of gardening itself.

Among other identified groups to benefit from social and therapeutic horticulture are offenders and those who misuse alcohol or substances. Some studies had specific objectives in terms of teaching horticulture and other skills in prisons, for example, particularly for training in life skills. The range of positive outcomes here are described as: providing meaningful activity and work; food production; providing skills (for example, in responsibility, social skills, work ethic) to succeed in horticultural and other activities. In one study of horticultural programmes for juvenile offenders, the authors concluded:

'This research indicates that this vocational horticulture curriculum may be a tool to improve social bonding of juvenile offenders, [and that such vocational training could be] effective at evoking certain changes in attitudes about personal success and individual perceptions of personal job preparedness'

(McGuin and Relf, 2001, p. 432).

A further outcome of social and therapeutic horticulture, which isn't referred to explicitly but which can be inferred from some of the studies, is that social inclusion can be a positive consequence of participating in horticultural projects. The four dimensions of social inclusion relate to consumption, production, social interaction and political engagement. The extent to which these dimensions can be influenced by horticulture and gardening will vary from group to group and person to person, so for example, gardening may promote social interaction among older people while the production dimension can be addressed by gardening programmes seeking to provide employment, work discipline, development of skills and socially useful activities.

Mechanisms of therapeutic horticulture

The theoretical framework that underpins therapeutic horticulture relates to the ways in which landscape and nature can influence emotions, health and behaviour. Environmental psychology has provided considerable information about the restorative qualities of natural environments and both cognitive (reasoned) and evolutionary (inherited) components may be present. Two key areas of research here focus on attention fatigue and

its restoration by the natural environment, and the role of the natural environment in recovery from stress. Studies look at mental fatigue and how it arises as a result of the effort involved in inhibiting competing influences when attention is directed towards a specific task. The natural environment is said to stimulate involuntary attention which requires no effort and is therefore restorative. A further example is the study of the preference for different types of landscape and on the effects of landscape on recovery from physical and psychological stress (for example, the view from a hospital window and its impact on recovery processes, see Ulrich, 1984).

A model of activities, processes and outcomes

From the examination of the literature on social and therapeutic horticulture it is possible to construct a model (shown in figure 1) which illustrates the main activities, processes and outcomes as drawn from the available evidence. At the base of the model lie the underlying foundations which determine the inherent appeal of the natural environment. This has also been

called '*Biophilia*' (Wilson, 1984) and suggests that human beings possess an innate attraction to nature. The origin of this attraction is still under debate. It may be evolutionary; it may be learned or acquired. But whatever its nature it supports both the passive appreciation of landscape and the active participation in horticulture and gardening. Within the divisions of 'active' and 'passive' there are many processes and activities which are inter-related and which provide rehabilitation, acceptance and inclusion on one side and tranquillity, peace and spirituality on the other. These are represented as two distinct groupings – but nonetheless connected. The reason for separate groups is that the former, rehabilitation, acceptance and inclusion are frequently the goals of active programmes whilst passive appreciation of nature is often associated with tranquillity, peace and spirituality. This division is not a 'hard and fast' rule of any sort but an attempt to show the diversity of the aims of different programmes. The two groups of attributes are shown to be interconnected as one can lead to the other and vice versa. In most cases this exchange is desirable and intended; acceptance and inclusion should lead to peace and tranquillity; and peace and tranquillity can be

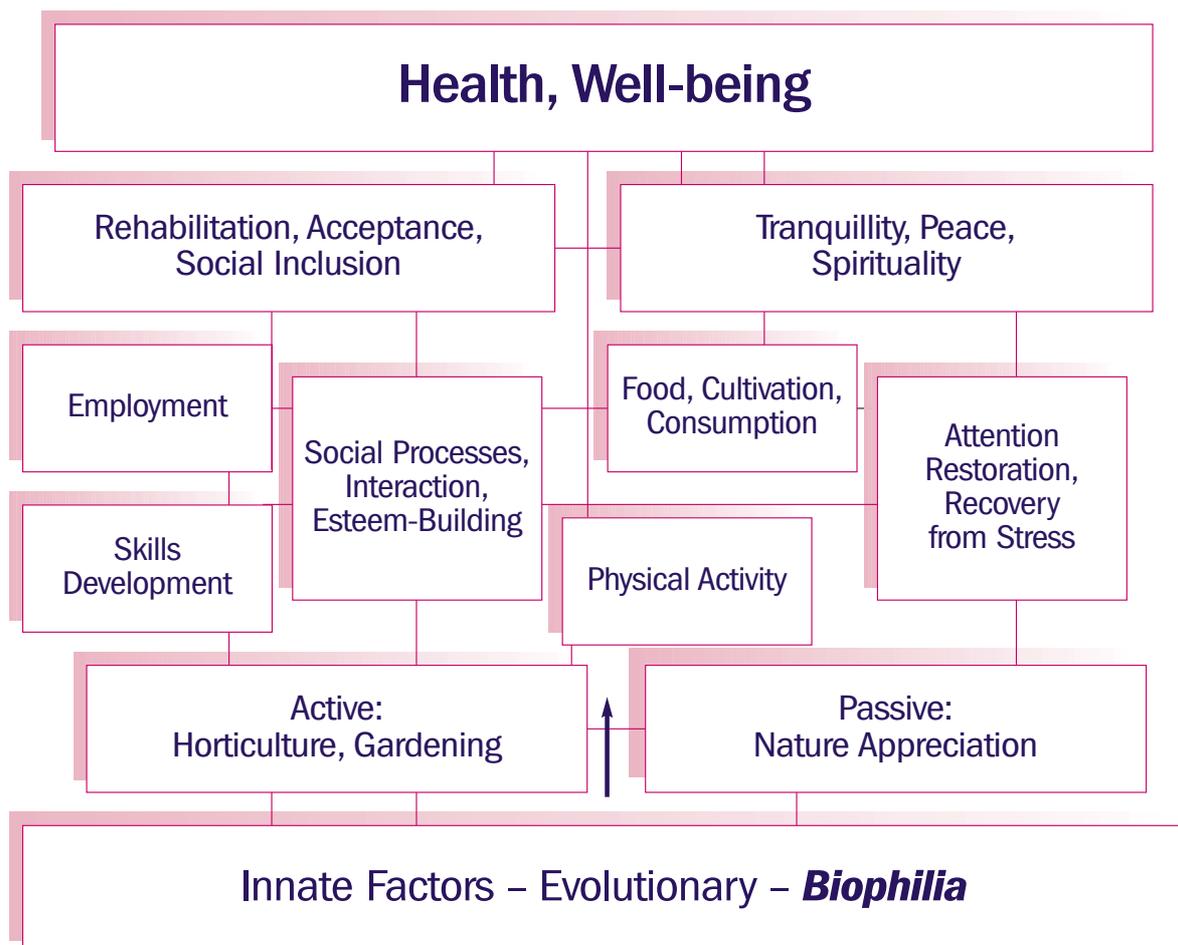


Figure 1. Health and Well-being Through Nature and Horticulture: a simple model of some of the processes, activities and outcomes of social and therapeutic horticulture as described in the literature showing the interconnectedness of all elements.

the steps to acceptance, inclusion and rehabilitation. The final components of the model are health and well-being, at its summit. This is the ultimate goal of social and therapeutic horticulture and represents a major part of all interpretations of 'quality of life'.

The data reviewed in the literature on social and therapeutic horticulture provide evidence for the effectiveness of horticulture and gardening in a number of different therapeutic settings. However, there is a need for more research in this area which examines outcomes in greater detail, and with a range of different groups. This would provide robust evidence in support of therapeutic horticulture for a wide range of vulnerable groups and individuals.

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Where to find more evidence

Sempik, J., Aldridge, J. and Becker, S. (2002) *Social and Therapeutic Horticulture: evidence and messages from research*, Thrive (in association with the Centre for Child and Family Research): Reading.

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