

# **Digging deeper: Gardening as a way to develop non-human relationships through connection with Nature**

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## **Abstract**

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Gardening as a leisure activity provides an often overlooked opportunity to examine the relationship between individuals and nature. Gardening offers a unique insight into the role that interaction with nature may play in wellbeing and in particular in instances of isolation and loneliness. The global lockdown created by the Covid-19 pandemic saw those households with private gardens being largely restricted to those spaces for both physical activity and mental respite, with many discovering this multifaceted role of gardens for perhaps the first time.

This study reports on data collected prior to the Covid-19 pandemic and explores how gardeners experience much more from garden spaces than is often thought. As such it seems timely to examine how wellbeing may be enhanced and developed through interaction with nature in the context of urban gardens. The study reported here included semi-structured interviews with 25 gardeners to explore their gardening experiences. Thematic analysis of the data revealed that in the context of gardening, a meaningful relationship between gardener and garden was supported and developed through key themes of: Contribution, Connection, Awareness, and Being Self, with An-Other (that being the garden). This study thus suggests that gardening could be seen to provide a place and activity in which meaningful connections could be made outside of relationships with other humans. This has important wellbeing implications for those who may find it difficult to interact with others, are at risk of isolation and loneliness or may be in an unprecedented situation in which enforced isolation occurs.

**Keywords:** Gardening, Wellbeing, Connection to Nature, Human-Nature relationships, Green space.

## **Introduction**

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In an era when an increasing number of individuals report loneliness, depression and poor quality of life (ONS 2015), activities that offer a connection to nature offer an opportunity to enhance wellbeing (Lumber et al., 2017). With half of the world's population now living in urban areas (WHO, 2020) a garden offers one of the few opportunities to access nature close to home. Previous studies about gardening have often focussed on individual physical and mental health benefits such as improving nutrition (Singh et al., 2018) and reducing stress (Hawkins et al., 2011; van den berg et al., 2011). Furthermore an increase in community and school gardening has highlighted its role in addressing additional contemporary societal concerns such as food sustainability and community development (Armstrong, 2000; Turner, 2011). The urban private garden is rarely investigated in terms of benefits beyond those listed above (Bhatti et al., 2014). Despite this, in times of stress and isolation such as the Covid-19 pandemic, wider benefits from gardens such as engendering hope and reducing loneliness have been widely reported in the press (e.g. Millar 2020, Timmins 2020). Research suggests that the act of gardening rather than simply having a garden itself seems to develop wellbeing (Home et al., 2019). This connection may be formed through the sense of intentionality required in gardening (Keniger et al., 2013), which, unlike other incidental activities within nature such as walking, requires a more consistent engagement. This study focuses attention on examining the potential relationship between the gardener and nature with exploration of the effect of such a partnership on individual wellbeing.

### **The role of relationships in wellbeing**

The role of relationships is an important feature of wellbeing, with positive relations with others (Ryff & Keyes, 1995; Seligman, 2012), social connections (Henriques et al., 2014) and relatedness often considered as a human need (Ryan & Deci, 2000). Such relationships are primarily identified as those with other people, yet in increasingly individualistic cultures, human relationships can be difficult to maintain and develop (Ogihara & Uchida, 2014). This is perhaps reflected in the rising numbers of people reporting a sense of loneliness and isolation, which can negatively affect health and wellbeing (Courtin & Knapp, 2015). Thus while ensuring a range of positive relationships with others plays a beneficial role in our lives, such relationships are not always within our control. As such, the role that relationships with other non-human entities could play in our lives needs further investigation to examine whether these relationships can be equally beneficial.

In some discussions of wellbeing, relationships are widened to include the value of non-human relationships (Ingersoll, 1998; Hawks, 1994; Meezenbroek et al., 2012). For example, Fisher's (2011) model of spiritual wellbeing recognises the importance of a meaningful relationship with the environment. Examining activities such as gardening can therefore help in understanding the effects of meaningful human to non-human relationships.

### **Connection to nature**

Interaction with nature has long been seen as beneficial to human health and wellbeing (for reviews, see e.g., Keniger et al., 2013; Hartig et al., 2014). Nature-based leisure activities such as gardening and outdoor walking have been found to benefit multiple dimensions of human health/wellbeing including an increase in positive emotions (e.g., Hinds & Sparks, 2011; Irvine et al., 2013) and mental wellbeing (Marselle et al., 2014), a reduction in stress levels (e.g., Roe et al., 2013, Hawkins et al., 2013), negative affect (Marselle et al., 2014) and depression (Marselle et al., 2014). "Connection to nature" goes further than this however and is a popular phrase often used to reflect a deep and positive relationship with nature that may offer wellbeing benefits (Perrin & Benassi, 2009; Cheng & Munroe, 2012; Tam, 2013). In popular culture, a connection to nature 'describes the mix of feelings and attitudes that people have towards nature... "loving nature", having a "sense of awe and wonder" or simply "caring for the environment"' (RSPB, 2015).

Whilst interaction with nature may be seen as beneficial to health and wellbeing, a deeper sense of connection to nature may provide further benefits. An increased sense of connectedness to nature appears to offer a range of benefits including, happiness (Zelenski & Nisbet, 2014), increased mindfulness (Howell et al., 2011), help with perspective taking (Mayer & Frantz, 2004) and an ability to reflect on life's problems (Mayer et al., 2008). For some, the relationship between humans and nature itself offers a sense of connection similar to those experienced in human relationships (Kellert & Wilson, 1995). This concept of connection is rooted in the Biophilia Hypothesis which proposes an innate bond between humans and nature (Wilson, 1984) but goes beyond this instinctual relationship to one of love and care for nature. Recent research suggests that nature connectedness goes further beyond biophilic need for nature towards an acceptance of the lack of divide between humanity and nature (Lumber et al., 2018). Whilst participants in the study identified themselves as part of the natural world, in terms of gardening activity, they also identified themselves as separate to it. As such, this study refers to 'nature' as the

other-than-human natural environment and explores the human/non-human relationships in relation to gardening. This standpoint allows for interaction between human and non-human relationships to be explored further.

## **Gardening and wellbeing**

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Private gardens are a common feature of homes across Europe, with most households having gardens in some countries (e.g. UK, Poland) and a minority in others (e.g. Spain, Russia) (Statista 2020). In England 7 out of 8 households have access to a private garden (ONS, 2020). Gardening is an activity that involves tending and cultivating a garden space and whilst considerable research appears to have been undertaken into the wellbeing benefits of gardening, (e.g. Soga et al., 2017; van den berg, 2011.) the deeper, intangible benefits alongside its role as a nature interaction activity have received little research attention. Such benefits are often considered to be subconscious or less obvious experiences within gardening activity and as such are often discussed as a subsidiary or marginal aspect (Newton, 2007). Diamant and Waterhouse (2010), provide an example of a study that examines the wider benefits of gardening, highlighting that it can develop a sense of collection and belonging. Those that use gardening spaces to both relax and for physical activity appear to experience greater wellbeing benefits (de Bell et al., 2020). As a setting, home gardens are often established over a period of time and as such become memory spaces of past experiences (Francis & Hester, 1990). Such spaces may reflect and engender transcendent perspectives of personal relationships through memorial spaces and plants (Francis & Hester, 1990; Francis, 1995). As such home garden spaces and the gardening activity undertaken within them are potentially laden with meaning beyond the everyday. Consequently the benefits reported by those involved in gardening activity may reflect a wide range of experiences deemed conducive to many dimensions of wellbeing.

## **Study Focus**

This paper presents findings from a qualitative investigation of the contribution of home gardening to wellbeing. In particular, we explored the relational dimension between the human gardener and the non-human entity of the garden.

## **Methods**

Gardening groups across the East Midlands in the UK were approached to identify individual gardeners willing to take part in the research. In total 25 participants were recruited via purposive snowball sampling. Data were collected through one-to-one semi-structured interviews. The interviews took place in person and lasted approximately one hour. The data were analysed through a range of processes to suit the types of data collected and included thematic and narrative analysis. Data were triangulated by utilizing, Initial Coding (Gibbs, 2007), Narrative Inquiry (Riessman, 1993) and Thematic Analysis (Braun & Clarke, 2006) to analyse the data from multiple perspectives. Initial coding helped to identify initial and emergent patterns/themes in the data. Narrative Analysis explored the data at a deeper level, i.e. by engaging with the stories told in participants responses. Thematic analysis developed and refined the key themes of the data identified across the various stages of analysis. This triangulation of analysis techniques added to the validity of the analysis process and captured multiple perspectives surrounding the same phenomenon. The interviews and analysis sought to explore wellbeing issues beyond the physical and mental, examining the wider importance of human-nature relationships.

## **Results**

Thematic analysis of the data led to data being clustered into five key themes. These were: a sense of connection to something other than oneself, a heightened awareness of something other than oneself, a sense of contribution to something other than oneself and a belief that this also allowed one to feel a sense of being oneself in the garden. The human-nature relationship in gardening formed the final theme and highlighted the role it can play for those that are isolated or lonely.

### **Connection**

Gardening was highlighted by participants as a form of nature connection. One participant described this as, “a connection between you and the earth” (Participant 6). This connection was also thought to be two-way with some gardeners highlighting a sense of union with the garden, “In the garden it’s a unity...that you are part of it

and it is part of you” (Participant 2). Others felt the garden responded to their care, “I nurture it, really, I think if you really care for it, it responds” (Participant 22). Therefore this sense of connection was identified as not just something felt by the participants but also something reflected in nature’s response through a successful growing season in the garden.

The sense of connection was also highlighted by some participants as a connection to their ancestors who also grew food and tended the land. This felt human-human bond experience through an historical human-nature connection was something recounted by participants who identified their stewardship role as connecting them to gardeners before them. This is exemplified by the following comment:

There’s a heritage in gardening ...it’s not like you’re starting from scratch, it connects you to other people... the first cultivators. (Participant 15).

This sense of history and connection through learning and taking part in the growing process reflects an additional aspect of human-nature connection that goes beyond the individual gardener.

## **Awareness**

A heightened awareness of something other than oneself was highlighted by many participants throughout the recounting of their gardening experiences. This sense of awareness was reflected by participants reporting an increased awareness of large-scale aspects and features of life beyond the everyday. This awareness was often expressed through instances of positive emotions experienced when gardening, and through descriptions of the slow and cyclical nature of the growing process:

the sheer wonder of seeing things survive and come back and grow, the cycle of life and the seasons... you get to see it in tiny increments throughout the year... you see things growing. (Participant 20)

Gardening was identified as an activity that provided a natural space in which to experience the sense of wonder and a slower pace in which to focus on it. The theme of awareness was also reflected in a much more physical way and highlighted simply through the process of taking time to look and notice the garden and nature.

you’re out there with the cars and the traffic and the busyness and you come into your garden and just move around slowly and have a look around... that just calms me. (Participant 18)

On both a macro and micro level gardening provides a setting through which increased awareness can develop, and an activity in which taking time to notice is part of the process.

## **Contribution**

Contribution was identified as engaging with something other than one's self, and also one's role within that other. The theme of contribution is reflected in a sense of partnership which was considered by many as the crux of the gardening process. This is reflected in the human-nature gardening partnership, through the sense of a joint endeavour, "It's not just my garden, it's our garden" (Participant 5).

Contributing to the development and support of a garden space requires some degree of commitment, care and consistency. The contribution of physical, mental and emotional energy to the process of gardening gives the human-nature relationship a sense of purpose and by extension a can bring a broader sense of purpose to one's life, "I was so deeply unhappy...but the garden gave me a purpose" (Participant 21). Gardening also gives a purpose in the sense of working to improve something. This is illustrated by the following comment:

Having some sort of agency in improving... or enhancing a piece of land is important, very important, essential for me. (Participant 8)

You come into contact with the earth and you have a two way appreciation (Participant 6).

The feedback element implies that contribution has benefits for both those contributing and the purpose to which they are contributing to.

## **Being Self**

Being Self as a theme was identified as having a sense of being and expressing oneself whilst gardening. The gardens themselves all reflected the individual participants and many participants viewed their gardens as a creative space, "It's the only way I can be creative really" (Participant 3). Others identified the garden as a personal sanctuary, "bits of my life are a bit hectic... I do like to disappear down the garden" (Participant 10) or a place in which they could just be themselves:

It's acceptable to get dirty when you're gardening...mud on my face and leaves in my hair... where else would I get dirty? (Participant 13)

Having the space to be yourself, to find out who that is and to be comfortable with that provides a form of self-acceptance. Participants' experiences suggest that gardens provide such a space in which this sense of self can be supported.

Some participants also recounted the fact that gardening reminded them of their place in the greater scheme of things, "it completely grounds me...there's a sense of my place in life when I'm in the garden" (Participant 21). Participants reported that they were happy with their place and that it gave them perspective,

We've always been part of nature...I think there's something about being human that needs to interact with the rest of the living world. (Participant 8)

Gardening and working within nature forced participants to recognise their lack of control in some aspects of the growing process. In some instances, this lack of control proved frustrating, but in others it was often found to be reassuring:

Human beings think they're in control and they can control life... but the bigger picture is nature...there's a consistency in the fact that nature is always there and you can't argue with it... I find it really reassuring. (Participant 7)

Gardening allowed participants to relinquish control, to recognise their place within nature and feel comfortable enough within that role to express their true selves.

### **The human-nature relationship in gardening**

Individual benefits of gardening reported by participants particularly outlined the importance of the human-nature relationship in reducing isolation and loneliness. Gardeners reported that gardening activity offered them a relationship with nature. This relationship was primarily reported indirectly via comments identifying aspects of a relationship in gardening such as a shared endeavour, care and love. The relationship with nature developed via gardening reflected some of the wellbeing benefits evident in human-human relationships, suggesting the potential strength of nature's role in providing a meaningful relationship. In addition, this relationship highlighted the importance of the concept of feedback between parties in the mutual development and support of wellbeing. Gardening was explicitly referred to in terms of enabling a meaningful relationship with nature by many participants. Comments included describing the garden as a friend or even a member of the family:

I was saying goodbye to him and he said, "So who are you going back to?" And I said, "No

one. I'm on my own." And then he said, "Well haven't you got a dog or something?" I said, "No...but I've got my garden to go back to." And he couldn't understand the significance. (Participant 21)

Whilst others did not feel as strongly, they did recognise the importance of the relationship that developed between gardeners and garden and the integral role it played in their lives often from childhood through to present day:

We lived in inner city Leeds which hardly had a blade of grass, there were demolition sites all around us, post-war slum clearance...And I can remember making a teeny-weeny garden with rock sedum, the little yellow star, and it was just growing amongst the bricks. And that was my garden...I would have been very young then. (Participant 9)

The ongoing relationship with nature through the garden was developed and supported not just in the process of gardening, but also in the daily interaction with the plants and the overall time spent interrelating with the space over a number of years. For example, some plants were reflective of periods of a participant's life, such as anniversary gifts, "The trees we were given as a wedding present" (Participant 5); or particular seasons or previous gardens. The relationship with the garden held a very important place in some participants' lives as the space had become imbued with the memory of loved ones who had passed away:

My wife died and I would like to talk about her as the garden is very much an expression of her, I only began to learn gardening after she died and now I can see why she had put a particular plant there. (Participant 10)

As such, the natural space was reflective not only of a supportive relationship in itself but as a living reminder of a relationship with another person and therefore held additional value.

In terms of a meaningful relationship, many of the comments reflected the less positive aspects of the relationship, such as the failures, the poor weather, pests and diseases. Initially during the analysis process, such comments were seen as unsupportive of a human-nature relationship, however upon reflection these comments were considered demonstrative of the authenticity of the relationship as one that is not perfect, but has its ups and downs. This is illustrated by the following, "When you have failures you think OK that didn't work...there are always failures in gardening but that's life" (Participant 2). The negative themes highlight not only the intricate process of gardening but also the negative and positive aspects of life.

Participants talked about how they talked to their plants and cared for them; “I couldn’t leave them, they’re like my babies...I want them to be looked after” (Participant 3). This indicates that the care and commitment felt toward nature in the garden can be similar to that felt in human relationships. All of these aspects reflect the sense of relationship with nature through the garden.

## **Discussion**

Human relationships are often described as key factors in enhancing overall wellbeing, with ‘active social participation’ being reported to reduce the risk of mental health disorders (NEF, 2012a), and social connections are considered to be among ‘the most robust correlates’ of subjective wellbeing (ONS, 2015b). Given this, the UK Office for National Statistics (ONS) promotes the importance of social relationships reporting that: ‘The frequency of contact with others and the quality of personal relationships are crucial determinants of people’s well-being’ (Kahneman & Krueger, 2006 as cited in ONS, 2015a p.2). Human relationships are viewed as supporting a sense of connection and also reducing isolation and loneliness (NEF, 2012b). The National Health Service (NHS) in the UK advises that connection with others is beneficial for wellbeing, reporting that relationships support wellbeing through building a sense of belonging and self-worth (NHS, 2016). As such human relationships play an important role in developing and supporting wellbeing. However, in instances when social connections are not possible Nature may provide another opportunity for connection. The findings presented here, suggest that the human-nature relationship that is evident in gardening offers an example of a meaningful relationship in which many of the beneficial aspects of human relationships are mirrored.

This concept of a human-nature relationship can be seen throughout history. It is discussed in the contemporary academic fields of ecopsychology (Roszak et al., 1995), its sentiment underlies the Biophilia Hypothesis (Kellert & Wilson, 1995), it is the bedrock of some belief systems such as paganism, nature spirituality (York, 2015; Taylor, 2010) and it is present in many indigenous cultures (Irvine et al., 2019). However, this study indicates that even individuals who do not necessarily identify with these groups still highlight the benefits of the human-nature relationship and provides support for the idea that a relationship with nature can be beneficial for a range of wellbeing facets.

The garden is for some an extension of the home and consequently the plants and

animals therein can be viewed as an extension of one's family. This increased awareness and sense of connection helps to recognise nature's ability to be the 'other' in our lives. An important practical implication of this study is the realisation that nature can play a greater role than is commonly perceived of an external environment. The role of nature can go beyond the aesthetic and actually hold an integral part in our lives.

The practical implications of this identified relationship between humans and nature could be quite positive for individuals struggling to form human relationships. For example, for individuals who may be grieving, struggling with confidence or suffering from panic and anxiety, engagement with others may be a challenge. This study suggests that engaging with nature offers a non-challenging environment in which to develop a meaningful relationship. Gardening offers an opportunity to engage with something other than oneself without having to engage with other people. Consequently, the human-nature relationship may offer a first step in supporting individuals to engage outside of themselves and form new positive relationships.

The wellbeing benefits to the contributor from pro-social behaviours are evident in many forms of contribution such as volunteering (Greenfield & Marks, 2004; Weinstein & Ryan, 2010). Contribution in terms of gardening however suggests that interaction with nature may also be perceived as a beneficial pro-social behaviour that can benefit wellbeing. A heightened sense of meaning and purpose in one's life may be supported through the theme of contribution. By contributing to something larger than oneself by taking an active part in the growing process, some participants reported an increased sense of meaning and purpose in their lives. An increase in meaning and purpose is beneficial for individuals, as low levels of these have been seen to be associated with higher levels of depression in individuals (Ryff, 1989).

This study suggests that the relationship developed during gardening goes beyond the partnership that gardeners experience when taking part in the growing process. Conventional notions of gardening sometimes view it as a practical leisure activity focused around an end goal (McFarland et al., 2018), but these fail to acknowledge the developing and deepening relationship that can form between humans and nature over a lifespan. The human-nature relationship experienced when gardening, reflects a connection that moves beyond working colleagues to life partners. The relationship is reflected in numerous ways: from the shared history of the space, the consideration and care for plants and the support the gardener and garden offer each other in times of crisis.

However, human relationships are rarely perfect and often contain negative elements; the human-nature relationship appears to be no different in this sense. Stress and pressure were amongst just some of the negative emotions expressed around some gardening activities; such issues are reflected in human relationships in which conflict or caring for another can have a negative effect on wellbeing and health (Umberson & Montez, 2010). The human-nature relationship reflects many of the benefits and problems reported in human relationships such as support and connection, conflict and stress. In some cases parts of nature were protected and loved whilst others were not, for example slugs and snails were particularly disliked and seen as a site of conflict in the garden. This perspective reflects an interesting dichotomy in which gardeners express a positive relationship with nature that appears in some ways to actually be quite selective. However, the fact that the relationship contains these negative elements emphasises that it is a meaningful relationship that faces the same challenges as others.

Some comments and perspectives of the participants may reflect aspects of anthropomorphism, but this perspective again reaffirms the fact that (at least on the human part) a connection has been formed between the gardener and garden. Whilst this perspective may not reflect its true identity, (i.e. gardens are inherently natural and as such wild spaces with no human attributes), the relationship with the garden space has developed a perceived connection for the gardener and it is this perception that the study explores.

Future research may wish to focus on the two way aspect of the human-nature relationship further, exploring the benefits to nature from a gardener's perceived care and attention. Whilst the gardeners in this study were primarily organic, many gardeners are not and further discussion regarding the use of pesticides and other methods to control nature may give alternative valuable perspectives on the relationship.

## **Conclusion**

Opportunities for the development of an increased sense of connection to Nature could help to build a sense of community and support. The findings from this study suggest that in terms of nature, this sense of community is reflected in the plants and wildlife present and requires a perception of nature in which it is viewed as part of one's social world. This perception can also strengthen over time as a sense of connection to nature becomes more established.

Whilst current wellbeing literature identifies the importance of human relationships, this study extends the idea of 'relationship' beyond human to human. The study identifies the role that the human-nature relationship can play in contributing to wellbeing, highlighting a range of features that mirror those found in human relationships. A sense of contribution, connection, awareness and being oneself in relation to Nature are already considered as beneficial to wellbeing in human relationships and are evident in human-nature relationships. As such, the relationship that humans form with nature through gardening can be seen as an important, although often overlooked, source of wellbeing.

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