**Full citation: Richardson, M., Richardson, E., Hallam, J., & Ferguson, F. J. (2019). Opening doors to nature: Bringing calm and raising aspirations of vulnerable young people through nature-based intervention. *The Humanistic Psychologist.* Advance online publication.http://dx.doi.org/10.1037/hum0000148**

**Opening Doors to Nature: Bringing calm and raising aspirations of vulnerable young people through nature-based intervention**

**Abstract**

This qualitative study explores the experiences of YMCA residents who participated in a nature-based intervention designed to support wellbeing run by Derbyshire Wildlife Trust and YMCA Derbyshire. The intervention ran over 9 weeks and involved taking groups of residents off site for a range of outdoor activities from allotment gardening to nature conservation in various outdoor environments.  After the intervention took place semi-structured interviews, which explored the personal journeys of 8 residents who had participated in the intervention, were conducted. An IPA analysis of the interviews identified three superordinate themes: building social relationships, developing skills and developing feelings of self-worth and managing emotions through nature. It is argued that the intervention enabled the residents to feel part of a supportive community which enabled a positive shift in identity. Furthermore, the programme helped residents manage their emotions, supporting their mental health and promoting a general sense of wellbeing. This is especially important, given that members of the intervention have a history of mental health issues and often come from a background of higher socio-economic deprivation, where opportunities for social cohesion and nature connectedness are scarce.

**Keywords:** Qualitative research; nature; wellbeing, community

**Introduction**

In recent years the reported mental health crisis and rising prevalence of issues such as depression and anxiety have been a cause for concern (Lewer, O’Reilly & Evans-Lacko, 2015). Figures reported by the Community and Mental Health team for the National Health Service (NHS) revealed that in 2015/16 an estimated 3% of adults based in the UK were in contact with mental health and learning disabilities services; and an estimated 5.6% of those people spent time in hospital. This crisis impacts upon wellbeing at an individual level by reducing people’s quality of life and physical health (British Medical Association, 2014). It also has financial consequences as in 2010 the Centre for Mental Health reported that the estimated annual cost for mental health care for NHS in England alone stood at £105.2 billion. In response to this crisis there have been calls for interventions to be developed to support people’s mental health and relieve the NHS of some of the pressures that are currently being experienced. In recent years the effectiveness of nature-based interventions, such as therapeutic gardening (Gonzalez, Hartig, Patil, Martinsen & Kirkevold, 2011) and allotment gardening (growing fruits and vegetables for personal consumption on small parcels of rented land; Acton, 2011) have been highlighted. The current paper adds to the literature in this area by using qualitative methods to explore the experiences of YMCA residents who had participated in a nature-based intervention run by the Wildlife Trust. A specific aim is to examine the intervention’s potential to promote wellbeing.

*Nature and human wellbeing*

Spending time in green space has been linked to a reduction in mortality (Mitchell & Popham, 2008; James, Hart, Banay & Laden, 2016; Richardson, Pearce, Mitchell, Day & Kingham, 2010; Richardson, Mitchell, Hartig et al., 2012; Takano, Nakamura & Watanabe, 2002) and decreased risk of disease (Maas, Verheij, de Vries et al., 2009). The main mechanisms for the benefits of nature exposure are Attention Restoration Theory (ART; Kaplan, 1995) and Stress Recovery Theory (SRT; Ulrich et al., 1991). SRT describes how affective and physiological responses to nature bring restoration by reducing stress, while ART proposes that natural environments help restore fatigued attention resources, thereby helping people to concentrate. (Kaplan, 1995).

In addition to the benefits of simply being in nature, there is increasing evidence which suggests that the psychological construct of *nature connectedness* has important implications for human wellbeing (Capaldi, Dopko & Zelenski, 2014; Cervinka, Röderer & Hefler, 2011; Hartig, van den Berg, Hagerhall et al., 2011; Howell, Dopko, Passmore & Buro, 2011; Nisbet, Zelenski & Murphy, 2008; Pritchard, McEwan, Sheffield & Richardson, in press; Richardson, Cormack, McRobert & Underhill, 2016). The construct of *nature connectedness*s is broadly about an individual’s relationship with the natural world and reflects an “individual’s experiential sense of oneness with the natural world” (Mayer & Frantz, 2004, pp. 504). A meaningful connection to nature has been shown to be important for ecological behaviours (e.g. Otto & Pensini, 2017) and a range of wellbeing benefits, namely life satisfaction (Mayer & Frantz, 2004), vitality (Cervinka et al., 2011) and happiness (Nisbet & Zelenski, 2011). As key benefits of nature connectedness are primarily positive emotional states, it has been argued that existing theories for the benefits of nature exposure (ART & SRT) do not provide a full explanation of mechanisms by which nature connectedness brings wellbeing (Capaldi, Passmore, Ishii et al., 2017). Indeed, Gidlow, Jones, Hurst et al. (2016) did not find evidence for a role of ART. However, Korpela, Pasanen, Repo et al. (2018) note that the role of nature in affect regulation is often overlooked. The links between wellbeing and emotional regulation are well evidenced (Gross, 2013; DeSteno, Gross & Kubzansky, 2013) and there is emerging evidence that the mechanism by which nature connectedness brings these benefits is through helping people regulate their emotions (Richardson & McEwan, 2018). Finally, given the benefits, the pathways to nature connectedness have been studied. These were found to be relationships and activities in nature that involve the senses and emotions, finding meaning, noticing beauty and growing compassion for the wider natural world (Lumber, Richardson & Sheffield, 2017).

*The need for nature-based interventions*

Given the numerous benefits that time in nature offers, the importance of having access to natural environments close to people’s homes is emphasised (Natural England, 2009). However, people living in areas with high levels of socio-economic deprivation have less access to green spaces and therefore have limited opportunity to engage with natural environments (Public Health England, 2014). This creates a situation in which people living in areas of higher socio-economic deprivation, who are particularly vulnerable to mental health issues due to factors such as substance misuse, exploitation, abuse and homelessness, are most in need of support, but are least likely to have access to nearby nature (Noonan, Boddy, Knowles & Fairclough, 2015). Therefore, specific interventions, which are designed to connect people from socially disadvantaged communities to nature, are needed.

Genter, Roberts, Richardson & Sheaff (2015) point towards the benefits of allotments and highlight their potential for a site for nature-based intervention. Genter at al (2015) reported that allotments have the potential to support wellbeing by (i) promoting a healthy way of living, (ii) enabling contact with the natural environment; (iii) offering opportunities for personal growth and development; (iv) providing social networking opportunities; and (v) introducing stress-relieving properties. Research conducted by Wood, Pretty & Griffin (2015) has linked allotment gardening to greater levels of self-esteem, increased levels of vitality, lower reported levels of depression and better overall health in a general population. Similar positive results have been reported in a nature-based horticulture therapy intervention that involved clinical patients with mental health issues (Vujcic, Tomicevic-Dublievic, Grbic et al, 2017). This indicates that allotment gardening shows a lot of promise as a type of preventative healthcare that can be offered to those who are at risk of poor mental health or have a history of mental health difficulties (Soga, Cox, Yamaura et al., 2017).

Within the literature on the benefits of wildlife conservation volunteering is also being recognised (Rogerson, Barton, Bragg & Pretty, 2017). Conservation volunteering (e.g. taking part in habitat management in nature reserves) has been shown to improve mental wellbeing, positive feelings and nature connectedness, with qualitative comments showing benefits to social confidence and sense of purpose to non-vulnerable adults with a mean age of 43 (Rogerson et al., 2017). As such, conservation volunteering offers many of the benefits reported within the therapeutic gardening and allotment literature.

To examine this claim further the current paper explores a specific intervention, delivered by Derbyshire Wildlife Trust for residents in a YMCA who may have experienced homelessness, abuse, mental health problems, substance misuse, self-harm or exploitation. YMCA Derbyshire (YMCAD) is an independent, registered charity that seeks to enable people who are homeless, socially excluded or disadvantaged, to achieve their potential and play a full part in society, regardless of their past experiences or present circumstances. The organisation adopts a holistic approach to wellbeing and aims to enable residents to regain their self-belief and confidence in order to equip them with the skills needed to cope with the crisis they are facing, re-engage with appropriate services and move into independent and sustainable living. As part of YMCA Derbyshire’s Health and Wellbeing offer, an intervention was developed with the Derbyshire Wildlife Trust.

The intervention ran as a 9-week programme that consisted of one full day per week off-site which centred on teaching nature conservation skills in a range of outdoor environments. A specific concern was to give residents access to natural environments that would normally be out of their reach. During the intervention activities such as conservation, allotment gardening, path creation, making bird feeders and bug hotels, fence building and regular walks in the woods were offered.Previous evaluation of the health and mental wellbeing benefits from volunteering programmes run by the Wildlife Trust for people who are experiencing mental health difficulties have reported positive findings. Rogerson et al. (2017) found that nature programmes introduced by the Wildlife Trusts led to significant improvements in participants’ mental health. Indeed, as many as 95% of participants who reported low wellbeing at the start of the intervention improved over the course of the programme. The current study further builds upon this quantitative evaluation by using qualitative methods informed by Interpretative Phenomenological Analysis (IPA) to explore the experiences of people who have engaged in an intervention. As such, the analysis presented in this paper gives a different insight into interventions and helps to develop understanding around how positive impact is achieved through conservation volunteering.

**Method**

*Data collection*

The current research utilised qualitative methods informed by IPA. This approach is well suited to the focus of the research because it aims to provide detailed information regarding personal experiences (Smith & Osborn, 2015). In line with IPA's requirement for a small, homogeneous sample (Smith & Osborn, 2008) 8 YMCA residents, 6 men and 2 women aged between 21 and 44, who had all recently participated in a Derbyshire Wildlife Trust intervention, were included in the research. All residents responded to an open invitation to participate in the research from the second author. After giving informed consent, each resident took part in a dyadic, semi-structured interview facilitated by the second author. During this interview the residents were invited to discuss: (i) what brought them to the YMCA; (ii) their experiences of the Wildlife Trust intervention; and (iii) what happened after the Wildlife Trust intervention and any future plans. All interviews were recorded and transcribed verbatim after they were conducted. This process enabled the data to be reviewed as it was collected. Following the precedent outlined by Fusch & Ness (2015) recruitment stopped at the point of data saturation. The research was approved by the University's Ethics committee and conformed to the British Psychological Society's (2009) ethical standards.

*Analytic approach and procedure*

The interview transcripts were collected together to form a data corpus and analysed using an IPA approach, which aims to explore people's subjective experiences (Smith, Harré & Langenhove, 1995). Following the principles of phenomenology and hermeneutics, an IPA analysis explores the lived experiences of an individual through the process of interpretation (Biggerstaff & Thompson, 2008). This interpretation is twofold: first the participant interprets their experiences in an attempt to bring meaning to their world and then the analyst makes sense of this account (Smith, Flowers & Larkin, 2009). As such, an IPA analysis focuses on how people perceive and communicate their experiences (Smith & Pietkiewicz, 2012).

The third author used guidelines set by Smith et al. (2009) to analyse the interview data. Broadly speaking, the third author first immersed herself in the data by reading all the interviews multiple times, first to gain familiarity and then at a more analytic level. Notes created during this process generated a long list of themes which ran through the interviews. These themes were organised into a table which clustered sub themes together to create subordinate themes. Extracts from the interviews which supported each sub theme were then collected together to ensure that each theme had enough evidence to support it and that the overall structure worked. At this point, the first and second authors were invited to review the structure and ensure that they were happy that it captured important narratives within the interviews. Extracts which best represented each theme were then analysed closely by the third author. Analysis focused on the use of language within the extracts and the ways in which language expressed an overall understanding of the experiences spoken about (Smith et al., 2009).

**Results**

Analysis of the interviews identified 3 superordinate themes which are outlined in Table 1. Each of these themes are explored in detail in the following sections.

|  |  |
| --- | --- |
| **Superordinate themes** | **Subordinate themes** |
| Building relationships | Developing relationships with the YMCA staff |
| Developing relationships with other YMCA residents |
| Developing relationships with people outside of the YMCA |
| Developing skills and feelings of self-worth | Practical skills |
| Enjoying ‘graft’ |
| Giving something back |
| Managing emotions through nature | Peace, quiet and space |
| Stress relief and freedom to be yourself |
| A new respect for the landscape |

*Table 1: Table of themes*

*Building relationships*

Many of the residents valued the wildlife intervention because it allowed them to build relationships with staff, other residents and members of the public. Within the interviews the outdoors was presented as a transformative space which was central to building this community. The following section of the analysis explores this further by first paying attention to the ways in which the intervention built a stronger YMCA community and then investigating the development of relationships outside of the YMCA.

*I think it helps people to open up a little bit more as well when they are outside and not, how can I put it, bubble wrapped by staff. If there’s less staff around you can relax. A lot more seems to be done, I’m not saying staff are a bad thing, I’m just saying that people that come from the same walk of life as some of the residents they find it a bit easier to get into.*

For Simon, being 'outside' is central to establishing a new dynamic between residents and staff. Within this extract Simonuses a powerful metaphor of being 'bubble wrapped' to evoke a feeling of being over protected within a YMCA context. Forthis resident there is a sense that the protection is well meant but it creates a stifling feeling that limits freedom. These feelings are contrasted with the ability to 'open up' and 'relax' with people from the 'same walk of life' during the Wildlife Trust intervention. This emphasises the importance of being 'outside' and the role that nature has in building a sense of community. Furthermore, Simon's suggestion that 'a lot more seems to be done' points towards the benefits of staff trusting residents. During the intervention, freedom to work in a less supervised environment enabled Simon to be productive, feel a growing sense of independence and develop confidence in his ability to do things unassisted. The role that the intervention had in building a stronger sense of connection within the YMCA community was discussed further by David*.*

*I enjoy working with different people, because we get regulars, we get new volunteers, we get new residents coming in all the time, so it breaks down barriers, people just want to have a talk about their problems, some of us have a chat.*

David's suggestion that 'new' people are arriving 'all the time' picks up on the ever-changing landscape of the YMCA. This presents a possible challenge in the sense that group dynamics within the YMCA environment are constantly changing and there is no stable community. Indeed, people enter the YMCA with complex needs and issues which could lead to isolation from others. David's reference to 'barriers' points towards this by evoking an image of residents being surrounded by physical boundaries which makes them hard to reach. However, the wildlife intervention is key to breaking down these barriers and creating a therapeutic space in which residents can 'talk about their problems'. This sense of connection and building a community was further discussed by David later in the interview.

*Like I say, you get to meet and get to know people that you’re working with, staff as well as the residents and outside people as well and that helps with your communications skills, your confidence, yeah, helps with depression, cheers you up and you’re out in the fresh air.*

Here, psychological barriers of 'depression' and a lack of 'confidence' which serve to isolate residents are laid bare. However, for David the opportunity to be 'out in the fresh air' and 'get to know people' are an antidote to feelings of isolation and distress. Connection with a range of people working on the intervention enabled David to feel part of a strong community and this in turn facilitates personal growth. Sarah explored personal development further.

*I was helping other people as well, like people that were younger than me and obviously it helped me make new friends as well, we’d have a laugh with each other.*

For Sarah the intervention represented a significant shift in identity. Traditionally, YMCA residents are people in need, however in this extract Sarah is able to 'help others' and adopt a leadership role. This transformation is significant in terms of the development of confidence but also the positive feelings associated with making 'new friends'. Making friends and building a stronger sense of community through the Wildlife Trust was important for the residents' wellbeing. Another important aspect of the invention was that it enabled YMCA residents to reach out to other communities.

*I’m obviously integrating with people down the allotments but it’s a little group, it’s like a little, well I’d say, put it as a family. You know what I mean we all know what each other wants and get on with each other, help each other out.*

For Peter the Wildlife Trust intervention lead to a strong sense of belonging and community. Use of the word 'family' highlights the meaningful and special bond that he developed with allotment owners. Typically, YMCA residents have limited opportunity to mix with non-residents but integration into the allotment community enabled Peter to connect with people through a shared interest in the allotment space.

This theme has explored the growing sense of connection that was experienced during the Wildlife Trust intervention. The wider effects of this sense of connection in terms of the development of skills and feelings of self-worth are now explored.

*Developing skills and feelings of self-worth*

Within the interviews residents spoke about how joining the scheme was a daunting experience that required them to push outside of their comfort zone. However, through the course of the intervention residents challenged themselves and discovered a new-found confidence in their abilities.

*I was umming and ahhing about it but I thought well go along, and see how you get on, so I went along and I thought, ohhh yeah, this is not going to be my sort of thing but I’ll try it anyway and it turned out it was my sort of thing cause it brought out skills I didn’t even know I had.*

Sarah reflects on the uncertainty she felt when asked to join the intervention. This feeling of trepidation related to whether the intervention was right for her and if it would have any benefits. At the start of the extract there is a sense of despondency - that Sarah went along 'to try it' despite it not being her 'sort of thing'. However, these low expectations are contrasted with an experience of an intervention that 'brought out skills I didn’t know I had'. This discrepancy between expectations and lived reality indicates feelings of surprise relating to the personal relevance of nature connection and their own capacity for personal growth. A specific experience that evidences this is explored by Sarah below.

*I can’t remember where it is now, but it was a one night residential and we had horrible weather!  Haha, we were all under this massive piece of tarpaulin, trying to light a fire, doing a bit of whittling, so I managed to make a knife, not sharp enough to obviously use, but you could use it for making a hole in the soil, I made one of them and made sure it wasn’t sharp, but that was really difficult because it really tested your skills, especially with the handle, but there was always people there that could help you.*

Within this extract adverse weather conditions bring 'all' the people on the intervention together. There is a feeling of comradery as the residents gather under the tarpaulin to seek shelter and work collaboratively to create warmth. Furthermore, these conditions make the whittling activity 'really difficult' and the resident's 'skills' were 'really tested'. Consequently, this experience gave Sarah the chance to push herself and demonstrate her ability to rise to a challenge. It was through adversity that Sarah found confidence in her skills and ability. Katie explains this further

*Like you want to work more. It’s hard to explain, cause like when you’re here you don’t really but when you’re out there, you’re building a path or something it took us like three days and we didn’t moan once. I think we moaned because it was like sludgy and things like that and we kept falling, but it was just a laugh. We all knew what we were doing so we’d all got assigned jobs and we all just like got on with it.*

The challenges presented by the terrain that Katie was working in resulted in a positive mind set and motivation to achieve. Reference to 'sludge' and 'falling' suggests that the path building activity was difficult and therefore it would have been easy to give up or complain. However, being 'out there' in nature is aligned with a desire to work hard and therefore the task is reframed as a positive one which resulted in positive feelings rather than 'moaning'. Use of the word 'we' in the latter part of this extract widens out this effect to the other residents involved in the activity, demonstrating the wide-reaching impact that being outside had on a range of different people. The residents pulled together and demonstrated their ability to stick to a task over three days in challenging circumstances. For other residents, developing their skills and using them to help local communities resulted in feelings of self-worth and satisfaction.

*I’ve always been into manual labour, grafting, and since I’ve been unemployed and as I’m unemployable now because of my depression, it gives me a sense of worth. It’s like being able to give something back.*

For David feelings of self-worth are bound up in the ability to 'graft' and make a useful contribution to society. However, mental health is presented as a barrier to employment and there is a sense that this resident is unable to feel useful and needed. The Wildlife Trust intervention countered this by allowing them to 'give something back' and re-connect with feelings of self-worth.

This theme has examined the ways in which engaging with nature developed skills, changed mind-sets and lead to feelings of self-worth. The next theme goes on to explore the effects that the nature intervention has on mental health and wellbeing.

*Managing emotions through nature*

Many residents within the YMCAhave mental health considerations or deal with issues surrounding addiction. This came through strongly when the residents spoke about the personal changes they noted during the Wildlife Trust intervention.

*It’s being away from here and not having so many people talking at once and crowding. With being inside it’s a small community where everybody has got to interact with everybody. I think there is a little too much drama going round and sometimes it just needs that little bit of space, let them breathe, they find themselves feeling ten times better.*

For Simon being outside is a liberating experience that offers physical and emotional space. Being 'inside' is likened almost to a prison in which Simon has no escape from a 'small community' filled with 'drama.' Simon’s suggestion that everyone 'has got to interact' points towards a lack of control over a busy and claustrophobic environment which could impact negatively upon mental health. However, suggestion that the wildlife intervention offered Simon space to ‘breathe’ indicates that being outside freed him from the suffocating experience of being indoors and this led to feelings of wellbeing.

*Relaxed and we could just be ourselves, we had to watch what we said obviously, but our personalities could come out, whereas if we’re here, if we’re doing an activity here you have to be a bit more mindful of where you are and who you’re with and, because we were out there it didn’t really matter we could just be us which was the best thing to be honest.*

For Katie the ‘best thing’ about the intervention was connection with an authentic sense of self and freedom to express who she really is. Outside space is inextricably linked with breaking free from the shackles of surveillance from others and being ‘mindful of where you are and who you are with’. Despite there still being need to ‘watch what we said’ there is a sense that outside space created a healthy environment in which Sarah could just be. This issue is explored further below.

*Calming I think. You get to think about stuff, like when you’re stressed, you get to sit there and just switch off! It’s like meditating while you’re out there, you don’t think about what’s here you deal with that when you get back.*

Links between mindfulness and stress release are evident here. Use of the word “meditation” likens Sarah’s experience with the outdoors to an act of mindfulness. Connection with nature keeps her focused on living in the moment and directs her attention away from the worries of her everyday life. Nature is viewed as an escape from every day worries, an oasis of calm that leads to wellbeing.

*Coping with my anxiety, certain situations sometimes triggered it off but he always managed to find a way of calming me down and everything like that, but the Wildlife Trust helped a lot with that.*

For some residents, feelings of calm were not just tied to being out in nature. Sarah speaks about how her engagement with the Wildlife Trust intervention equipped her with coping mechanisms that enabled her to manage her anxiety. The Wildlife Trust facilitator is central to this change because they 'always managed to find a way to calm' Sarah down. Therefore, the support Sarah received during the intervention allowed her to discover her 'anxiety' triggers and provided strategies that could be used to manage mental health. This points towards the long-term benefits of the Wildlife Trust intervention and the impact this has on wellbeing within residents. Significantly, for some residents, positive experiences in nature led to a growing understanding and respect for the landscape.

*It’s just like you appreciated things more, like you wouldn’t drop your fags on the floor, do you know what I mean, cause you knew what harm it was doing. So you’d think about it, just little things like that like chucking a fag paper on the floor, you knew that well that could really do some damage.*

For Katie, engagement with the Wildlife Trust intervention led to a new 'appreciation' for nature and a greater understanding of the impact they have upon the environment in which they live. A new relationship has been developed between the resident and nature in which the resident nurtures and protects the wild spaces which surround them. There is a feeling of reciprocity and symbiosis: nature and the resident share a connection and both care for each other.

**Discussion**

Analysis of the interviews evidenced that the intervention helped the YMCA residents involved to build social relationships, develop skills and feelings of self-worth. There were also clear benefits to emotional wellbeing with feelings of calm and a reduction in stress. The intervention programme was viewed positively and brought about positive outcomes for those involved. This is in line with previous evaluations of conservation volunteering and nature-based interventions. However, the present qualitative analysis provides insight into the mechanisms for the benefits and progresses towards a deeper relationship with nature.

Within the analysis there was clear evidence that during the intervention residents developed relationships with YMCA staff, other residents and people outside of the YMCA context. Furthermore, the work that the residents engaged in enabled them to develop skills and feel as though they were making a useful contribution to society again. To a certain extent these findings echo findings presented in Rogerson et al.’s (2107) evaluation of a Wildlife Trust intervention. Within this evaluation it was reported that participation in the intervention led to increased levels of social confidence and improved feelings of purpose. Similarly, O’Brien, Townsend & Ebden (2010) reported how environmental volunteering supported social wellbeing by allowing people to connect with others, work as part of a team and feel a sense of comradery. The analysis presented in this paper further develops these findings by highlighting the centrality of a community-based approach and exploring how a growing sense of belonging has a transformative effect upon identity and feeds into a sense of wellbeing (Wenger, 1998). Through working together, new skills were developed and this enabled the participants to move beyond the identity of ‘resident’ and connect to a range of different communities (such as allotment owners), as skilled people who were working to achieve something positive. This is promising, as working collaboratively can have long-term effects in terms of how people see themselves and others (Howard & Davies, 2013).

In terms of the relationship between the participants and the natural world, the analysis did not reveal a deep connectedness with nature. There are two potential explanations. Firstly, the nature-based programme was not designed around the pathways to nature connectedness (Lumber at al., 2017). Indeed, the focus was on the types of activity known not to be most effective in fostering a closer relationship with nature. However, simply being out in nature is a fundamental first step to connectedness. So given the residents were spending time in the natural world some movement towards a closer relationship with nature may well be expected. The second explanation relates to the starting point of those taking part - residents in a YMCA who may have experienced homelessness, abuse, mental health problems, substance misuse, self-harm or exploitation. It is likely that the people taking part in the current programme were in a different place, or at a different starting point, particularly in terms of their wellbeing and managing their emotions day to day. Previous research, based on a similar intervention that did identify a deeper relationship with the natural environment, with increased connection to nature and its importance to self (Rogerson et al. 2017), was conducted with very different cohort, non-vulnerable adults with a mean age of 43.

However, there are signs that the participants were in the process of developing a closer bi-directional relationship with the natural world. Nature was seen as a place ‘away’ from stressors, rather than being appreciated for the inherent qualities of natural places, such as beauty, meaning and emotions of awe and wonder that lie within the pathways to nature connectedness (Lumber at al. 2017). Despite this, there is evidence of the pathways at a more fundamental level. The participants were clearly and unavoidably sensing nature, aware of it and finding emotional space, but being away from stressors rather than closer to nature. However, the analysis shows signs of a closer relationship through a growing respect for nature, a desire to do no harm by littering, suggests an evolving relationship and giving back once recognising the benefits. Once calm, managing one’s emotions and being able to be oneself, there is space for a deeper relationship as suggested by the reference to meditating. Finally, rather than complex lives and social relationships placing people further away from nature, perhaps the transcripts and analysis show the participants were simply reflecting a social context where expressing a deep relationship with nature was unlikely, and as suggested by the reference to meditating, there was an unexpressed deeper and more meaningful connection.

The current situation of the participants, and references to being ‘away’ from the stressors of their living space to find emotional space and calm, also provides some insight into the mechanisms for the benefits. Calm reflects a key dimension of the three-circle model of emotional regulation (Gilbert, 2005) which has been linked to the benefits of being in nature (Richardson et al., 2016). Korpela et al. (2018) note the role of nature in affect regulation and Richardson & McEwan (2018) showed how ease of emotional regulation mediated the wellbeing benefits of nature connectedness.

The findings presented in the analysis suggest that the intervention was a positive experience for the residents involved. However, it was noted that during the interviews the young residents taking part found it difficult to describe their experience and feelings. This means there could be aspects of their experience they did not share. Secondly, there were a variety of activities on offer during the programme and it was not possible to record which residents engaged with which activities. In future research monitoring engagement would be beneficial.

In conclusion, this paper provides further evidence that regular opportunities to connect with nature in a supportive and friendly environment is especially important for those who have a history of mental health issues and may come from a background of higher socio-economic deprivation. Engaging individuals through such programmes is impactful and importantly, it improves people’s quality of life by offering respite and opportunities for personal growth. However, to more fully realise the bi-directional benefits of connecting with nature, small steps are needed, including support to manage the emotions that result from complex lives. Finally, and perhaps most importantly, there were signs that although the natural world primarily provides an environment away from the stressors of complex lives in the first instance, a growing respect for nature does start to emerge.

**References**

Acton, L. (2011). Allotment gardens: A reflection of history, heritage, community and self. *Papers from the Institute of Archaeology. 21*, 46-58. DOI: <http://doi.org/10.5334/pia.379>

Biggerstaff, D. & Thompson, A.R. (2008). Interpretative phenomenological analysis: A qualitative methodology of choice in healthcare research. *Qualitative Research in Psychology, 5(3),* 214-224.

British Medical Association (2014). *Recognising the importance of physical health in mental health and intellectual disability: Achieving parity of outcomes.* London: British Medical Association.

British Psychological Society (2009). www.bps.org.uk

Capaldi, C.A., Dopko, R.L. & Zelenski, J.M. (2014). The relationship between nature connectedness and happiness: a meta-analysis. *Frontiers in Psychology, 5*, 976.

Capaldi, C. A., Passmore, H. A., Ishii, R., Chistopolskaya, K. A., Vowinckel, J., Nikolaev, E. L., & Semikin, G. I. (2017). Engaging with natural beauty may be related to well-being because it connects people to nature: Evidence from three cultures. *Ecopsychology, 9(4),* 199-211.

Centre for Mental Health (2010). *The economic and social costs of mental health problems in 2009/10.* Retrieved from https://www.centreformentalhealth.org.uk/economic-and-social-costs

Cervinka, R., Röderer, K. & Hefler, E. (2011). Are nature lovers happy? On various indicators of well-being and connectedness with nature. *J Health Psychol., 17 (3),* 379-388.

Fusch, P.I. & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report, 20 (9),* 1408-1416.

Genter, C., Roberts, A., Richardson, J. & Sheaff, M. (2015). The contribution of allotment gardening to health and wellbeing: A systematic review of the literature

*Br. J. Occup. Ther., 78*, 593-605

Gidlow, C. J., Jones, M. V., Hurst, G., Masterson, D., Clark-Carter, D., Tarvainen, M. P., Smith, G. & Nieuwenhuijsen, M. (2016). Where to put your best foot forward: Psycho-physiological responses to walking in natural and urban environments. *Journal of Environmental Psychology, 45,* 22-29.

Gilbert, P. ed. (2005), *Compassion: Conceptualisations, research and use in psychotherapy.* Hove: Routledge.

Gonzalez, M.T., Hartig, T., Patil, G.G., Martinsen, E.W. & Kirkevold, M. (2011). A prospective study of group cohesiveness in therapeutic horticulture for clinical depression. *International Journal of Mental Health Nursing, 20(2),* 119-129.

Groenewegen, P.P., van den Berg, A.E., Maas, J., Verheij, R.A. & de Vries, S. (2012). Is a green residential environment better for health? If so, why? *Annals of the Association of American Geographers, 102(5),* 996-1003.

Gross, J.J. (2013). Emotion regulation: Taking stock and moving forward. *Emotion,* *13(3),* 359-365.

Hartig, T., van den Berg, A. E., Hagerhall, C. M., Tomalak, M., Bauer, N., Hansmann, R., Ojala, A., et al. (2011). Health benefits of nature experience: Psychological, social, and cultural processes. In K. Nilsson et al. (Eds.), *Forest, trees, and human health* (pp. 127-168). New York, NY: Springer. DOI 10.1007/978-90-481-9806-1\_5

Howard, C. & Davies, P. (2013). Attracting mature students into higher education: The impact of approaches to learning and social identity. *Journal of Further and Higher Education,* *37 (6),* 769-785, DOI: [10.1080/0309877X.2012.684038](https://doi.org/10.1080/0309877X.2012.684038)

Howell, A.J., Dopko, R.L., Passmore, H.-A., & Buro, K. (2011). Nature connectedness: Associations with well-being and mindfulness. *Personality and Individual Differences, 51,* 166-171.

James, P., Hart, J.E., Banay, R.F. & Laden, F. (2016). Exposure to greenness and mortality in a nationwide prospective cohort study of women. *Environmental Health Perspectives, 124(9),* 1344-1352.

Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology, 15(3),* 169-182.

Korpela K. M., Pasanen T., Repo V., Hartig T., Staats H., Mason M., Alves S., Fornara F., Marks T., Saini S., Scopelliti M., Soares A.L., Stigsdotter U. K. and Ward Thompson C. (2018) Environmental Strategies of Affect Regulation and Their Associations With Subjective Well-Being. *Frontiers in Psychology. 9(562)*. DOI: 10.3389/fpsyg.2018.00562

Lewer, D., O’Reilly, C. & Evans-Lacko, S. (2015). Antidepressant use in 27 European countries: Associations with sociodemographic, cultural and economic factors. *British Journal of Psychiatry, 207(3),* 221-226.

Lumber, R., Richardson, M. & Sheffield, D. (2017). Beyond knowing nature: Contact, emotion, compassion, meaning and beauty are pathways to nature connection. *PLoS ONE, 12(5).* DOI: https://doi.org/10.1371/journal.pone.0177186

Maas, J., Verheij, R.A., de Vries, S., Spreeuwenberg, P., Schellevis, F.G. & Groenewegen, P. (2009). Morbidity is related to a green living environment. *Journal of Epidemiology and Community Health, 63(12),* 967-973.

Mayer, F.S. & Frantz, C.M. (2004). The connectedness to nature scale: a measure of individuals’ feeling in community with nature. *Journal of Environmental Psychology, 24,* 503-515.

Mitchell, R. & Popham, F. (2008). Effect of exposure to natural environment on health inequalities: An observational population study. *Lancet, 372 (9650),* 1655-1660.

Natural England. (2009). Experiencing landscapes: Capturing the cultural services and experiential qualities of landscape. *Natural England commissioned report NECR024. Natural England.*

Nisbet, E. K. & Zelenski, J. M. (2011). Underestimating nearby nature: Affective forecasting errors obscure the happy path to sustainability. *Psychol. Sci. 22,* 1101–1106.

Nisbet, E.K., Zelenski, J.M. & Murphy, S.A. (2008). The nature relatedness scale: Linking individuals’ connection with nature to environmental concern and behaviour. *Environment and Behavior, 41,* 715-740.

Noonan, R.J., Boddy, L.M., Knowles, Z.R. & Fairclough, S.J. (2015). Cross-sectional associations between high-deprivation home and neighbourhood environments, and health-related variables among Liverpool children. *BMJ Open, 6,* 1-11.

O’Brien, L., Townsend, M. & Ebden, M. (2010). Doing something positive: Volunteers’ experiences of the well-being benefits derived from practical conservation activities in nature. *Voluntas: International Journal of Voluntary and Nonprofit Organizations, 21(4),* 525-545.

Otto, S., & Pensini, P. (2017). Nature-based environmental education of children: Environmental knowledge and connectedness to nature, together, are related to ecological behaviour. *Global Environmental Change*, 47, 88-94.

Public Health England (2014). Local action on health inequalities: Improving access to green spaces. Review 8. PHE publications gateway number: 2014334.

Nisbet, E.K., Zelenski, J.M. & Murphy, S.A. (2008). The nature relatedness scale: Linking individuals’ connection with nature to environmental concern and behaviour. *Environment and Behavior, 41,* 715-740.

Richardson, M., Hallam, J., & Lumber, R. (2015). One thousand good things in nature: Aspects of nearby nature associated with improved connection to nature. *Environmental Values, 24,* 603. DOI: 10.3197/096327115X14384223590131

Richardson, M., Cormack, A., McRobert, L., & Underhill, R. (2016). 30 days wild: Development and evaluation of a large-scale nature engagement campaign to improve well-being. *PloS One, 11,* e0149777.

Richardson, M. & McEwan. K. (2018). 30 days wild and the relationships between engagement with nature’s beauty, nature connectedness and well-being. *Frontiers in Psychology, 9,* DOI: 10.3389/fpsyg.2018.01500

Richardson, M., Mitchell, R., Hartig, T., de Vries, S., Astell-Burt, T. & Frumkin, H. (2012). Green cities and health: A question of scale? *J Epidemiol Community Health, 66,* 160-165.

Richardson, E., Pearce, J., Mitchell, R., Day, P. & Kingham, S. (2010). The association between green space and cause-specific mortality in urban New Zealand: An ecologic analysis of green space utility. *BMC Public Health, 10(240),* 1-14.

Rogerson, M., Barton, J., Bragg, R. & Pretty, J. (2017). A scientific evaluation of the health and wellbeing impacts of Wildlife Trusts volunteering programmes: The health and wellbeing impacts of volunteering with The Wildlife Trusts. Retrieved from: https://www.wildlifetrusts.org/sites/default/files/2018-05/r3\_the\_health\_and\_wellbeing\_impacts\_of\_volunteering\_with\_the\_wildlife\_trusts\_-\_university\_of\_essex\_report\_3\_0.pdf

Smith, J.A., Harré, R. & Van Langenhove, L. Eds. (1995). *Rethinking Methods in Psychology.* London: SAGE.

Smith, J.A., Flowers, P. & Larkin, M. (2009). *Interpretative Phenomenological Analysis: Theory, Method and Research.* London: SAGE.

Smith, J, A., & Pietkiewicz, I. (2012). A practical guide to using Interpretative Phenomenological Analysis in qualitative research psychology. *Czasopismo Psychologiczne, 18(2),* 361-369.

Smith, J, A. & Osborn, M. (2015). Interpretative phenomenological analysis as a useful methodology for research on the lived experience of pain. *British Journal of Pain. 9(1),* 41-42.

Smith, J, A. & Osborn, M. (2008). *Qualitative Psychology: A Practical Guide to Methods. Interpretative Phenomenological Analysis.* (pp. 54 – 57). London: SAGE

Soga, M., Cox, D.T.C., Yamaura, Y., Gaston, K.J., Kurisu, K. & Hanaki, K. (2017). Health benefits of urban allotment gardening: Improved physical and psychological well-being and social integration. *International Journal of Environmental Research and Public Health, 14(71),* 1-13.

Takano, T., Nakamura, K. & Watanabe, M. (2002). Urban residential environments and senior citizens’ longevity in megacity areas: The importance of walkable green spaces. *Journal of Epidemiology & Community Health, 56,* 913-918.

Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology, 11(3),* 201-230.

Wenger, E. (1998). *Communities of Practice. Learning, Meaning and Identity*. Cambridge: Cambridge University Press. DOI: 10.1017/CBO9780511803932

Wood, C.J., Pretty, J. & Griffin, M. (2015). A case-control study of the health and well-being benefits of allotment gardening. *Journal of Public Health, 38(3),* 336-344.