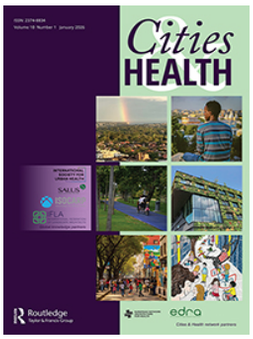

Cities & Health

ISSN: 2374-8834 (Print) 2374-8842 (Online) Journal homepage: www.tandfonline.com/journals/rcah20

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To cite this article: Rhys Furlong, Caroline Harvey, Fiona Holland & Jenny Hallam (19 Feb 2026): An Interpretative Phenomenological Analysis of a year's allotment gardening for people living in low-income areas of Nottingham, UK, Cities & Health, DOI: 10.1080/23748834.2026.2624265

To link to this article: https://doi.org/10.1080/23748834.2026.2624265

Published online: 19 Feb 2026.

CITIES & HEALTH
https://doi.org/10.1080/23748834.2026.2624265

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An Interpretative Phenomenological Analysis of a year's allotment gardening for people living in low-income areas of Nottingham, UK

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ABSTRACT

The wellbeing benefits of nature are well documented. However, access to nature within the UK is not equitable, with those in low-income areas generally having lower access to public and private greenspace than those in affluent areas. This research addresses this disparity by using ethnography, Interpretative Phenomenological Analysis and photo-elicitation to investigate the lived experiences of allotment gardeners living in low-income areas. This paper provides a follow up with seven allotment gardeners living in low-income areas, a year after they started allotment gardening. Three Group Experiential Themes were developed from the analysis. *'Commonness amongst all the other people': Connection with allotment culture* explores the connection the participants formed with the culture at St Ann's allotments. *'This one's mine': Empowerment through Ownership* outlines the meaning participants gained from having control over a physical space and their own decisions. Finally, *'You just lose yourself': Tuning into nature* highlights the deepening relationship participants gained with nature through a sense of presence and emotional connection with it. The findings demonstrate the value of allotment gardening over time within low-income areas and have implications for government policy by exemplifying the importance of allotments as spaces for community, empowerment and connection with nature.

ARTICLE HISTORY
Received 12 November 2025
Accepted 26 January 2026

KEYWORDS
Allotments; low-income areas; ethnography; Interpretative Phenomenological Analysis; photo-elicitation

Introduction

The benefits of nature are well documented in psychological literature – nature provides basic survival needs including access to food and shelter, serves as a place of recreation, and its beauty can be calming (Kellert 1993, Hartig *et al.* 2014). However, access to nature is not equitable with private and public greenspace generally being limited in low-income areas compared with affluent areas (Schupp *et al.* 2016, Natural England 2021). Therefore, greening interventions are needed which can improve access to and quality of greenspace within low-income areas (Kelly *et al.* 2022).

Having access to a garden has been found to have greater wellbeing benefits than just having access to a public greenspace such as a park (Collins *et al.* 2023). Gardening for as little as two to three times a week for a total of 150 minutes can significantly benefit wellbeing (Chalmin-Pui *et al.* 2021, Fjaestad *et al.* 2023). Nature allows individuals separation from everyday life, captured by the concept of 'being away' in Kaplan's (1995) attention restoration theory. Gardening can also provide an escape, and has been shown to reduce stress, anxiety and depression (Gross and Lane 2007, Soga *et al.* 2017). These benefits suggest gardening should be accessible to individuals from all socioeconomic backgrounds (Egerer *et al.* 2022). However, it is not viable to provide everyone with a private garden as local authorities' limited budgets often require choosing between providing public or private greenspace for residents (Coolen and Meesters 2012). Therefore allotments – rented plots of land acquired for personal use (Gregis *et al.* 2021) which are embedded in local communities – may provide a solution (Kwartnik-Pruc and Droj 2023). Allotments provide space for individuals to grow their own produce (Acton 2011); however, they can also benefit health and wellbeing (Bailey and Kingsley 2020, Furlong *et al.* 2025). Allotments are generally governed by local councils, or organisations and can be rented by local residents for a yearly fee. However, high demand means prospective tenants are often placed on waiting lists which can span several years (Acton 2011, Larsson and Nygren 2024).

Within low-income areas, allotments offer food security (Pourmotabbed *et al.* 2020), autonomy (Abramovic *et al.* 2019), self-discovery (Bishop and Purcell 2013) and social connection (Mmako *et al.* 2019). Allotments can also be spaces where people can develop dimensions of occupation – doing, being, belonging and becoming (Bishop and Purcell 2013). Doing and being is linked with the purpose individuals gain from gardening through ownership,

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responsibility and accomplishment (Lucke *et al.* 2019, Mmako *et al.* 2019, Schmidt *et al.* 2021). Gardening can also help individuals regain their identity through cultivating produce connected with their own heritage or upbringing (Bishop and Purcell 2013, Martin *et al.* 2017, Furlong *et al.* 2025). Identity feeds into belonging and becoming, as a meaningful connection with space can strengthen community between gardeners through solidarity and sharing resources (Martin *et al.* 2017, Reed-Thryselius 2023, Furlong *et al.* 2025).

Allotments can also be spaces of social action against oppression through individuals coming together to claim ownership over the land (Crouch and Ward 1988, Reed-Thryselius 2023). These spaces reflect the concept of 'just green enough' where low-income areas need a balance between providing sufficient access to greenspace whilst preventing gentrification (Curran and Hamilton 2012). Through engaging and hiring residents, Rigolon *et al.* (2020) suggest this balance can be achieved. As allotments are developed with the local community's need for space for gardening in mind, they may help to address challenges surrounding greening in low-income areas (Furlong *et al.* 2025). Additionally, allotments may help to address the United Nations (2025) sustainable development goals, namely: good health and well-being, sustainable cities and communities, responsible consumption and production, and climate action.

The current study builds on the findings of a previous paper (Furlong *et al.* 2025) to explore the potential benefits of allotments for low-income residents. Here, low-income is defined in reference to the Indices of Multiple Deprivation (GOV.UK 2025) whereby areas within England are categorised into 10 deciles based on their level of deprivation across 7 domains, namely: income, education, employment, health, skills and training, disability, barriers to housing and services, crime and living environment (GOV.UK 2025). Within this study, areas within the top 20% most deprived decile are defined as low-income. The research focuses on the experiences of allotment gardeners from low-income areas within the top 20% indices, 12 months after the start of their tenancy. Webber *et al.* (2015) highlight that there is a lack of longitudinal, ethnographic research into the experiences of allotment gardeners over longer periods of time. The current study addresses this gap by using a longitudinal design to explore the experiences of allotment gardeners 12 months after they started their tenancy to understand any potential longer-term benefits of allotment gardening in low-income areas. The site chosen for this study is St Ann's allotments, in St Ann's, Nottingham, UK (Figures 1 and 2), an inner-city suburb in the top 10% most deprived nationally (GOV.UK 2025). Founded in the 1830s, St Ann's allotments is the oldest and largest allotment site in Europe, consisting of 670 plots over 75 acres (Renewal Trust 2023).

Nottingham residents can rent a plot at St Ann's allotments from £125 annually. A unique feature of St Ann's allotments are the 6-foot-high hedges which separate the large plots from one another which offer privacy for tenants to garden without feeling observed (Furlong *et al.* 2025). In Nottingham, allotments are charged at 46p per square metre and, while the plots at St Ann's allotments are more expensive than typical allotments, their cost is representative of the larger size of the space rented by tenants (Nottingham City Council 2025). It is acknowledged, however, that for some tenants, this figure may create a barrier to participation. To help address this barrier, community plots are available which also provide an initial introduction to allotment gardening. To maintain the representation of local people at St Ann's allotments, the site hires local people, hosts community events and conducts outreach work (Renewal Trust 2023). St Ann's allotments therefore aligns with Rigolon et al'.s (2020) recommendations for making low-income areas 'just green enough' by providing high-quality greenspace which reflects the needs of residents without leading to gentrification.

Currently, there is a lack of experiential research which explores the benefits of allotment gardening in low-income areas and, as a result, the unique experiences of these individuals often go unheard. Therefore, an approach which allows for a more in-depth account of the experiences of these individuals is needed to understand how allotments can support wellbeing in low-income areas. With this, the current research used a combination of Ethnography and Interpretative Phenomenological Analysis to explore the experiences of allotment gardeners living in low-income areas of Nottingham. This provides a novel approach to experiential research whereby the experiences of those whose voices are not frequently heard can be explored in depth (Maggs-Rapport 2000). More specifically, in line with Webber et al'.s (2015) call for more longitudinal ethnographic research relating to allotment gardening, the paper aims to explore the benefits of allotment gardening over a year and the role that this plays in supporting human-nature connection. Therefore, this paper explores the question: What are the experiences of allotment gardening over 12 months for individuals living in low-income areas?

Method

Ethnography (Atkinson and Hammersley 1998) was used to build rapport with participants and gain a first-hand understanding of allotment gardeners' experiences at St Ann's allotments. The first author volunteered at St Ann's allotments over 18 months, getting involved in daily tasks on the site, meeting

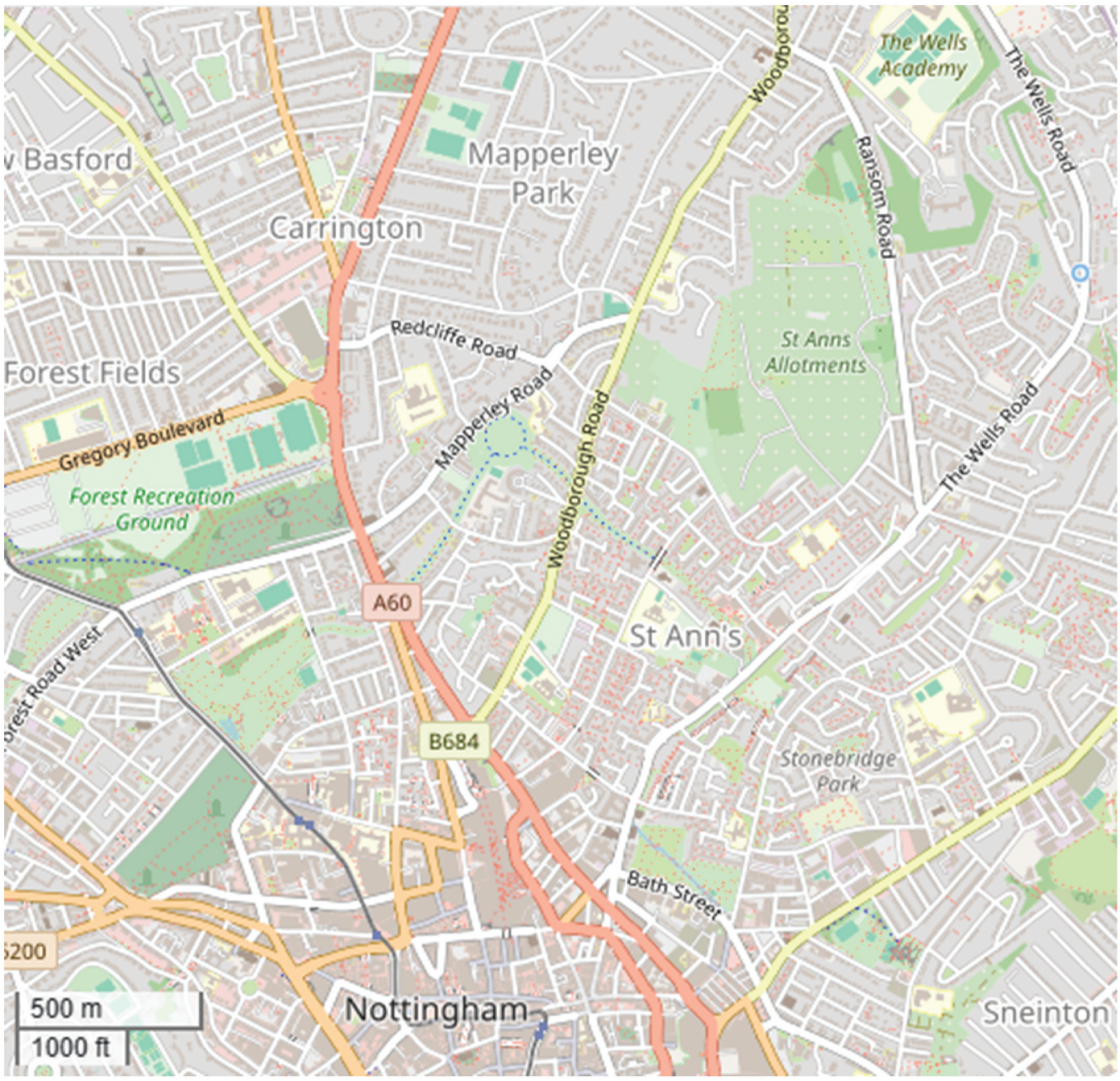

Figure 1. Map depicting St Ann's allotments situation within Nottingham, UK, adapted from OpenStreetMap (under a CC BY-SA 2.0 license: https://www.openstreetmap.org/copyright).

staff and tenants, and utilising various methods to understand the participants' experiences such as field noting, interviewing, observation and photography (Gobo and Marchiniak 2016). The first author visited the site between 2-4 times a month with each visit being between 2-5 hours. This was essential for building trust with participants, which may not have been possible through standalone semi-structured interviews (Maggs-Rapport 2000). This allowed the first author to become a part of the allotment community and gain a contextualised, first-hand account of the participants' experiences.

Data collection

During phase 1 of the ethnographic approach, the first 3 months involved settling into the allotment environment in which the first author worked alongside staff and volunteers on general maintenance tasks such as weeding, hedge trimming, and planting. This helped them integrate into the allotment community and meet the tenants and organisations onsite. The second phase involved recruiting nine new tenants living in low-income areas of Nottingham. These tenants were recruited through a purposive sample whereby the first author attended 'plot tours' - guided tours of available plots for prospective tenants – and invited attendees to have a further conversation about the study. Additionally, posters were placed around the site and recruitment emails were sent to new tenants by the allotment manager. Participants were invited for a semi-structured interview between August and December 2022 to discuss their initial experiences with allotment gardening. These interviews were analysed in a previous paper focusing on their early experiences of allotment gardening (Furlong *et al.* 2025). The third phase involved working alongside tenants on their allotments over 12 months to gain a first-hand account of how the participants used their plots. Here, the first researcher used a range of approaches to generate data including recorded conversations, photography (by both the

Figure 2. Map depicting a location plan of Nottinghamshire within the UK. adapted from Wikimedia Commons (under a CC BY-SA 3.0 licence: https://commons.wikimedia.org/wiki/File:Nottinghamshire_UK_locator_map_2010.svg).

researcher and the participant) and field notes. This helped to build rapport and trust with the tenants and reduce the researcher-participant hierarchy. The fourth phase involved follow-up semi-structured interviews with the same tenants interviewed during the second phase. These interviews followed a semi-structured schedule consisting of questions related to their experiences over the last year, their experiences with nature, photographs they had taken of their allotment, and how spending time there had been for them, for example, 'can you tell me about your experiences of being close to nature while in your allotment over the last year?' and 'how would you compare yourself now to how you were before you got an allotment?' It is these interviews which form the focus of this paper. These interviews were facilitated using photo-elicitation, where photographs are integrated into interviews to encourage meaningful responses from participants (Collier 1957, Harper 2002). Participants were given freedom to take as many photographs as they felt appropriate for meaningful moments in their allotment, however, they were asked to avoid taking pictures that could lead to the identification of themselves or others. They were then asked to bring a small selection of meaningful photographs to their interview which were discussed via prompts such as 'can you tell me about the photos you chose to bring in?' and 'can you tell me more about this moment?' Six of the seven participants chose to bring in photographs, with the photographs providing a visual representation of their experiences of allotment gardening over the course of the year. This method aligned with the ethos of the project as it empowered them to determine the agenda for the conversation.

Seven of the participants interviewed at the initial time point agreed to be interviewed at follow up. Following recommendations from Smith *et al.* (2022), smaller sample sizes of up to 10 participants are appropriate to explore individual lived experience in depth. To protect their identities, specific information about the participants is not provided. The participants were 3 men, and 4 women aged between 30 and 68. Six participants identified as white and 1 as black Caribbean. The participants all lived in one of 9 low-income areas of Nottingham which were highlighted by the Indices of Multiple Deprivation as being in the top 20% most deprived across the UK (GOV.UK). The current paper focuses on the follow-up interviews with the participants and includes some of the photographs discussed by the participants and others taken by the first author to illustrate the participants' experiences. The interviews were between 28-78 minutes in duration, with the average interview length being 61 minutes. Three interviews took place in person on-site and 4 were conducted online via Microsoft Teams.

Data analysis

The interviews were transcribed verbatim and analysed using Interpretative Phenomenological Analysis, a qualitative methodology developed by Jonathan Smith (1996) which uses an inductive and subjective approach to explore the unique lived experiences of individuals (Smith *et al.* 2022). This approach is informed by three philosophical schools of thought; i) Phenomenology which is concerned with revealing participants' experiences of a phenomenon; ii) Hermeneutics, where these experiences are interpreted with consideration to the social and cultural context of the phenomenon and the researcher's own personal experiences; and iii) Idiography which is concerned with small, homogenous participant samples (Smith *et al.* 2022). Alongside semi-structured interviews, this method is also compatible with focus groups, letters, diaries, photography and chat dialogues (Pietkiewicz and Smith 2014). Within the current study the Group Experiential Themes were developed from the analysis of the interview transcripts and then relevant photos from the interviews were included in the write up to contextualise the participants' experiences. In line with Burton *et al.* (2017), the use of photo-elicitation with Interpretative Phenomenological Analysis in the current study contextualised the participants' experiences and allowed the researchers to get closer the

Table 1. Group Experiential Themes.

Group Experiential Themes	Subthemes
(1) "Commonness amongst all the other people": Connection with allotment culture	"I think of my allotment within that particular place": A world beyond the allotment
	"Eco-friendly version of the 'we were here' graffiti": Continuing and creating legacy
(2) "This one's mine": Empowerment Through Ownership	"I like being in my own world": Ownership over space
	"Being the one to make those calls": Autonomy over decisions
(3) "You just lose yourself": Tuning into nature	Nature is an "immediate neutraliser"
	"I asked the tree its name": Emotional connection to nature

participant's 'horizon'. According to Gadamer and Cazeaux (1960) an individuals' horizon is the perspective of the participant as it is understood in relation to their historical context.

Within the current paper, Interpretative Phenomenological Analysis is combined with ethnography to understand participants' unique experiences of allotment gardening with consideration to their social and cultural contexts. Maggs-Rapport (2000) suggests that this provides a novel approach whereby the findings can be contextualised through the researcher's own observations of the culture of the research environment. The interviews were analysed in line with the seven stages of Interpretative Phenomenological Analysis (Smith *et al.* 2022). The first author familiarised themselves with the transcript by reading and re-reading it multiple times before moving onto exploratory noting where detailed annotations were made on the transcript. From these notes, Personal Experiential Statements were developed which captured important aspects of the participants' experiences. Next a mind map was created to highlight the patterns between these statements with related statements being clustered into Personal Experiential Themes. This process was then repeated across cases before the Personal Experiential Themes from each participant were brought together to create Group Experiential Themes. The third and fourth author acted as critical friends during the development of Group Experiential Themes and supported the interpretative analysis of extracts (see Table 1). A final level of analysis was conducted during the write up of the project, as is typical with Interpretative Phenomenological Analysis (Smith *et al.* 2022).

Reflexivity

Each author had a different relationship and identity with gardening which brought a unique perspective to the analysis. The way the authors interpreted the data was therefore shaped by these perspectives. The first author grew up in a rural area with good access greenspace but identified as coming from a low-income background. He did not identify as a gardener before the research, but through seeing the passion of the gardeners at St. Ann's allotments has developed a keen interest in gardening. The second author comes from a lower middle-class background. Her love of nature was sparked by gardening with her parents and grandparents, and she worked as a gardener immediately after leaving school. She lived in an inner-city area on a low-income for several years with minimal access to nature but now lives in a semi-rural location with easy access to nature. She enjoys gardening and has experience of tending an allotment. She has also worked with St. Ann's Allotments on a separate project. The third author has lived both in urban and rural spaces during her life. She lives in a town with lots of local greenspace, has a small home garden and a family allotment. Her parents were middle class, her grandparents working class, and both her mother and grandfather were keen gardeners. The fourth author comes from a working-class background and does not own her own garden. She has a strong connection to nature which has been cultivated throughout her life through visits to locally accessible nature and assisting her grandparents in their own gardens.

Ethical concerns

The University of Derby's ethics committee granted approval for the current study (ETH2223-0137) which was conducted in line with the requirements of The British Psychological Society (2021) code of ethics. Informed consent was obtained from all participants prior to their interview, and they were fully debriefed afterwards. Participants were aware that they could withdraw any time before and during the interviews and up to two weeks after taking part. Two participants withdrew from the study following the initial interviews. Pseudonyms are used to protect the participants' identities and any information that could be personally identifiable was removed from the transcripts. All participants were given a £10 voucher to thank them for their time and insight.

Analysis

Three Group Experiential Themes were developed following the seven stages of Interpretative Phenomenological Analysis, relating to a connection with the wider allotment culture; the importance of ownership over space and how it is used; and a feeling

of presence and emotional connection through becoming attuned with the nature on the allotment.

'Commonness amongst all the other people': connection with allotment culture

Participants expressed a connection with allotment culture through their experiences of allotment gardening. Through becoming part of the allotment community, the participants opened their allotment to other gardeners and explored others' plots. Participants also considered this connection with culture in relation to the past, present and future through the importance of continuing and creating legacy.

Subtheme 1a) 'I think of my allotment within that particular place': a world beyond the allotment

Through engaging with the culture around the site during their first year of allotment gardening, the participants integrated into the allotment community through opening and sharing their spaces with other gardeners and visiting others' plots.

By exploring the world beyond her allotment, Megan highlighted an etiquette on site which needed to be navigated to understand the cultural norms associated with St Ann's allotments:

> I didn't realise this, but there's like a code for people that if like you leave your allotment door open, it means that like, you're happy for people to poke their head in and say hi. But then if it's closed, that's sort of a like, you know, almost the way closed, that's kind of a 'we're doing our own thing, leave us alone', you know. And that was really nice because we're like, oh, this is so secluded that if we don't, if we're not feeling sociable, we just don't have to have those interactions. – Megan

Megan used the word 'code' to highlight a secret and unique set of behaviours shared between tenants. The phrase 'didn't realise' further highlights the secrecy of this etiquette, suggesting that new tenants can only decipher this code through familiarity with the community. Through learning this code, Megan's identity shifted from being a beginner to becoming an integrated member of the in-group of the allotment community. Deciphering this code empowered Megan to choose how she shared her space by removing any obligation for her to open her allotment. This allowed her to socialise within her own comfort levels while still having the privacy of her 'secluded' plot to give her some space away from others. For moments when she wanted to open the plot to other people, Megan's shed provided a space to socialise (Figure 3). In contrast, Bombadil felt more accepted on the site through building relationships with tenants:

Figure 3. During times when she felt social, Megan's shed served as a social space where she could invite people in on her own terms (image provided by Megan).

> he [another tenant] gave me a fig. I've never even seen a fig before in my life. Not only did I see one but let me taste one. He didn't seem to be disturbed by me or the way that I am, because when I'm not at work, when I'm in my own space, especially if I'm depressed, I'm very much an insular person. I go into my own world cause it's the only place I'm safe, [neighbour] didn't seem to mind that at all. He didn't think I was weird or odd. – Bombadil

The word 'insular' captures Bombadil's introverted personality and presents him as being closed off to the outside world and retreating to his 'own world' for safety. There is a sense that friendly interaction was not something he was used to, and he expected to be rejected by others, something evidenced by his anticipation of being considered 'weird', 'odd' or the other person being 'disturbed' by him. However, the fact that his neighbour 'didn't seem to mind at all' suggests this interaction is characterised by acceptance rather than rejection. Unlike Megan, who experienced a shift in her identity, Bombadil's sense of awe with trying his neighbour's figs reveals him as a beginner in comparison to his neighbour's greater gardening experience. With this, Bombadil entered a new world of unfamiliar experiences, yet he felt fully accepted with the fig offering being a symbol of welcome which allowed him to meaningfully connect with his neighbour.

Subtheme 1b) 'eco-friendly version of the "we were here" graffiti': continuing and creating legacy

Through becoming more accustomed with the allotment history, culture and community, the participants

became more concerned with creating their own legacy and respecting the legacy of those who came before them. While considering the wider historical context of the plot, Vic felt a connection to the tenants who preceded him:

> it's nice to be a part of it [site's history], but to be able to be in a space where you know you can - you can experience that and I think and that's just a really nice sense when you're walking around there, you know, 150 years ago, somebody was doing the same towards their site and go probably through the same gateway that you go through into your allotment. - Vic

Vic reflected on his connection to the allotment's history which gives a sense of him walking in the footsteps of previous tenants. The shared 'gateway' acts as a portal through which he can connect with previous tenants through realising a similarity in their experiences; this helps him to feel 'a part of' the history of the site. Figure 4 highlights the contrast between connection between past and present structures on the site. Rather than connecting to part plot owners, Megan considered the impact her own legacy will have on future tenants:

> maybe we aren't gonna feel the benefit of it but in a generation or two's time they will feel the benefit and so there's a kind of a selfless thing but also there's a bit of a selfish thing that like, that is there now because we planted it there and so . . . we've left our mark so even if you know at some point if we you know if we have to move away or if we give up the allotment or whatever happens like that's a little thing that we did that is going to affect that space because we were there . . . it's like a really natural eco-friendly version of the 'we were here' graffiti. – Megan

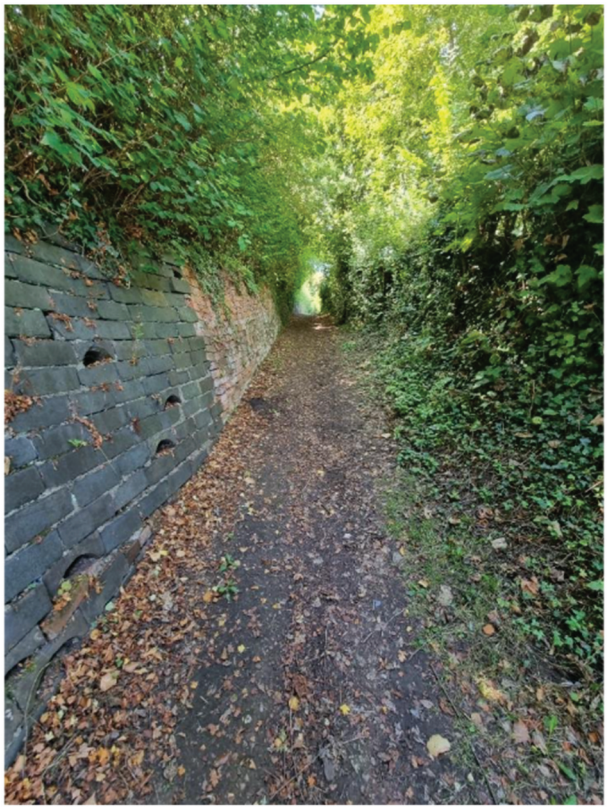

Figure 4. This image exemplifies the contrast between older walled Victorian structures on the site and modern, natural structures such as hedges which are maintained by tenants. It is here where history and nature meet on site (image provided by the first author).

There is tension in Megan's view of her legacy being both 'selfless' and 'selfish'. She demonstrates altruism through viewing her contribution as being for 'a generation or two's time' rather than for herself. Thus, Megan is providing for future generations of gardeners and is passing the baton onto future tenants. In contrast, the phrase 'left our mark' highlights the selfishness in her desire to maintain her impact and influence on the site. Equating this with '"we were here" graffiti' suggests that this was an act of territorialism with the things she planted indicating her continued ownership over the allotment.

In this Group Experiential Theme, the participants' connections with the allotment culture were highlighted. Through navigating the community, they became aware of unique customs which helped them form meaningful relationships with other tenants and helped them feel more accepted. For some participants, their identity with the allotment community was deepened as they transitioned from beginners to established gardeners. The participants also became aware of the importance of continuing and creating legacy at the allotments as they connected with the experiences of previous gardeners and considered the impact they will have on future gardeners.

'This one's mine': empowerment through ownership

For many of the participants, having ownership over a physical space was rare and with this, the allotments took on a sense of meaning and purpose. Having ownership over a plot also allowed the participants to exercise full autonomy over their decisions on the allotment.

Subtheme 2a) 'I like being in my own world': ownership over space

Having their own allotment which they had complete control over evoked a sense of ownership over a physical space for the participants. Through this ownership, the participants experienced safety, purpose and gratitude. Having his own space allowed Bombadil to escape inwards into his own world:

> I like being in my own world, I like being in my own space. There was a couple that came past the garden, and they were really weird - no they weren't weird

> I just don't think they were expecting someone like me to be in a garden … but their energy was very much like Wind in the Willows. Like 'hi, how are you? I'm [name] this is [name]. Oh, it's lovely time' but my whole energy was please just leave. Like I don't have, you know, just leave as quickly as fast as possible like I don't have a problem, I wasn't angry. I was I just I was very much in my own world, and I felt safe and I just don't know how to deal with people. – Bombadil

Having ownership over his 'own space' at the allotments allowed Bombadil to enter his inner world where he felt safe. There is a sense that the physical allotment space and Bombadil's own inner state merge and become synonymous with one another. Therefore, strangers visiting his plot unannounced also intruded on his inner world. Using the word 'weird' to describe these visitors positions them as outsiders who threaten his inner peace. Bombadil expresses a familiarity with rejection through the phrase 'weren't expecting someone like me' which leads to him judge these visitors too quickly. However, his recognition of this judgmental attitude highlights his empathy towards them. There is tension between Bombadil's introversion and the 'Wind in the Willows' energy of the visitors which led to him feeling alienated and protective in his own space. Bombadil's use of simile here presents these visitors as being childlike and whimsical and therefore the energy they bring to the plot is disruptive to his need for seclusion. For Ivy, her ownership of the plot was defined by it being a 'blank slate' and signified potential.

> I know it's very overgrown in that photo, but it's sort of like, look at all of this potential of things that you can do because in a way, it's like a blank slate because there wasn't a load of plants that someone else had put there or anything like that. There was infrastructure in the paths and the terracing, but that was it and I think I kept it sort of on my desktop and to compare to the progress that I had made – Ivy

By describing her allotment (depicted in Figure 5) as a 'blank slate', Ivy presents her plot as being unimpeded by the previous tenants' influence and because of this, she could exercise her autonomy and be creative. However, if plants were present on the plot, this would take away from her ownership due to these being a physical representation of the previous tenant. In its blank and unmanaged state, the allotment motivated her through providing a comparison point for her to plan her own allotment journey.

Subtheme 2b) 'being the one to make those calls': autonomy over decisions

The participants' ownership over a natural space on their allotment evoked a sense of autonomy in which they were able to make their own choices and decisions.

Figure 5. This image depicts Ivy's plot at the start of her tenancy; its overgrown nature signified potential and helped to benchmark her improvements (image provided by Ivy).

Amber gained a sense of liberation from the autonomy she was able to exercise on her allotment:

> the freedom to have like a learning space like the freedom to be able to make your own decisions and about how you prepare the space how you grow what you're gonna grow I think having that freedom to yeah take that initiative is probably the most important thing because it's part of like the project and part of the learning it's not just like seeing how things grow but yeah like making those decisions like being the one to make those calls – Amber

Amber's repetition of 'freedom' suggests this is something she held with high importance. Autonomy was therefore a central concept for her and came from her ability to exercise control over her learning and use her own 'initiative'. This was empowering for Amber as she was able to make informed decisions based on her own learning and reasoning instead of relying on others. The phrase 'make those calls' positions her as the leader of her own 'project' where she had control over the decisions. The vegetable bed in Figure 6

Figure 6. Amber's vegetable bed provided her with a place to express her autonomy over the things she grew (image provided by Amber).

exemplifies how Amber exercised her autonomy on the site. Similarly, for Jason, the allotment was somewhere he could form a more respectful relationship with nature:

> you come to the allotment and you – I shouldn't use the word control, but you do what you want if you know what I mean. You go to the community gardens, and anyone can use it, they can go up to the roof garden anyone can go and play music, eat food, do whatever and you can be sat there thinking, why don't you look after it but then at the allotment you can just do the decisions yourself. – Jason

The communal garden at Jason's flat is presented as being somewhere that nature is used for personal gain and is prioritised as a place of leisure where people 'play music, eat food and do whatever'. In contrast, he presented the allotments as being a place where reciprocal relationships with nature were emphasised and where people strived to 'look after it'. Having ownership over this natural space meant respecting and protecting nature. However, there is also a sense that Jason was careful not to place himself above nature, with his hesitancy around the use of the word 'control' suggesting he viewed his relationship with nature as reciprocal.

This Group Experiential Theme highlighted the participants' feeling of autonomy and ownership though having their own allotment. *'I like being in my own world': ownership over space*, explored how having ownership of a physical space provided the participants with privacy, safety and control. Furthermore, *'Being the one to make those calls': Autonomy over decisions* highlighted how the allotments gave the participants the control to realise their own desires and ambitions as well as make a conscious choice to treat nature with respect.

'You just lose yourself': tuning into nature

For some participants nature was considered an 'immediate neutraliser' and tuning into it allowed them to feel present and grounded. Nature, therefore, provided a sense of calm, as well as space to address and alleviate mental health issues. Experiencing nature on this intimate level also nurtured participants' emotional connection with their allotment, characterised by feelings of joy at observing the beauty of nature, as well as anthropomorphising nature as human.

Subtheme 3a) nature is an 'immediate neutraliser'

Having control over their work on the allotment allowed the participants to tune into the present through the nature in this space acting as a calming or invigorating force.

Vic experienced a sense of clear mindedness by being immersed in nature:

> You only have to stop for like five minutes and then you'll hear something in a hedge and then a mouse will come out or something, it's just absolutely teeming with stuff there. But yeah, no, it's been fantastic. And I think when you're surrounded by that, especially if you live in a city centre it's almost an immediate neutraliser. You feel almost recharged, being surrounded by nature, which is certainly something that was important to me. – Vic

Vic's sense of presence came from an immersion in the nature on his plot. The use of the word 'teeming' suggests an abundance of wildlife in this space and a fullness to the nature that surrounds him. This contrasts with the nature in the inner-city area he lives in which he suggests was lacking in comparison. Vic characterised this immersion in nature as being an 'immediate neutraliser', suggesting that outside of the allotments he felt either in a state of being energised or depleted, and on his plot, he returned to a state of calm. The word 'recharge' here signifies that he generally experienced low energy in his everyday life and nature was something that could replenish him back to his normal state. Building on this, Polly's immersion in nature on her allotment evoked a sense of 'mindfulness':

> you just you lose yourself down there, you know. Nothing else matters. You're there in the moment. So, it's like mindfulness I suppose, isn't it – Polly.

Polly suggests a sense of transcendence while on her allotment through the phrase 'you just lose yourself'. With this she experienced a deep connection with the nature on her plot where she was could move beyond her sense of self and focus on the present. The word 'mindfulness' suggests that the presence Polly experienced on her plot was intentional and involved actively focusing on the present which contrasts with the passive state of being neutralised described by Vic.

Subtheme 3b) 'I asked the tree its name': emotional connection to nature

The participants expressed an emotional connection to nature through interacting with it on their allotment.

Amber placed importance on teaching her daughter to respect nature:

> she's too young to really help and if she breaks something I'd be upset and then you know she doesn't understand how important a seedling is you know like you spent weeks nurturing it and then they just see the compost around it and they just want to play with that you know you're like 'my baby!' you know yeah I always tell her like all the plants are thirsty and talk to her about the plants that they're important as well so she learns that like it's not just her but also the plants – Amber

The time that Amber invested to 'nurture' her plants meant she formed a similar attachment to them as she

had with her daughter. This attachment is emphasised through the phrase 'my baby' in which the active role played in nurturing plants from a seed mirrored the role of raising a child. Amber was, therefore, keen to pass this respect for nature onto her daughter. She used words such as 'thirsty' to humanise the plants for her daughter and help her to relate to the nature on the allotment and, as evidenced by the phrase 'it's not just her but also the plants', instil a belief that plants must be respected due to being on a similar level to her. In contrast, Bombadil's anthropomorphising of plants was more spiritual:

> I asked the tree its name and the name Martha - so Bertha [separate tree] and Martha just came out, and so we kept talking to Martha, was like, listen, if you're taking a year off, that's fine, but if you do give us apples next year - which is now this year - you know, we'll make the most of it like we will make the most of them apples . . . my relationship with the garden has become even, I'd say even a little bit spiritual – Bombadil

While Amber humanised nature to help her daughter to respect it, Bombadil personally connected to nature on a human level through asking a tree for its name (depicted in Figure 7). Through this act, Bombadil empathised with the tree, recognising that like him, it was putting in effort to produce fruit. Through this empathy, Bombadil offered reassurance to the tree to show that the work it was doing was appreciated regardless of whether it produced fruit. Bombadil also expressed an obligation to ensure that the fruit the tree produced did not go to waste. Here, it can be interpreted that Bombadil did not want the tree to feel like its efforts were in vain and thus disappoint it. The

Figure 7. This image depicts one of Bombadil's trees which he named Bertha. Here Bombadil captured a moment when the tree began producing fruit (image provided by Bombadil).

'spiritual' element of Bombadil's relationship with the nature on his allotment therefore came from viewing the tree on the same level as himself. With this, Bombadil's connection with nature deepened through transcending his sense of self and connecting with the spirit of the tree.

This Group Experiential Theme explored how tuning into nature evoked both presence and emotional connection for participants. The subtheme *Nature is an 'immediate neutraliser'* highlighted the therapeutic benefit of being immersed in nature. The second subtheme, *'I asked the tree its name': emotional connection to nature* discussed the emotional attachment the participants experienced towards the nature on their allotment characterised by a respect and desire to protect it. Overall, the three Group Experiential Themes are connected through the participants' sense of choice in how they engage with the allotment site. However, these themes are distinct in the focus of the participants' attention, such as how they engage with the culture and community on the site, how they physically use the space and how they engage with nature.

Discussion

This analysis explored the experiences of allotment gardeners from low-income areas following their first year's tenancy at the St Ann's allotments. The current study highlights how long-term allotment gardening, as well as access to private natural space, supports general health and wellbeing (Chalmin-Pui *et al.* 2021, Fjaestad *et al.* 2023, Collins *et al.* 2023) with participants learning from and connecting with other gardeners, as well as exercising their autonomy and experiencing a sense of presence. Additionally, the findings highlight how allotment gardening allows people to move beyond basic psychological needs to develop deeper, meaningful relationships with nature (Kellert 1993, Hartig *et al.* 2014). Specifically, these findings provide a valuable insight into the importance of allotment gardening in low-income areas for identity, community, empowerment and deepening connections with nature.

The first Group Experiential Theme, *'Commonness amongst all the other people': Connection with allotment culture* highlighted that by opening their plots to other gardeners, the participants became familiar with the allotment etiquette and developed into more established members of the community. Building on research from Delshammar *et al.* (2016) and Reed-Thryselius (2023) surrounding the sense of solidarity that develops among allotment gardeners, the findings suggest that through sharing their space with other tenants the participants built their social capital and developed their identity as gardeners. This reflects Wenger's (1999) Communities of Practice whereby an individual seeks mastery and gains membership to

a group through the support of others within that community. This also highlights the need for competence and relatedness, concepts within Self Determination Theory (Ryan and Deci 2002), as the participants recognised their identity as gardeners and through this developed competence in their gardening abilities. This also reflects Bandura and Adams (1977) Self-efficacy Theory as the participants modelled others' behaviours to develop their competence. Additionally, while Scott *et al.* (2018) suggested that allotment gardening allows for the continuation of family traditions, these findings highlight how, by continuing the legacy of previous gardeners while creating their own unique space, allotment gardeners can connect more deeply with the culture of the site. Additionally, this presents legacy as being something that extends beyond the individual's own desire to be remembered and is understood to be something which can be altruistic through planting for future generations.

The second Group Experiential Theme, *'This one's mine': Empowerment through Ownership* explored how having ownership over their decisions at the physical allotment space empowered the participants. Reflecting findings from Mmako *et al.* (2019) regarding the importance of personal autonomy for marginalised individuals when gardening, the findings suggest that having their own allotment gave the participants a space they could retreat to for safety while also empowering them to exercise their ownership over the space (Ghose & Pettygrove 2014; Reed-Thryselius 2023). This reflects Maslow's (1943) Hierarchy of Needs, specifically the need for esteem which highlights the importance of confidence, strength and freedom. The control and independence that the participants gained from having an allotment fulfils this need through giving them freedom to be alone as well as mould the space in their own way. The findings also highlight a movement towards the higher level of self-actualisation. Through having autonomy over their own decisions, the participants built towards a personal aim of living in a way that expressed harmony with nature. Additionally, this theme also provides further support for the needs for autonomy and competence within Self Determination Theory (Ryan and Deci 2002) as the participants exercise control over their plots and use it to develop their abilities as gardeners.

The final Group Experiential Theme, *'You just lose yourself': Tuning into nature* highlighted a deepening connection with nature through presence and developing an emotional connection with it. Participants expressed a sense of presence through being immersed in the wildlife on their plots, and consequently this led to a sense of self-transcendence. This supports research highlighting the sense of presence that can be evoked through gardening (Besterman-Dahan *et al.* 2021). Beyond presence, the emotional connection the participants experienced towards nature developed from the pleasure of observing nature to the humanisation of plants, reflective of the humanistic value of Kellert's (1993) Biophilia Hypothesis. This anthropomorphising of nature reflects research from Unruh and Hutchinson (2011) in which the natural world is considered a space of introspection and spirituality whereby nature is seen as a spiritual being. This relates to the pathways to nature connectedness (Lumber *et al.* 2017), particularly the emotion pathway through a feeling of affection for nature and the compassion pathway through a desire to give back to the nature world and protect it. This deeper connection with nature also supports Ecological Self (Bragg 1996) and Environmental Identity (Clayton 2003) in which the importance of developing a relationship with nature is emphasised as being on the same level as with humans.

Conclusion

These findings position allotments within low-income, inner-city areas as spaces where residents can develop a greater sense of community through becoming integrated members of the allotment site. Additionally, allotments can be spaces where low-income residents can become empowered through exercising ownership over a physical space and their decisions surrounding it, something particularly pertinent for people who have limited access to private greenspace. Additionally, considering the United Nations (2025) sustainable development goals around sustainable cities and communities and climate action, a deeper connection with nature through allotment gardening may lead to a greater desire to protect the environment. This therefore suggests allotments are important spaces for wellbeing in low-income areas and should be protected. This research has implications for councils and government by highlighting the benefits of allotment gardening over time and the importance of these spaces for building community, empowering local people and nurturing meaningful connections with nature. Reflecting recommendations from Rigolon *et al.* (2020), policy makers should develop greenspaces which align with the needs of local residents. While it may not be possible to embed spaces such as St Ann's allotments in all low-income areas, the findings highlight the importance of prioritising spaces which allow opportunities to build community, ownership and connect with nature on an emotional level.

The strengths of this research include the longitudinal design alongside the combined use of Interpretative Phenomenological Analysis and ethnography which provided a novel, contextualised understanding of how the participants' experiences changed over time. Additionally, the large and historic research site gives a unique perspective into how higher quality allotment sites can benefit people in low-income areas.

However, this research was not without limitations. Firstly, two participants withdrew from the research between the first interview in 2022 (Furlong *et al.* 2025) and the current study. While the sample was appropriate for Interpretative Phenomenological Analysis, this highlights the importance of overrecruiting when conducting longitudinal Interpretative Phenomenological Analysis research. Secondly, the demographic sample was primarily white British, with only one participant identifying as Black Caribbean. Additionally, the primary researcher had limited time to volunteer on site, and this meant that the experiences of people who use the site were only partially captured. Future research in this area could therefore focus on how those from different ethnic groups experience the allotments. Furthermore, there is scope to explore how children living in low-income areas benefit from having access to a high-quality allotment space.

Acknowledgements

The authors would like to thank the participants for giving their time to take part in this research, the management staff at St Ann's allotment, and the Renewal Trust for supporting this project.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Data availability statement

Due to ethical/commercial issues, data underpinning this publication cannot be made openly available. Further information about the data and conditions for access are available from the University of Northampton Research Explorer at https://doi.org/10.24339/25def775-0c29-4a69-97ff-4d686681f549.

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