



Exploring domestic garden identities: personal histories from older people in the Netherlands

Rachel Lauwerijssen, Ian Mell & Adam Barker

To cite this article: Rachel Lauwerijssen, Ian Mell & Adam Barker (08 Dec 2024): Exploring domestic garden identities: personal histories from older people in the Netherlands, Landscape Research, DOI: [10.1080/01426397.2024.2428811](https://doi.org/10.1080/01426397.2024.2428811)

To link to this article: <https://doi.org/10.1080/01426397.2024.2428811>



© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.



Published online: 08 Dec 2024.



Submit your article to this journal [↗](#)



Article views: 259



View related articles [↗](#)



View Crossmark data [↗](#)

Exploring domestic garden identities: personal histories from older people in the Netherlands

Rachel Lauwerijssen , Ian Mell  and Adam Barker 

Department of Planning, Property, and Environmental Management, University of Manchester, Manchester, United Kingdom

ABSTRACT

Domestic gardens are spaces imbued with meaning, expression, and identity. This paper seeks to explore garden identities across their lifespan in the Netherlands by investigating older people's personal histories through thematic analysis. Oral history interviews ($n=20$) were conducted in 2019 with residents living in Breda and Tilburg, two medium-sized cities in the south of the Netherlands. The findings suggest that garden identities change over time and are likely to be developed during childhood. Gardening, garden trends, and socio-economic factors can influence and change garden identities. This paper addresses a gap in existing literature and explores garden identities, underscoring the importance of gardens across the lifespan to liveability and sense of self. It argues that valuing everyday objects like gardens helps to plan and design green, liveable, and inclusive neighbourhoods in cities.

KEYWORDS

Domestic gardens; identity; life-course; liveability; older people; perceptions; oral history; gardening

Introduction

Green neighbourhoods with streetscape greenery and green or semi-green gardens positively impact health and well-being (Beumer, 2018), enhancing a neighbourhood's appeal and inviting people to live there (Suyin Chalmin-Pui et al., 2021). Gardens serve as a spaces for self-expression and identity, and convey societal meaning about homeowners and neighbourhoods (Buse, Balmer, Keady, Nettleton, & Swift, 2023; Tsai, Cushing, & Brough, 2020). Gardening is a popular activity in which people can express themselves through garden aesthetics. Green gardens also have potential effects on local climate improvement, stormwater runoff management, urban biodiversity (Young, Hofmann, Frey, Moretti, & Bauer, 2020), as well as and home attachment (Bhatti, 2006). An explorative policy report about gardens and gardening in the Netherlands published by the Dutch Institute for Social Research found that approximately 70% of the Dutch population owns a garden (Kullberg, 2016), ranking second in Europe after the United Kingdom (Freeman, Dickinson, Porter, & van Heezik, 2012). Despite the majority of the Dutch society having access to the gardens, garden studies in The Netherlands focussed on community gardens (Ulug & Horlings, 2019) compared to domestic gardens. Since post-COVID-19 studies on domestic gardens focused on health, well-being, and the restorative benefits of gardens

CONTACT Rachel Lauwerijssen  rachel.lauwerijssen@manchester.ac.uk

Permission has been obtained for all figures since the lead author took all the pictures.

© 2024 The Author(s). Published by Informa UK Limited, trading as Taylor & Francis Group.

This is an Open Access article distributed under the terms of the Creative Commons Attribution License (<http://creativecommons.org/licenses/by/4.0/>), which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. The terms on which this article has been published allow the posting of the Accepted Manuscript in a repository by the author(s) or with their consent.

(Marsh et al., 2021), explorations on garden identity remain limited even though studies found identity to be a significant lifespan theme (Gross & Lane, 2007). To address this gap the following paper investigates older people's personal histories in the Netherlands to explore how garden identities and attachments are created and maintained throughout the lifespan based on thematic analysis.

Gardens and identity

Gardens are spaces where meaning and identity reside, shaped by family history and self-identity (Francis & Hester, 1990). While scholars including Kaplan (1995), Kaplan and Kaplan (1989), and Francis and Hester (1990) have linked nature and natural settings to psychological well-being, few have directly addressed the role of everyday spaces such as domestic gardens. The presence of nearby nature has restorative benefits for all population groups (Kaplan & Kaplan, 1989), and the loss of emotional and physical access to nature potentially means a loss of immediate and direct experience. According to Attention Restoration Theory (ART), the natural environment of home gardens (and the activity of gardening) can foster effective psychological functioning by aiding the recovery of directed attention. As more homeowners choose tiled gardens over green ones, people may endure psychological stress due to the lack of nature and greenery. Francis and Hester (1990) assert that individuals communicate their personal values and feelings through the aesthetics of the garden, but do not suggest how these meanings may alter over a lifetime.

The concept of identity refers to how people see themselves, based on reactions from others with whom they interact (Stets & Burke, 2000). These relationships include both human and non-human actors, such as meaningful inanimate objects like the garden. Kiesling and Manning (2010) discussed garden identity as both personal and social, with aspects of identity changing over the lifespan. To promote feelings of inclusion and belonging, individuals are motivated to behave in ways that are likely to be affirmed by group members. The garden reflects important values and beliefs, direct experiences with nature, and interactions with others (Kiesling & Manning, 2010). Reduced involvement with nature makes it more difficult to comprehend and appreciate the natural world, potentially resulting in a loss of knowledge and connections to nature (Francis & Hester, 1990; Kaplan & Kaplan, 1989). Trends towards paved gardens could create a greater disconnect to nature if not addressed. Kaplan (1983) stated that gardeners feel less satisfied with their efforts if it is for neatness and tidiness. Thus, people's approach and motivation for gardening is also considered to influence their sense of identity.

The role of gardens in the Netherlands

Since World War II, the collective image of gardening in Dutch society has evolved, alongside rapid urbanisation, urban sprawl, growing environmental awareness, and the rise of individualism, among other societal factors (Kullberg, 2016). Urbanisation limited the space available for private gardens, leading to the emergence of collective approaches to gardening like community gardens, 'volkstuinten', in Dutch (Kingsbury & de Ridder, 2021). With increasing affluence in the 1950s and 1960s, Dutch households began to view gardening as a leisure activity to beautify their homes. More people moved into single-family homes, resulting in an increase in private garden ownership and a decrease in community gardening. A front- and back garden with ornamental landscaping, garden furniture, and manicured grass became the suburban residential norm (Kullberg, 2016; Linssen, 2011). This transformation sparked debates within municipalities about the extent of owner's design freedom versus public interests in preserving the neighbourhoods image (Kullberg, 2016). These spatial changes were implemented without considering the symbolic meaning and health benefits of the garden and gardening (Beumer, 2018), gaining prominence during the COVID-19 lockdowns (Marsh et al., 2021). Since the 1990s, the proliferation of television gardening, garden makeover programmes, and garden magazines also contributed to this expansion of interest

and activity (Linssen, 2011). In recent years, multiculturalism influenced the collective image of gardening promoting social integration and cultural diversity and enriching the Dutch gardening landscape (Kingsbury & de Ridder, 2021; Kullberg, 2016). Gardens, once used primarily for food production, evolved to become symbols of status, individual expression, and leisure activities.

Life course perspective to gardens

Gardening behaviours change throughout an individual's life, influenced by life events and life stages (Gross & Lane, 2007). The life course, 'a progression through time' (Clausen, 1986, p. 2), enables researchers to explore the progression of individual life through life stages, based on age, and life events (Alwin, 2012). A life-course perspective helps explain how gardening fits into the transitions people experience as they age, move homes, start families, or retire. This perspective emphasises that life is influenced by social, cultural, and historical contexts, highlighting the complexities of human development over time. For many, the first experiences with gardening occur in childhood and could shape their perceptions in later life (Francis, 1995; Wells & Lekies, 2006). During parenthood, gardening often becomes a family activity as a way to teach them about nature, sustainability, and responsibility (Linssen, 2011; Wells & Lekies, 2006). During this life stage, gardens are often multifunctional, serving as spaces for play, relaxation, family bonds, and food production (Freeman et al., 2012). Family gardens may help reinforce intergenerational ties, as parents and grandparents pass down gardening knowledge and skills to younger generations. In retirement, older adults may invest more time in gardening as a leisure activity that promotes physical health, mental well-being, and social interaction (Buse et al., 2023; van den Berg et al., 2020). On average, Dutch garden owners spent about 45 min a week on gardening, a figure that increased during the pandemic (Freitag et al., 2021). Although this varies per season and per household (van den Berg et al., 2020), gardening remains a popular leisure activity (Beumer, 2018). Whether through childhood exposure, family engagement, or retirement hobbies, gardening is an enduring part of Dutch life that reflects broader socio-cultural norms and societal changes surrounding sustainability, biodiversity, and community engagement.

Previous works by Bhatti (2006) and Bhatti, Church, and Claremont (2014) debated the value of gardens, recent research has not readily engaged in the meaning of gardens and their role in everyday life. Exploring a resource – a garden – that 70% of Dutch society have access to provides critical insights into its value for climate change adaptation and community health. For instance, a paved and green garden may be perceived differently (Kullberg, 2016). Contextual case studies, such as this study, can advance garden research in the West by investigating the lifelong connections people develop with gardens. While existing research suggests homeowners may be judged by their garden design (Buse et al., 2023; Murtagh & Frost, 2023), it remains unclear how gardens are perceived by other community members, and how external judgement might influence garden identity. Discussions focussed on adopting an oral testimony approach to examine these lifelong connections to gardens would contribute to people-place debates in environmental psychology, neighbourhood planning, and green infrastructure planning literature. Based on the discussion above, there is an expectation that garden identities change across the life course. This paper highlights the garden's role as a showcase of personal and social identity, family history, and meaning across the lifespan, adopting an oral history approach.

Methods

Research design and context

Participants for this study were recruited from two neighbouring medium-sized cities, in the province of Noord-Brabant, southern Netherlands: Breda (approximate population: 184,000) and Tilburg (approximate population: 222,000). Breda is known for its nobility, while Tilburg is a working-class

city with a focus on transportation and distribution industries. The average percentage of vegetation cover in domestic gardens was 34% in Breda, 19% in Tilburg; this figure is 36% in the Netherlands (Deloitte, 2019). In Breda, green gardens are likely situated outside the historic city centre, in close proximity to parks and other greenspaces (Deloitte, 2019). In Tilburg, particularly in the centre and west residential areas developed post-World War 2, the predominant housing type is terraced housing often paved and/or tiled. The highest concentration of urban green gardens in Tilburg were located near the Oude Warande, an urban forest area close to Tilburg University (Deloitte, 2019).

Data collection

The purpose of the study was to explore how people develop garden identity through adopting an oral testimony approach. From this standpoint, garden identities should be understood as a complex mixture of emotions, feelings, thoughts, ideas, expressions, memories, attachments, and meaning-making. Since COVID-19, a significant proportion of garden research has focussed on gardens as spaces for health and well-being (Marsh et al., 2021; Tandarić, Watkins, & Ives, 2022) and less attention has been afforded to identities. Noting that gardening has gained popularity among Dutch households and is a crucial factor in garden identity, more attention and evidence is needed to better understand their value in Dutch society (Freitag et al., 2021; Gross & Lane, 2007). Lifespan perspectives offer nuanced insights into how individuals develop connections to places through their lives, shaped by diverse social and physical environments (Hanson, Eckberg, Widenberg, & Alkan Olsson, 2021). Analysing oral testimonies reveal the evolution of meaning across life stages and help to comprehend spatial and social changes demonstrating their impact on place meaning (Lauwerijssen, 2021). Older people were selected as the participant group in this study, as their experiences enable us to better understand the development of garden identities across an individuals' lifespan amining different life trajectories, upbringings, and the environments individuals growing up in can enhance our understanding of the causal relationships between the environment, liveability and place over time. All participants have used or owned a garden during the lifespan, and thus were able to reflect and discuss their (former) connections with these spaces, offering critical insights into the tacit understanding and assumptions surrounding garden meaning, use, and identity.

In this study, 20 semi-structured interviews with an oral history focus ($n=20$) were conducted to reveal the evolution of meaning and identity across the lifespan and influential factors- 9 participants from Breda, and 11 from Tilburg. Studies examining environmental and oral history topics frequently utilise sample sizes ranging from 10 to 30 participants, allowing researchers to gather in-depth qualitative data while maintaining the manageability of the study (Thompson & Bornat, 2017; Winiwarter, Schmid, & Hohensinner, 2016). Sample sizes within this range are generally accepted as sufficient to achieve data saturation and ensure the validity of the findings. All participants were aged over 60 years and identified as White. All interviews were conducted at people's households in January/February 2019, lasting approximately 40–90 min. At the interview's outset, participants provided information on their place of residence, sex and age, used to develop a unique anonymised participant identifier (see Table 1). Recruitment took place at community centres, senior homes, and through personal and professional networks. The lack of ethnic diversity in the sample reflects the demographics of the senior homes, aligning with Dutch statistics indicating a predominantly White population in 2019 (76% nationally, 72% in Tilburg, and 76% in Breda). The majority of non-White individuals in Dutch statistics were younger than 60 and thus outside of the study's age criteria (CBS, 2021). Due to limited access granted by senior home management for health and safety reasons, only one person was recruited from a senior home. All elderly participants recruited at community centres were White because no non-White elderly people were present. Another limitation was the lower-than-expected participant recruitment, potentially affecting the generalisability of our findings to broader populations. Future research should invest in establishing trust with gatekeepers at senior homes and community centres to recruit a more diverse participant pool.

Table 1. Older peoples' characteristics.

Personal identifier	Place of residence	Gender	Age	Place of growing up	Current housing type	Current garden status
O1-BR-M-69	Breda	Male	69	Rural	Detached house	Front and back garden
O2-TI-M-75	Tilburg	Male	75	Suburban	Detached house	Front and back garden
O3-BR-M-64	Breda	Male	64	Rural	Semidetached house	Front and back garden
O4-TI-M-61	Tilburg	Male	61	Rural	Detached house	Front and back garden
O5-TI-F-63	Tilburg	Female	63	Urban	Terraced house	Only back garden
O6-BR-M-67	Breda	Male	67	Rural	Farm	Front and back garden
O7-BR-F-62	Breda	Female	62	Rural	Farm	Front and back garden
O8-BR-F-62	Breda	Female	62	Urban	Semidetached house	Front and back garden
O9-TI-M-68	Tilburg	Male	68	Rural	Apartment	No
O10-TI-F-68	Tilburg	Female	68	Suburban	Detached house	Front and back garden
O11-TI-M-70	Tilburg	Male	70	Suburban	Detached house	Front and back garden
O12-BR-M-63	Breda	Male	63	Rural	Detached house	Front and back garden
O13-BR-M-66	Breda	Male	66	Urban	Semidetached house	Front and back garden
O14-TI-F-79	Tilburg	Female	79	Urban	Apartment	No
O15-TI-M-83	Tilburg	Male	83	Rural	Apartment	No
O16-BR-M-70	Breda	Male	70	Urban	Semidetached house	Front and back garden
O17-TI-M-62	Tilburg	Male	62	Urban	Apartment	No
O18-TI-F-71	Tilburg	Female	71	Urban	Semidetached house	Front and back garden
O19-TI-M-71	Tilburg	Male	71	Urban	Semidetached house	Front and back garden
O20-BR-M-80	Breda	Male	80	Urban	Senior home	No

The interviewer reported the place of growing up (rural, suburban or urban settlements), and current housing type and garden status (see [Table 1](#)). Participants sometimes used pictures to explain their thoughts or as a means by which to relive experiences; common techniques in oral history research (Thompson & Bornat, 2017; Winiwarter et al., 2016). Garden studies often recruit participants with an affinity to gardens and gardening which portrays the perception that every garden owner expresses interest in gardening (Ulug & Horlings, 2019; van den Berg et al., 2020). Therefore, we included participants who are both interested and not in gardening to provide a more comprehensive understanding about people's relation with gardens. In all cases, the gardens referred to front and back gardens, i.e. in front and behind the house. All participants were asked the following two lines of questioning and six specific questions.

1. Garden meaning and identity: (a) *Can you describe where and in what type of environment you grew up in and lived during your life?* (b) *Can you describe where the garden was used for during childhood by yourself and your parents?* (c) *Is your current home environment different from the place where you grew up?*
2. Garden use: (a) *Did or do you have a garden?* (b) *What did or do you use the garden for?* (c) *What is the role of the garden in your present life?*

The six questions were adjusted according to responses from a pilot interview study. The interviews were conducted with three older family members in their homes in the Netherlands in December 2018 to ensure the questions were understood and enabled us to explore meaning and interpretation. During the interview, the interviewer used additional prompt questions to (1) investigate the development of garden identities over time and between life stages, (2) and to identify socio-spatial factors influencing garden identities.

Data analysis

Qualitative data analysis was undertaken using thematic analysis (Braun & Clarke, 2006) to identify themes related to garden identity. This allows us to explore the meaning and interpretation of gardens, which aligns with oral history research practice (Thompson & Bornat, 2017; Winiwarter et al., 2016). All interviews were audio recorded and transcribed verbatim. All interviews were conducted and transcribed in Dutch and then summarised in English. Interview transcripts were

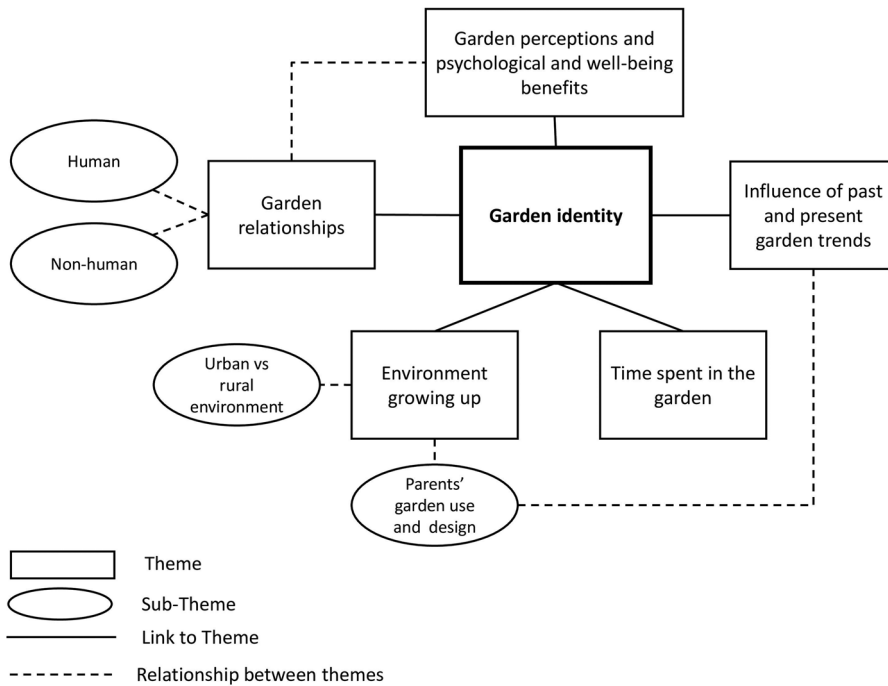


Figure 1. Thematic map of themes connected to garden identity (Source: Author).

approached without pre-formulated themes and codes. There are five main themes that emerge from the data analysis that help to understand how older people create, develop, and foster garden identities over time, visualised in [Figure 1](#). The first theme, *Environment growing up*, explores how participants' childhood experiences influence current garden identities. The second theme, *Time spent in the garden*, emphasising life experiences which increase or decrease garden connections. The third theme focuses on the role of *past and present garden trends* in (re)shaping garden design and identity. The fourth theme, *Garden relationships*, portrays gardens as places that cultivate connections with and between nature and humans. The final theme, *Garden perceptions and psychological and well-being benefits*, signifies acknowledgements of rights and control over space. The text incorporated diverse yet interconnected information on each theme.

Findings

Environment growing up

The environment where one grows up was a foundational space for participants to develop a connection to gardens. Most participants were raised in houses with access to green gardens, while a small proportion grew up in urban settings with paved outdoor spaces. For many, such as O18-TI-F-71, having a green garden was considered a normal part of their upbringing. In contrast, participants like O19-T-M-71, who lacked garden access during childhood, now feel privileged to now own one. This suggests an inherent association between garden ownership and a sense of normalcy, leading people to subconsciously value it as part of their home experience and quality of life.

To me, a garden is a logical part of living and for him it is a wealth – O18-TI-F-71.

It's an extension of your living room and I think it's great to read a book in the garden in the summer in peace. We use the garden for peace and privacy – O19-TI-M-71.

Participants growing up in urban settings, such as O8-BR-F-62 and O11-TI-M-70, had access to small, paved or semi-paved backyard spaces with limited planting areas for small trees and plants. Their parents did not show much interest of engagement in gardening, which meant the participants did not inherit a passion for it. In contrast, participants from rural backgrounds, like O3-BR-M-64 and O6-BR-M-67, described their parents' gardens as large, green, or semi-green spaces serving multiple functions, including vegetable gardens, ornamental areas, terraces for outdoor furniture, and storage sheds. Moreover, during their childhoods, O3-BR-M-64 and O6-BR-M-67 were required to work in the vegetable garden or perform other chores in the garden, as their parents were deeply invested in gardening and considered it a mandatory activity for all family members.

As a child, we often had to work a lot. When school was out there was always something to do. That was not only at ours but at everyone else as well. Did you come from primary school, changed your clothes and you could, for example, raking feed carrots for the sows – O1-BR-M-69.

Growing up and being exposed to large, green gardens serving multiple functions, as well as working in the garden during childhood, helped participants develop an interest in and connection to nature and gardening. This early experience laid the foundation for their lifelong garden identity.

Time spent in the garden

The personal histories revealed that (a) spending time in the garden influenced participants to develop meaning and attachment to their gardens, and (b) time spent in the garden changed across the lifespan. Participants remembered peaks in garden use during childhood and older adulthood, with decreases in time spent during teenage years and early adulthood. In childhood, the garden was primarily used for play, and for some participants raised on farms, for work. During the teenage years, participants spent less time in the garden as their interests shifted towards sports, shopping, socialising, and romance, marking a transition from the play-centric use of the garden in childhood.

Our garden wasn't that big, but we didn't play there that much anymore because you're 12. You get older and you don't play outside much anymore, and you start exercising more – O10-TI-F-68.

As they progressed through later life stages, such as adulthood and older adulthood, participants' use of the garden shifted towards relaxation, social activities, connecting with nature, and gardening. Participants reported various social changes that influenced their present or past garden use. For example, retirement during the older adult phase was a major social change that positively impacted garden use. During the adult phase, significant events like having children, owning a house, and balancing career and personal life were social changes that could either increase or decrease garden use. Other social factors mentioned by participants were an interest in gardening passed down from parents, personal interest in gardening, and the impact of climate and weather. Participants viewed spring and summer as crucial seasons for garden activities, taking advantage of sunny days by using outdoor furniture. In the (late) summer, the garden became a primary space for both solitary and social activities, emphasising the potential impact of climate and weather changes on garden use.

Past and present garden trends

Garden trends such as paving and fences have influenced participants' garden identities and designs over time. Transformations were more pronounced in rural gardens, which evolved from food production to leisure and status spaces, compared to smaller, ornamental urban gardens.

Vegetable gardens

Many participants recalled that (large) vegetable gardens were common in their rural childhoods. These gardens served multiple functions, such as providing food for the family, fostering family bonds, teaching children about agriculture, and supporting neighbours. The vegetable gardens were often divided into sections for growing different crops and fruits. Impressions of Dutch vegetable gardens are presented in Figure 2.

In the past, the vegetable garden was a family workspace where the head of the household, the father and/or mother, assigned roles to each member, including children. As a child, participant O7-BR-F-62 had to pick fruits or remove weeds between the crops in the fields. The vegetable garden was also a place of learning, where participants O3-BR-M-64 and O6-BR-M-67, gained knowledge about crop rotation, the cultivation and harvesting of seasonal vegetables and fruits, plant diseases and pests *'When we had cabbage with caterpillars in it, we put them in the salt water for a while and no one ever got sick. It was naturally healthy food- O3-BR-M-64'*, and nutrition as children. This knowledge was passed down for generations.

In the past we had no valuable flowers or plants in the garden. My grandfather had an ornamental garden but when the sprouts season started in March, seeds had to be sown – O6-BR-M-67.

Participants O3-BR-M-64 and O6-BR-M-67 noted that the availability and affordability of supermarket food reduced vegetable gardens in rural gardens since the 1960s. This, and increased wealth and leisure time led Dutch families to shift garden design from work-oriented to leisure-focused (Kullberg, 2016). However, some participants, such as O8-BR-F-62, O12-BR-M-66, and O16-BR-M-70, maintained vegetable gardens for enjoyment, home food production, sharing with loved ones, and a sense of belonging.



Figure 2. Impression of a Dutch vegetable garden (Source: Author).

Garden trends in the ornamental garden

Over the years, ornamental gardens in the Netherlands have been influenced by garden trends. Participants mentioned the rise of paved gardens in urban and suburban areas and changes in garden border materials. People are inspired by what they have seen in garden magazines, in garden centres and on Dutch garden TV programs such as *Own home and garden*, *'Eigen huis, en tuin'*, in Dutch (Kullberg, 2016). However, none of the participants mentioned these outlets to be sources of inspiration. Dutch front gardens typically feature perennials, a paved path to the front door and the garage, and occasional lawns bordered by low fences or hedges. Dutch back gardens commonly have a tiled surface for outdoor furniture, a lawn, perennials, flowering plants, and occasionally a storage shed. Impressions of a Dutch front and back garden are presented in Figures 3 and 4.



Figure 3. Impression of a Dutch front garden (Source: Author).



Figure 4. Impression of a Dutch back garden (Source: Author).

Participants in rural areas observed a shift in material usage for garden borders: from natural textures like hedges and shrubs to man-made steel borders. One participant, O7-BR-F-62, attributed this to rural residents fencing their properties due to concerns about home robberies and trespassing by Polish and Romanian seasonal farmworkers, which made them feel less safe. In contrast, wooden palisades and brick walls are more common as garden borders in urban settings.

People used to have privets as a partition, but nowadays people have fencing and gates. You see that people have more money to spend and have their own little paradise. With privets there was a natural partition that I think they now have a fence of- this is mine and you are on your own- I think that's the disadvantage of fences, while it used to be a partition from private use to commercial use – O6-BR-M-67.

Participant O6-BR-M-67 believes that steel fencing has a negative effect on community bonds, while participant O18-TI-F-71 prefers a brick wall border in her garden as it provides privacy. An impression of enclosed back gardens in an urban setting is presented in [Figure 5](#). The participant and her partner O19-TI-M-71 previously had see-through hedges, but she felt watched by her neighbours in her own home. Natural borders may encourage neighbour contact and social control, while non-plant fencing signifies individualism and privacy.

Paved gardens with roses and bedding plants were once common in dense urban areas, but this trend became prevalent in suburban front and back gardens. Often, people include green elements like shrubs, grasses, or perennials in their paved gardens, for example in [Figure 6](#).

Some participants chose a more 'maintenance-free' paved garden due to personal circumstances, such as busy schedules or physical limitations to gardening, rather than a desire for a natural connection. For example, participant O5-TI-F-63 paved her back garden because of her irregular work hours, being a single mother, and lack of interest in gardening, while participant O3-BR-M-64 opted for a 'maintenance-free' design due to physical limitations and disinterest in gardening. This suggests that personal factors can heavily influence decisions about the type of garden space older individuals create. However, participants chose a 'natural' look or connection to nature in their back gardens, for example by adding flowerpots with annual flowers or hanging wooden nest boxes for birds.



Figure 5. Impression of enclosed back gardens in an urban setting. Back gardens are bordered with natural features and man-made features such as brick walls and wooden palisades (*Source: Author*).



Figure 6. Impressions of paved gardens, representing a front garden (left) and back garden (right) (Source: Author).

Garden relationships

Garden relationships play a crucial role in developing and fostering garden identity. Participants described connections to nature (Bhatti, 2006; Gross & Lane, 2007), and the community (Freeman et al., 2012; Kiesling & Manning, 2010) linked to their gardens. However, those from urbanised settings with limited green front and/or back gardens struggle to establish these bonds. Participants report mixed bonds with the garden: some develop intense emotional bonds, while others perceive garden maintenance as a chore, despite acknowledging the benefits for health and well-being. Over time, participants O10-TI-F-68 and O13-BR-M-66, observed a shift in their neighbourhoods from social interconnectedness to a more individualistic approach with reduced concern for others.

[Do you experience the neighbourhood as liveable?] “Absolutely. The residents, you don’t have much contact with each other, but when the sun is shining and you’re standing in the garden, the neighbour will come and have a chat. The contacts are there” – O13-BR-M-66.

Participants mentioned two interactions that fostered a positive relationship with nature: *biodiversity*, such as providing for animals and birds, and/or *gardening*.

You are more aware of the green when we sit here [balcony]. We are sitting like cats in the tree and chit-chatting that it won’t be long before the birds are nesting. Then you have the idea that you’re very close – O14-TI-F-79.

Another illustrative example is that participant O11-TI-M-70 perceives his garden adjacent to Tilburg’s Oude Warande urban forest as an extension of the wildlife’s territory. Observing the fauna in his garden enhances his sense of belonging and connection to nature. Participant O12-BR-M-63 is a bird watcher and noticed a decrease in the local sparrow population and reported his observations to the national biodiversity data centre, which collects biodiversity observations from citizens. The green garden, with its varied vegetation and features like a pond, can also serve as a site to monitor changes in fauna populations. Impressions of biodiversity enrichments in the garden are presented in Figure 7.

Gardening was perceived as an important way to connect with nature and other individuals. Participant O12-BR-M-63 found that getting his hands dirty in the ground made him feel connected to the soil and Earth. Gardening activities like digging, planting, and weeding were also perceived as opportunities to spend time with others.

[the vegetable garden] that’s my hobby, working in it. [O7-BR-F-62] decides what goes in and select tomatoes etc. She usually takes on harvesting too – O6-BR-M-67.

We also have a lot of wildflowers like gladiolus, poppies, papavus, and other flowers that attract a lot of insects”. My hobby is to grow and harvest gourds and pumpkins in all shapes and colours. We put them out on a rack for people to buy – O7-BR-F-62.



Figure 7. Biodiversity enrichments in gardens: Insect hotel (left) and a pond with native aquatic vegetation (right) (Source: Author).

Participant O8-BR-F-62 did not inherit an interest in gardening but developed one later in life when she had a vegetable garden. The vegetable garden became part of her current garden identity, making gardening an important factor in developing or fostering garden identity.

Garden perceptions and psychological and well-being benefits

Over the lifespan, the garden plays a continuous role in participants' lives, perceived as *an essential and logical extension of their home environment* and integral to their liveability. Gardens, as entities, evoke powerful personal emotions and aspirations, such as feelings of independent freedom, privacy, happiness, belonging, peace, and tranquillity.

I think the freedom of a garden is very important. I love that you can walk outside and that you can read a book in the sun, I love that- O5-TI-F-63.

Each participant had a garden and became aware of the psychological and well-being benefits. Even without a traditional garden, participants O14-TI-F-79 and O15-TI-M-83 utilised their balcony as an outdoor space for self-expression and nature connectedness with flowerpots and nest boxes enhancing their garden identity. An impression of a Dutch balcony is presented in Figure 8.

Participants mentioned that their appreciation for gardens developed over time. During childhood and as teenagers, their value and appreciation was limited as they did not see gardens as spaces of health, well-being, and social inclusion. As (older) adults, participants O4-TI-M-61, O5-TI-F-63 and others became more aware of the gardens' benefits for their health and well-being, experiencing them more consciously. Over their lifetimes, participants encountered diverse garden sizes, designs, and maintenance requirements, which helped them to develop their own garden identities according to their needs and values appropriate to their life stage.

Front garden perceptions

The front garden is a space where private and public meet, showcasing one's home and neighbourhood through its design and aesthetics. Its plants, features, and maintenance represent status, wealth, and prestige. The front garden is also a private outdoor space for informal conversations with neighbours, sometimes triggered by someone's presence or gardening



Figure 8. Impression of Dutch balcony including garden furniture and flowerpots that evoke connections to nature (Source: Author).

activities. It sparks neighbours' curiosity and encourages them to go outside for small-talk, or to start gardening. Thus, the front garden facilitates community bonds and attachment to home, and neighbourhood. The participants' stories indicate that the front garden's aesthetics and maintenance influence strangers' assumptions about the 'state' of the house, its residents, and their social class. Impressions of different front gardens are presented in [Figure 9](#).

Participants O10-TI-F-68 and O18-TI-F-71 mentioned going on occasional neighbourhood walks. Houses with a well-maintained front garden reflect a tidy, middleclass household whereas overgrown or paved front gardens are perceived as a working-class, or antisocial household. They prefer to see well-maintained gardens, as it gives them a sense of safety and security, while poor-maintained gardens are considered an indication of anti-social residents. This suggests that such walks could be an activity to monitor the state of people's front gardens and support a sense of belonging in the neighbourhood.

The street has become more beautiful now that everyone is paying more attention to the garden and trying to keep it tidy except for one – O7-BR-F-62.

Upholding a certain aesthetic standard of the front garden can evoke stress and fear of exclusion for some older individuals who dislike gardening and feel pressured to conform to neighbourhood standards, as evident in the cases of O9-TI-M and O11-TI-M-70:

Our garden was green, but maintaining it was an obligatory thing. As I said we are not real gardeners. What you did is mowing the lawn and other amenities to keep it tidy, but not because you had green fingers – O9-TI-M.

[The garden] is now a live-work environment and I have to keep it tidy for the people I invite to discuss business with – O11-TI-M-70.



Figure 9. Impressions of a manicured and maintained front garden (left) and a front garden with weeds and overgrown (right) (Source: Author).

Older residents participate in gardening to avoid gossip, '*roddelen*', in Dutch, and negative comments from neighbours and community members, about expected front garden aesthetics, such as a mowed lawn and no weeds in the garden or between pavements. Garden maintenance is also influenced by home ownership, financial resources, and the ability to hire gardeners. These social and cultural expectations and perceived prejudice around front gardens suggest maintaining a well-ordered garden could be a social justice issue.

Soon when the weather is nice, I must go back into the garden. I'm not a gardener. I think [hiring] a gardener is fine, so I don't have to weed. My father loves the garden, but my brothers and our children don't. They all have a garden and [hired] a gardener and that's how it works – O18-TI-F-71.

Back garden perceptions

The back garden serves as a versatile private space for residents, accommodating activities such as socialising with family and friends, relaxation, nature connection, and gardening. In contrast to front gardens, back gardens are perceived as an invitation to one's home, as they are only accessible when entering someone's house. Unlike front gardens, which may conform to social and cultural expectations, back gardens reflect the owners' specific needs, values, and interests. However, back gardens are not free from judgement, and owners keep them tidy and manicured.

The garden was used to relax and to sit in. Just that we have a pleasant environment. Just a lawn with a terrace and a border with some plants and flowers – O9-TI-M.

Participants noted that household members may claim certain back garden areas as their own, leading to tensions when this personal space is violated or disrespected by others. Participant O13-BR-M-66 mentioned that as a child he got into trouble when he played football in the garden: *'The garden was a showcase with flower beds and my mom was very careful of it. The ball sometimes ended up in between the flowers with irritation as a result.'*

Discussion

The qualitative study discussed in this paper explored garden identities and meaning in a Dutch context. Our findings aligned with existing evidence from Buse et al. (2023), Freeman, Buttery, Waters, and Van Heezik (2021) and Murtagh and Frost (2023), affirming the crucial role of domestic gardens in establishing attachment to home, the neighbourhood, and how they enhance people's overall liveability throughout their lives. The evaluation of older people's experiences and perceptions illustrated that the concept of a 'garden' is dynamic, reflecting both individual and communal identities, values, and meanings (Stets & Burke, 2000). It serves as a space for identification, belonging, and expression of personality, interest, and neighbourly

virtues (Kaplan & Kaplan, 1989; Kiesling & Manning, 2010). Garden aesthetics emerged as a key factor in facilitating these functions (Tandarić et al., 2022; Tsai et al., 2020), demonstrating the reciprocal influence of garden perceptions, interest in gardening, and time spent in the garden. Moreover, it indicates the socio-economic status of the homeowner. This study, as with Scott, Masser, and Pachana (2020) and others shows domestic gardens to be multifunctional spaces and provide a wide range of opportunities for people across the life-course to engage with including play, learning, social interaction, and establishing connections to nature. This was expressed via five diverse but interlinked themes: (1) Environment growing up; (2) Time spent in the garden; (3) Past and present garden trends; (4) Relationships, and (5) Garden perceptions and psychological and well-being benefits.

The role of domestic gardens within people's lives

The garden played an essential role in each of the participants' lives. Growing up in a home environment with a front and/or back garden aiding the individual connections and interactivity with both nature and the community, emphasising its positive impact on health and well-being (Marsh et al., 2021), and attachment (Tsai et al., 2020). Those who grew up in rural environments and engaged in gardening from a young age developed a stronger connection to the garden and to gardening compared to their urban counterparts. This observation is particularly relevant given the predominant urban lifestyle in contemporary Dutch society (as well as globally), potentially impacting individuals' connections to nature and overall liveability (Tandarić et al., 2022). The participants perceived the front and back gardens differently in terms of functionality and design: the front garden was seen as a showcase of personal and social identity, fostering social interaction between neighbours and contributing to a sense of community (Murtagh & Frost, 2023; Tsai et al., 2020). This underscores the often-neglected role of front gardens in meaning-making within garden research literature (Bhatti et al., 2014). On the other hand, the back garden was experienced as a multi-functional, private, outdoor space catering to the homeowner's needs across various age groups throughout the life-course, which is supported by Cameron (2023) and Murtagh and Frost (2023). Socio-spatial factors such as having children or grandchildren, an interest in gardening, having a vegetable garden, and perceiving the back garden as an extension of the home environment were identified as common perceptions in Dutch society (Šiftová & Fialová, 2023). This study highlights additional evidence about the development and changing garden identities across the life-course and socio-spatial factors influencing identities.

Social conformity and personal identity

This study supports research by Murtagh and Frost (2023) and Suyin Chalmin-Pui et al. (2021) indicates that social and cultural expectations regarding the aesthetics of front gardens are linked to the overall neighbourhood aesthetics, potentially pressuring garden owners to meet a specific standard. The multidimensionality of the garden, especially the front garden is a crossroad of personal and social identities (Francis & Hester, 1990). Despite varying perceptions from this study's participants, studies consistently highlight the positive effects of gardening on a regular basis on identity, health and well-being, and sense of belonging (Kaplan, 1983, 1995; Šiftová & Fialová, 2023). The desire to conform may lead to the imitation of neighbours' garden aesthetics rather than the garden being an expression of self (Kiesling & Manning, 2010; Kullberg, 2016). Observing neighbours engaged in gardening encourages others to do the same, either for social benefits or to avoid potential gossip about their gardens' condition (Beumer, 2018). These findings suggest that, despite their well-documented health, social and environmental benefits (Hanson et al., 2021), gardens can become sites of environmental and social

injustice. Specific differences in the perceptions and/or use of gardens were identified linked to demographics, for example in affluent neighbourhoods are less likely to transform vegetated gardens into paved gardens due to social control and social pressure (Murtagh & Frost, 2023; Suyin Chalmin-Pui et al., 2021). Hiring gardeners was mentioned as an option to maintain the garden (Scott et al., 2020), however it might only be possible for those who can afford it. Gardening, therefore, can become a socioeconomic issue, with wealthier people having financial resources to hire people to do the work for them while disadvantaged people might choose paving the garden instead to not spend time gardening.

Some participants believe that a paved garden is low maintenance, while they spend time and effort to remove unwanted weeds between the pavements or gravel or use pesticides (Beumer, 2018). Since paved gardens increase stormwater run-off, urban heat island effect, and decrease urban biodiversity creating problems for human well-being and health, municipalities face challenges convincing homeowners to un-pave their (front)gardens, and thus changes in legislation and best practice guidance concerning domestic gardens seem necessary (Cameron, 2023; Stobbelaar, van der Knaap, & Spijker, 2021). Raising awareness about the environmental and health risks associated with paved gardens is crucial to promoting sustainable garden practices. Initiatives like Project Steenbreek in the Netherlands, collaborations with garden centres, and green garden subsidy schemes are potential avenues to guide residents towards climate-adaptive and inclusive neighbourhoods (Stobbelaar et al., 2021). Other initiatives include promoting alternatives like permeable paving, partnerships with schools to integrate environmental education, or utilize public spaces such as community centres, libraries, or pop-up exhibits showcasing sustainable alternatives to paved gardens to promote more sustainable garden practices.

Conclusion

Our research conceptualising (older) people's garden identity through a thematic analysis of personal histories revealing tensions of personal and social identities shaping social and environmental justice issues. The findings reflect within five diverse, but interlinked themes complex and dynamic interactions between human and non-human objects. It suggests that garden identity, both personal and social, are embedded within individual perceptions, experiences, meaning, values, and expressions. With cities continue building and investing in contemporary apartment blocks, less space becomes available for everyday greenery for people to connect or to identify with. The disconnect from nature, as experienced by some participants, could impact their liveability and well-being. Understanding the meaning-making of everyday objects like gardens across the life-course helps to plan and design green, liveable, and inclusive neighbourhoods in cities.

Acknowledgements

Participants, supervisors, the staff of the Department of Planning, Property and Environmental Management (PPEM), and the postgraduate staff of the School of Environment, Education and Development (SEED).

Ethical approval

The study was conducted according to the guidelines of the Declaration of Helsinki and approved by the Institutional Review Board of The University of Manchester (2018-5822-7720).

Authors contributions

Conceptualisation, R.L., I.M and A.B.; methodology, R.L.; formal analysis, R.L.; investigation, R.L.; resources, R.L.; data curation, R.L.; writing—original draft preparation, R.L, I.M., A.B.; writing—review and editing, R.L, I.M, A.B.; visualisation, R.L.; supervision, I.M and A.B. All authors have read and agreed to the published version of the manuscript.

Disclosure statement

The authors declare no conflicts of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript; or in the decision to publish the results.

Funding

This research was partially funded by the ESRC NWDTC Studentship Award and extended COVID-19 financial support.

Notes on contributors

Rachel Lauwerijssen is a Research Associate at the University of Salford, UK and a Senior Tutor at the University of Manchester (UK). He was awarded with a PhD in Planning and Environmental Management at The University of Manchester in 2021. His teaching and research focus on the environmental and social aspects of green infrastructure. His work is informed by experience in environmental consultancy and local government planning in the Netherlands and worked on research projects in Nicaragua, the USA, and in the UK. Recent publications include 'Elkadi et al., 2024. Thermographic Analysis of Green Wall and Green Roof Plant Types under Levels of Water Stress published in Sustainability' and 'Connelly et al., 2023. What approaches exist to evaluate the effectiveness of UK-relevant natural flood management measures? A systematic map published in Environmental Evidence'.

Ian Mell is a Professor in Environmental & Landscape Planning at the University of Manchester (UK). He teaches and researches green infrastructure planning focussing on design, development, funding, and policy. His work is informed by experience in local government planning and looks at how green and blue space is developed in the UK and globally. He is the author of *Global Green Infrastructure* (2016, Routledge), *Green Infrastructure Planning: Reintegrating Landscape in Urban Planning* (2019, Lund Humphries), and *Growing Green Infrastructure in Contemporary Asian Cities: Case Studies in Green Infrastructure Methods and Practice* (2024, Routledge). He has received funding from the UK government, Horizon 2020, the Valuing Nature project, and the Newton Fund. Recent publications include 'Croeser et al., 2024. Action research for transformative change published in Sustainability Science' and 'Wang et al., 2024. Characterising the Urban-Rural Fringe Area (URFA) in China: A review of global and local literature on Urban-rural fringe areas published in Town Planning Review'.

Adam Barker is a Senior Lecturer in Spatial Planning at the University of Manchester (UK). He teaches and researches integrated environmental management and planning for climate change, focussing on green infrastructure and environmental adaptation. His work is informed by multiple UKRI and Horizon 2020-funded projects involving green infrastructure, climate change adaptation, and sustainable development working with stakeholders in the public and private sectors and local communities in the UK and globally. Recent publications include 'Barker et al., 2024. The role of strategic planning in Nature-based Solutions (NBS) transformation: An evaluation of the Green Cities Framework in mainstreaming NBS in 6 European countries published in Nature-Based Solutions' and 'Connelly et al., 2023. What approaches exist to evaluate the effectiveness of UK-relevant natural flood management measures? A systematic map published in Environmental Evidence'.

ORCID

Rachel Lauwerijssen  <http://orcid.org/0000-0003-4682-602X>

Ian Mell  <http://orcid.org/0000-0002-0544-0836>

Adam Barker  <http://orcid.org/0000-0001-8835-7837>

Data availability statement

The data are not publicly available due to ethical restrictions.

References

- Alwin, D. F. (2012). Integrating varieties of life course concepts. *The Journals of Gerontology. Series B, Psychological Sciences and Social Sciences*, 67(2), 206–220. doi:10.1093/geronb/gbr146
- Beumer, C. (2018). Show me your garden and I will tell you how sustainable you are: Dutch citizens' perspectives on conserving biodiversity and promoting a sustainable urban living environment through domestic gardening. *Urban Forestry & Urban Greening*, 30, 260–279. doi:10.1016/j.ufug.2017.09.010

- Bhatti, M. (2006). 'When I'm in the garden I can create my own paradise': Homes and gardens in later life. *The Sociological Review*, 54(2), 318–341. doi:10.1111/j.1467-954X.2006.00616.x
- Bhatti, M., Church, A., & Claremont, A. (2014). Peaceful, pleasant and private: The British domestic garden as an ordinary landscape. *Landscape Research*, 39(1), 40–52. doi:10.1080/01426397.2012.759918
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. doi:10.1191/1478088706qp0630a
- Buse, C., Balmer, A., Keady, J., Nettleton, S., & Swift, S. (2023). 'Ways of being' in the domestic garden for people living with dementia: Doing, sensing and playing. *Ageing and Society*, 1–25. doi:10.1017/S0144686X22001489
- Cameron, R. (2023). "Do we need to see gardens in a new light?" Recommendations for policy and practice to improve the ecosystem services derived from domestic gardens. *Urban Forestry & Urban Greening*, 80, 127820. doi:10.1016/j.ufug.2022.127820
- CBS. (2021). *Bevolking; leeftijd, migratieachtergrond, geslacht, regio, 1 jan. 1996-2020* [Spreadsheet]. <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/37713/table>
- Clausen, J. (1986). *The life course: A sociological perspective*. London: Pearson.
- Deloitte. (2019). *Nederlandse tuin kan bijna drie keer groener: Een onderzoek naar het groenpercentage en het vergroeningspotentieel van de Nederlandse particulierentuin* (p. 9). Deloitte.
- Francis, M. (1995). Childhood's garden: Memory and meaning of gardens. *Children's Environments*, 12(2), 1–16.
- Francis, M., & Hester, R. T. (1990). *The meaning of gardens: Idea, place, and action*. Cambridge, MA: MIT Press.
- Freeman, C., Buttery, Y., Waters, D. L., & Van Heezik, Y. (2021). Older adults' domestic green environments: The preference for flowers. *Landscape Research*, 46(7), 897–915. doi:10.1080/01426397.2021.1921132
- Freeman, C., Dickinson, K. J. M., Porter, S., & van Heezik, Y. (2012). 'My garden is an expression of me': Exploring householders' relationships with their gardens. *Journal of Environmental Psychology*, 32(2), 135–143. doi:10.1016/j.jenvp.2012.01.005
- Freitag, L., Wisman, L., Hootsmans, M., van Haren, N., Brombacher, N., & D'Rose, S. (2021). *Beweegredenen voor particuliere tuinrichting en de invloed van COVID-19: Een explorerend onderzoek* [MSc thesis]. Wageningen University.
- Gross, H., & Lane, N. (2007). Landscapes of the lifespan: Exploring accounts of own gardens and gardening. *Journal of Environmental Psychology*, 27(3), 225–241. doi:10.1016/j.jenvp.2007.04.003
- Hanson, H. I., Eckberg, E., Widenberg, M., & Alkan Olsson, J. (2021). Gardens' contribution to people and urban green space. *Urban Forestry & Urban Greening*, 63, 127198. doi:10.1016/j.ufug.2021.127198
- Kaplan, R., & Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge: Cambridge University Press.
- Kaplan, S. (1983). A model of person-environment compatibility. *Environment and Behavior*, 15(3), 311–332. doi:10.1177/0013916583153003
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15(3), 169–182. doi:10.1016/0272-4944(95)90001-2
- Kiesling, F. M., & Manning, C. M. (2010). How green is your thumb? Environmental gardening identity and ecological gardening practices. *Journal of Environmental Psychology*, 30(3), 315–327. doi:10.1016/j.jenvp.2010.02.004
- Kingsbury, N., & de Ridder, M. (2021). *Gardens under big skies: Reimagining outdoor space, the Dutch way*. Filbert Press.
- Kullberg, J. (2016). *Tussen groen en grijs: Een verkenning van tuinen en tuinieren in Nederland*. Den Haag: Sociaal en Cultureel Planbureau, SCP.
- Lauwerijssen, R. (2021). *Interrelations of greenspace, climate, and place: Perceptions and life experiences of older people in the Netherlands* [PhD]. University of Manchester.
- Linssen, V. (2011). *Tuinbeleving 2011: Segmentatie van de Nederlandse tuinbeziatter* (p. 129). Product Tuinbouw.
- Marsh, P., Diekmann, L. O., Egerer, M., Lin, B., Ossola, A., & Kingsley, J. (2021). Where birds felt louder: The garden as a refuge during COVID-19. *Wellbeing, Space and Society*, 2, 100055. doi:10.1016/j.wss.2021.100055
- Murtagh, N., & Frost, R. (2023). Motivations for urban front gardening: A quantitative analysis. *Landscape and Urban Planning*, 238, None. doi:10.1016/j.landurbplan.2023.104835
- Scott, T. L., Masser, B. M., & Pachana, N. A. (2020). Positive aging benefits of home and community gardening activities: Older adults report enhanced self-esteem, productive endeavours, social engagement and exercise. *SAGE Open Medicine*, 8, 2050312120901732. doi:10.1177/2050312120901732
- Šiftová, J., & Fialová, D. (2023). Play it light: The role of gardens and gardening in the lives of latter-day urbanites. *Leisure Studies*, 42(4), 568–580. doi:10.1080/02614367.2022.2123551
- Stets, J. E., & Burke, P. J. (2000). Identity theory and social identity theory. *Social Psychology Quarterly*, 63(3), 224–237. doi:10.2307/2695870
- Stobbelaar, D. J., van der Knaap, W., & Spijker, J. (2021). Greening the city: How to get rid of garden pavement! The 'Steenbreek' program as a Dutch example. *Sustainability*, 13(6), 3117. doi:10.3390/su13063117
- Suyin Chalmis-Pui, L., Roe, J., Griffiths, A., Smyth, N., Heaton, T., Clayden, A., & Cameron, R. (2021). 'It made me feel brighter in myself': The health and well-being impacts of a residential front garden horticultural intervention. *Landscape and Urban Planning*, 205, 103958. doi:10.1016/j.landurbplan.2020.103958

- Tandarić, N., Watkins, C., & Ives, C. D. (2022). "In the garden, I make up for what I can't in the park": Reconnecting retired adults with nature through cultural ecosystem services from urban gardens. *Urban Forestry & Urban Greening*, 77, 127736. doi:[10.1016/j.ufug.2022.127736](https://doi.org/10.1016/j.ufug.2022.127736)
- Thompson, P., & Bornat, J. (2017). *The voice of the past: Oral history* (4th ed.). Oxford: Oxford University Press.
- Tsai, M., Cushing, D. F., & Brough, M. (2020). "I've always lived in a place with gardens": Residents' homemaking experiences in Australian aged-care gardens. *Health & Place*, 61, 102259. doi:[10.1016/j.healthplace.2019.102259](https://doi.org/10.1016/j.healthplace.2019.102259)
- Ulug, C., & Horlings, L. G. (2019). Connecting resourcefulness and social innovation: Exploring conditions and processes in community gardens in the Netherlands. *Local Environment*, 24(3), 147–166. doi:[10.1080/13549839.2018.1553941](https://doi.org/10.1080/13549839.2018.1553941)
- van den Berg, M., Winsall, M., Dyer, S. M., Breen, F., Gresham, M., & Crotty, M. (2020). Understanding the barriers and enablers to using outdoor spaces in nursing homes: A systematic review. *The Gerontologist*, 60(4), e254–e269. doi:[10.1093/geront/gnz055](https://doi.org/10.1093/geront/gnz055)
- Wells, N. M., & Lekies, K. S. (2006). Nature and the life course: Pathways from childhood nature experiences to adult environmentalism. *Children, Youth and Environments*, 16(1), 1–24. online: www.colorado.edu/journals/cye doi:[10.1353/cye.2006.0031](https://doi.org/10.1353/cye.2006.0031)
- Winiwarter, V., Schmid, M., & Hohensinner, S. (2016). *The Oxford handbook of environmental history: Environmental history in the European context*. Oxford: Oxford University Press.
- Young, C., Hofmann, M., Frey, D., Moretti, M., & Bauer, N. (2020). Psychological restoration in urban gardens related to garden type, biodiversity and garden-related stress. *Landscape and Urban Planning*, 198, 103777. doi:[10.1016/j.landurbplan.2020.103777](https://doi.org/10.1016/j.landurbplan.2020.103777)