The Motivations and Barriers of Community Garden Participants

A Case Study in Dunbar, Scotland

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"Community gardens have received increasing attention from a wide range of academics, professionals, activists, hobbyists, students, and politicians as potential solutions to problems as diverse as food insecurity, childhood obesity, social fragmentation, economic instability, and declining biodiversity. Community gardens serve as sources of food and nutrition in addition to playing a role in cultural, political, economic, and ecological systems at multiple scales. As such, much work has been done to catalogue the benefits of community gardens to participants and society at large. However, less is known about how the benefits of community gardens translate into individual motivations to participate in community gardens or the relative strength of these motivating factors in terms of inspiring gardeners to overcome impediments to participation such as distance to access…"

"…In sum, community gardens have the potential to fulfil multiple aims at once and, thus, could be an ideal mechanism for managers and citizens to enact sustainability at the local level."

(Fuller 2016, 135–52)

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ABSTRACT

Background: Increased global urbanisation and food insecurity has led to public health concerns. Community gardens are identified as a mechanism for addressing socio-ecological determinants of health. This study aims to explore motivations and barriers for joining community gardens, and different perspectives from potential users, regular users and members from the steering group. Such a study fills a gap in the public health literature, particularly in the Scotland context.

Methods: This paper presents findings from semi-structured interviews with 22 participants from the Belhaven Community garden in Dunbar. Applying thematic analysis of the data, this study provides a snapshot of enablers and barriers of community garden participation.

Results: Results were identified into five themes that affect participation. These themes revolved around: Build Connections, Gain Benefits, Make Contributions, Insufficient Inner Drivers, and Practical External Obstacles. In terms of differences of views in participating in community gardens among the three groups, members of the steering group are more likely to be motivated by protecting and improving the environment, whereas potential users are mainly discouraged by a lack of confidence.

Conclusion: Although an interest in the act of gardening itself may be universally present among community gardeners to varying degrees, the findings from this study suggest that community garden participation is influenced by diverse underlying factors. Besides motivations, gardeners are also likely to encounter external and internal barriers that impede their progress. This study contributes exploratory insights on community garden motivations and barriers across suburban sites in Dunbar (Scotland) and recommends extending this work by investigating whether similar findings are produced in other areas with different socio-cultural contexts.

Key words: Community garden, Motivations, Barriers, Health, Suburban

CHAPTER ONE: INTRODUCTION

1.1 What is the background?

Health was defined many decades ago by the World Health Organization (WHO) as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" ("World Health Organization (WHO) Definition Of Health" 2022). In spite of the criticism that this definition is overly inclusive and difficult to achieve (St Claire, Watkins, and Billinghurst 1996), it does provide a broader definition of health than simply the absence of disease. In this study, the term health refers to a state of being and the term well-being refers to a holistic approach that incorporates both mental and physical health in order to prevent disease and promote wellness (Centers for Disease Control and Prevention 2018).

An increasing burden of disease due to non-communicable diseases (NCDs) has been demonstrated as one of the major health challenges globally and in Scotland. As an estimate shows, NCDs, including cancer, heart disease, stroke, diabetes, and lung disease, contribute to 41 million deaths (71% of all deaths) globally (World Health Organization 2017). Similarly, more than two-thirds of all deaths in Scotland are caused by NCDs (see Figure 1) (Obesity Action Scotland 2018). Aside from premature mortality, NCDs have an adverse effect on the health and well-being of Scots, with Scotland's healthy life expectancy of only 62.3, which is lower than the rest of the UK and one of the lowest in Western Europe.

Fortunately, many of NCDs are preventable. Based on data from National Records for Scotland, almost 24% of NCD deaths could be prevented (see Figure 2) ("Preventing Non-Communicable Disease" 2018). A clear understanding of what drives NCDs is crucial to reducing their burden. Many have argued that NCDs are caused by individual behaviours, such as smoking, not being active, and consuming unhealthy foods (Daar et al. 2007), but others contend that NCDs may also result from genetic, physiological, and environmental factors (Robbins et al. 2021). Therefore, multiple factors can lead to a rise of NCDs. Furthermore, according to recent social-ecological models, individual

behaviours and preferences are influenced by socioeconomic, political, cultural, and environmental factors at different scales, from households and communities to wider geographical regions (see Figure 3) (Barton and Grant 2006). It is, therefore, necessary to incorporate a variety of interventions into the prevention of NCDs, such as population-level health interventions and community-bases interventions.

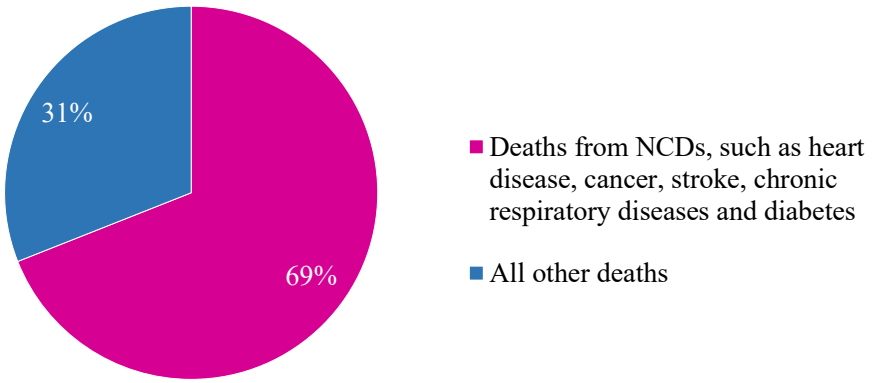

Figure 1. The percentage of deaths from NCDs. Adapted from National Records for Scotland.

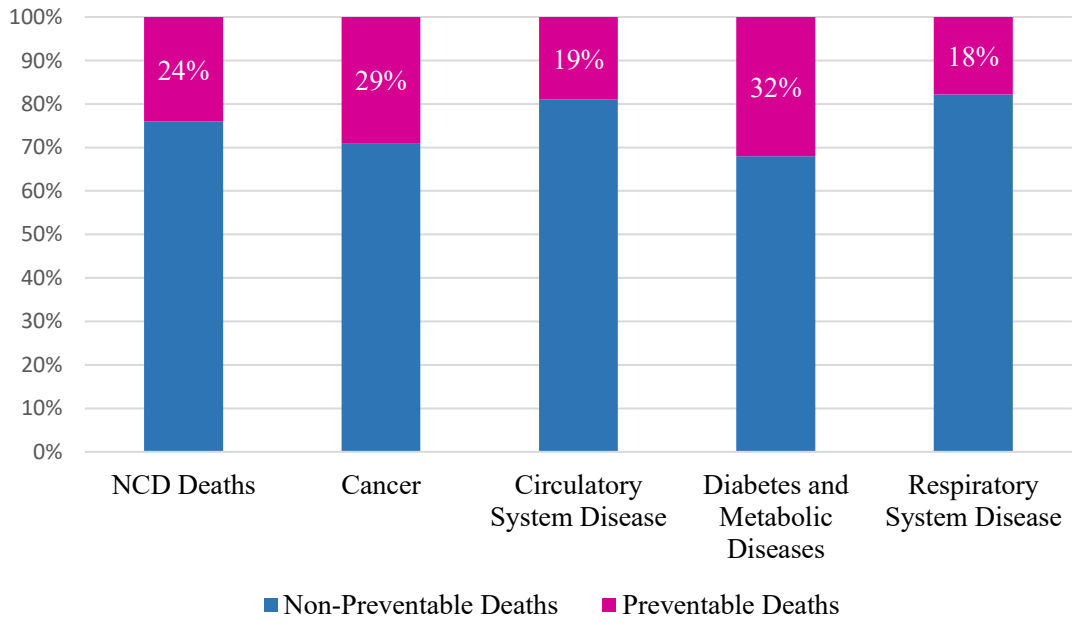

Figure 2. The percentage of NCDs that can be preventable. Adapted from National Records for Scotland.

The prevention of NCDs is commonly done through community-based health interventions in developed countries (Nissinen, Berrios, and Puska 2001). As stated by Public Health Scotland, 'Live in vibrant, healthy and safe places and communities' is one of the priorities for improving our health and wellbeing (Public Health Scotland 2022). Compared to interventions focusing on high-risk individuals or national scales, applying community-based interventions can provide a range of benefits. In the first place, such interventions are inclusive and independent of professional health care. Second, by directing strategies at an entire population, all levels of risk can be reached. Last but not least, some lifestyle and behavioural risk factors may be shaped by factors beyond an individual's control (Pronk, Hernandez, and Lawrence 2013; Raine et al. 2013; Nickel and von dem Knesebeck 2020).

However, given that interventions were primarily aimed at creating conditions that would support behavioural change rather than reducing health outcomes directly, community-level health outcome indicators may not be sensitive enough to capture incremental changes in the short term (Raine et al. 2013).

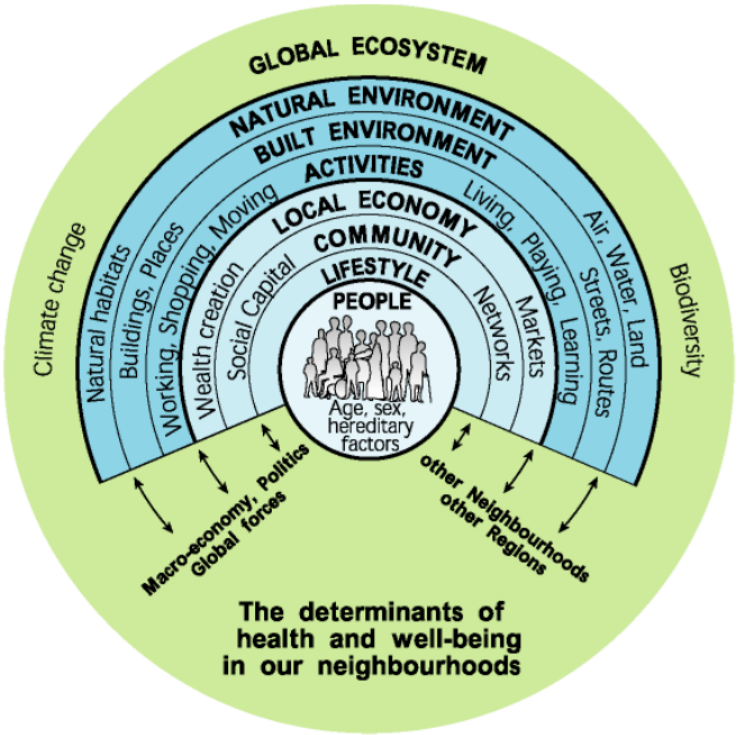

Figure 3. The health map - a model of public health (Barton and Grant 2006).

In addition to community-level interventions, urban planning can make a considerable contribution to reducing NCDs through environmental interventions, such as encouraging the effective use of green spaces by the public. Epidemiological studies indicate that green space positively impacts the incidence of a variety of chronic diseases, including depression and anxiety symptoms (Beyer et al. 2014; YAKINLAR and AKPINAR 2022), diabetes and obesity (Lachowycz and Jones 2011; Astell-Burt, Feng, and Kolt 2014), and circulatory and heart disease (Maas et al. 2009; Wang et al. 2019), resulting in an increased interest of citizens, policymakers and researchers. As an example, "green gym" initiatives have been developed in the United Kingdom to promote physical activity and mental health (Pretty et al. 2005). In Scotland, to encourage more use of greenspace by patients, staff, visitors and members of the local community, the Green Exercise Partnership has put forward a range of programmes including health walks, environmental conservation work and community garden projects (NatureScot 2022).

This paper is focused on community gardens since they are considered as community-level initiatives conducted in green spaces. They could be a multi-component intervention that involves many activities: gardening and physical activity (PA), using and enjoying a green space, food production and consumption, social interaction. Several of these activities have been shown to enhance the local environment and community (Lucht and Greever-Rice 2012) and to provide a wide range of benefits to their members and other residents (Dubová and Macháč 2019; Cabral et al. 2017; J. Y. Kingsley, Townsend, and Henderson-Wilson 2009).

1.2 How did the community gardens develop?

There is a long history and heritage of community gardens. In Europe and North America, community gardens were first developed in tandem with the industrial revolution and rapid urbanization. Following WWI and WWII, community gardens became more popular in many urban areas (D. Armstrong 2000). It is estimated that 20 million Victory Gardens operated during World War II, supplying 40% of fresh

vegetables to Americans (B Turner and Henryks 2012). Recent community gardens have developed as a result of grassroots movements during the OPEC crisis (Partalidou and Anthopoulou 2017).

Community gardens have always played an important role during times of crisis. During the 1970s fiscal crisis in New York City, where a lack of housing led to abandonment and demolition, the city government created community gardens run by residents as a low-cost means of clearing, cleaning, and managing vacant lots (Schoen et al. 2021). Throughout history, from the Great Depression to the recent 2008 financial crisis, its importance has increased. A community garden also played a significant role during this period of Covid-19 (Cattivelli 2020), when the importance of access to nature became apparent (Chalmin-pui et al. 2020; Bell et al. 2016). As a result of stay-at-home and social distance requirements, park and garden use increased dramatically (A. Armstrong et al. 2021).

In addition to responding to a series of social crises over the last century, community gardens have also been credited with fostering civic engagement and promoting healthier living conditions (Pudup 2008). According to planners, resource managers, and scientists, community gardens have a number of benefits for individuals and communities, including healthy eating, open space in neighbourhoods, and educational opportunities; improved health and well-being for individuals, communities, and the environment; resilience and neighbourhood restoration; and protection from environmental disaster (Okvat and Zautra 2011; Chan, DuBois, and Tidball 2015).

These benefits have led many cities to support community gardens (Scott et al. 2018; Spilková and Vágner 2016). In Scotland, community gardens are similar to the use of 'common good land' by the community. The common good is a type of property owned by all local authorities that is legally distinct from any other property they own. It includes securities, civic regalia, land and buildings (McVey, Nash, and Stansbie 2018). Using common good land to tackle food insecurity, the Community Empowerment (Scotland) Act 2015 requires each local authority to develop a food-growing strategy that identifies land that may be used as allotment sites, identifies other areas of land that

may be used for community-growing, and shows how it intends to provide more provision for community-growing, particularly in socioeconomically disadvantaged areas (Scottish Parliament 2015).

1.3 Why focus on motivations and barriers for community garden participation?

There is a growing number of citizens and local authorities advocating community gardening, but there are a number of challenges to sustain these gardens, including vague responsibilities, lack of leadership and unclear expectations (Bonow and Normark 2018), and these gardens could be taken back by the government at any time (Schmelzkopf 2002). Recent studies, however, have suggested that the key obstacle to the longevity of community gardens is a lack of interest among gardeners due to time (Drake and Lawson 2015; Lawson and Drake 2013).

Reasons for community garden participation may vary over time. On the one hand, participants in contemporary societies show different interests in gardening than past gardeners. Many researchers have shown that community gardens have evolved from production-based organizations to membership-based organizations in recent years (Cabral et al. 2017; Barthel, Crumley, and Svedin 2013; Partalidou and Anthopoulou 2017). Change in motivations goes from basic physical human needs, such as the production of food, to more abstract needs such as building self-esteem, being part of a community, recreating memories and symbols of identity (Partalidou and Anthopoulou 2017).

On the other hand, motivations have also been found to vary according to different involvement level in gardening (Calvet-Mir et al. 2016; Martinho da Silva et al. 2016). The initial motivations for getting engaged in gardening are those that exist prior to the experience, while secondary or unexpected motivations are those that emerge as a result of the experience (Partalidou and Anthopoulou 2017; Martinho da Silva et al. 2016). Understanding the motivations for community garden participation is of great importance, since various identified reasons for participation are likely to play a key role in enhancing ecological public health (J. Kingsley, Foenander, and Bailey 2019).

Moreover, gardening participation may be mutually influenced by both motivating and deterring factors. But very few studies have investigated barriers to gardening that may discourage gardeners from participating (Diaz et al. 2018; Drake and Lawson 2015) and none of these studies examined whether gardeners actually stop participating in gardening as a result.

So far, there has been an increasing amount of literature on motivations affecting community garden participation (Tan et al. 2019; Sachs et al. 2022), including food production (Kirby et al. 2021), community engagement (Marshall et al. 2017), sense of fulfilment and enjoyment (Dunlap, Harmon, and Kyle 2013; Nordh, Wiklund, and Koppang 2016) or some other motivations that may be functionally or emotionally driven (Calvet-Mir et al. 2016; Migliore et al. 2019; Trendov 2018). It has also been widely acknowledged that community garden participation can play an important role in improving health and wellbeing. However, studies exploring whether these health benefits are effective in motivating gardening participation are inconsistent.

One potential explanation of mixed results is the generalisability of much research on this issue is problematic. Previous published studies are limited to Western societies, mainly in Europe and North America (Soga, Gaston, and Yamaura 2017), and in an urban context (D. Armstrong 2000). Few case studies have examined community gardening in Scotland, much less in rural or suburban areas. Two recent studies conducted in Scotland were both based on community gardens in the city centre (Crossan, Cumbers, and McMaster 2018; McVey, Nash, and Stansbie 2018). Additionally, the research to date has tended to focus on perspectives from founders, coordinators or regular members (Spilková 2017; Lewis, Home, and Kizos 2018; Trendov 2018) rather than potential gardeners (Cepic, Tomicevic-Dubljevic, and Zivojinovic 2020).

In sum, research on the community garden participation has been mostly restricted to the neglect of emerging motivators, ignorance of underlying barriers, and a narrow focus on research areas and participants. To ensure community gardens' long-term development, further exploring the motivations and barriers to gardening participation

in the suburban context of Scotland is imperative.

1.4 What are the research aims and objectives?

The aim of this paper is to address the above-mentioned gaps in current research and to answer the following research questions:

(i) Which motivations or barriers exist for community garden participants?

This is an open and exploratory set of questions; no theory was tested or proposed. A secondary research question, based on theory, was also posed:

(i) Do members in the steering group and potential users have different motivations or barriers, compared to regular users?

(ii) Are health benefits a motivator for community garden participants?

These secondary research questions resulted from a review of the literature and existing theories. They are secondary because the flexible and open nature of qualitative data collection meant that we could not guarantee we would be able to answer them(Smith and Shinebourne 2012).

Furthermore, it will provide a unique perspective on a town in south-eastern Scotland that is missing from existing research on community gardens.

We expect that this study will help garden designers and managers better understand what motivates people to garden and what hinders them. In order to increase the longevity of community gardens, it is imperative to understand such reasons. This will enable us to develop strategies that enable gardeners to become more engaged in a more stable manner. The analysis and comparison of different population groups will provide founders, decision-makers, or spatial planners with an updated perspective on how to engage more dwellers in community gardening, both rural and urban regions. Last but not least, we believe that continued engagement with community gardens may contribute to the health and vitality of the surrounding communities and their residents.

The paper is structured as follows. Following the introduction is a literature review

which describes the concept of community gardens and summarises the key motivations and barriers to involvement. After describing the interview process and analysis methods, a brief summary of Dunbar's community gardens is presented. At last, results, discussion, and conclusions are provided.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter begins by introducing the overall picture of the relationships between nature and health. It will then go on to the characteristics of community gardens by analysing different definitions and comparing with other forms of urban agriculture. After that, the focus turns to how community gardens build connections with human health, including social, mental and physical health. Other connections with nature, food and place are also discussed. Lastly, a separate section is used to outline a series of barriers to community garden participation.

2.2 Nature and health

Globally, more than four billion people already live in urban areas; the number is expected to reach seven billion (nearly two-thirds of the world's population) by 2050 (Our World in Data 2018). There are several adverse health effects associated with this trend towards urbanization, such as a lower level of physical activity (Ewing et al. 2014), an increase in calorie consumption (Shi et al. 2005) and a rise in social and psychological stress (Peen et al. 2010; Lederbogen et al. 2011), which is regarded as a major challenge in towns and cities in the 21st century (Dye 2008).

To reduce these health burdens, promoting healthy lifestyles is highlighted as a key part of the preventative health care approach (Ford et al. 2009). Regular doses of nature have become increasingly recognized as a key component of a healthy lifestyle (Tzoulas et al. 2007) and, in some instances, offer preventative benefits (Shanahan et al. 2016; Soga, Gaston, and Yamaura 2017). Also, Andersson et al. (2014) in 2003 linked urbanization with living outside of "biophysical planetary boundaries" and considered green spaces as a means of reconnecting humans to ecosystems to remedy environmental and health problems.

Literature has long demonstrated the importance of nature for human and planet health, particularly in urban settings. It is now well established that green space can mitigate

urban illness (i.e., obesity, respiratory illnesses, social detachment, isolation, economic inequality and compromised mental health) by producing multifunctional benefits (Arnberger and Eder 2012; Dennis and James 2017; McVey, Nash, and Stansbie 2018; Saint-Ges 2018). These benefits include producing physical and mental health benefits, reducing social and economic problems and strengthening community relationships by the creation and maintenance of green space (Camps-Calvet et al. 2016; Langemeyer et al. 2016; Shimpo, Wesener, and McWilliam 2019; Sioen et al. 2017). For example, a previous study in Ireland found that time spent outdoors was related to pronounced increases in positive emotional effects and significant decreases in negative emotions (Lades et al. 2020). Few, if any, studies have examined the impact of green space on suburban or rural residents. Consequently, uncertainties exist about the residential factors affecting community garden participation in the rural or suburban context.

In addition to benefits to human health and wellbeing, nature contact can play a role in improving planet health. There is a consensus among social scientists that green space is associated with various ecological functions, including the retention of storm water, the mitigation of the urban heat island effect, the provision of food, the improvement of air quality, and the preservation of biodiversity (Ciftcioglu 2017; Czembrowski et al. 2019; Landreth and Saito 2014; Petit-Boix and Apul 2018).

Consequently, rapidly increasing urbanization and the growing awareness of nature's importance worldwide have rekindled interest in community gardens (Cepic and Tomicevic Dubljevic 2017).

2.3 Concept of community gardens

Despite the growing popularity of community gardens, there is still a lack of consensus when it comes to some definitions. "Community garden" is probably the most diffused terminology and can be considered as an umbrella term for all other types. A community garden is defined by Glover, Shinew, and Parry (2005) as: ‘organized initiative(s) whereby sections of land are used to produce food or flowers in an urban environment for the personal or collective benefit of their members who, by virtue of their

participation, share certain resources such as space, tools and water'. According to their definition, both personal and collective benefits are involved. It is important to note, however, plots cannot be used for financial purposes despite the fact that individuals and households may cultivate together for self-consumption (Drescher, Holmer, and Iaquinta 2006; Martin et al. 2017). A similar definition refers community gardens as "open spaces which are managed and operated by members of the local community in which food or flowers are cultivated" (Guitart, Pickering, and Byrne 2012, 364–73), with multiple benefits to individuals and communities(Draper and Freedman 2010).

Other definitions highlight community garden as 'green space', with additional characteristics of 'shared' or 'public'. As described by Alaimo et al. (2016), community gardens are shared green spaces where people from more than one household garden communally or side by side. An earlier definition describes community gardens as public green spaces owned and controlled by the community (Ferris, Norman, and Sempik 2001). Additionally, a number of authors have considered gardens as community spaces used and managed jointly by members of the local community (Guitart, Pickering, and Byrne 2012; B Turner and Henryks 2012). Therefore, despite the fact that many community gardens contain individual plots that are used privately, the focus is on the collectively shared space.

One potential explanation for various definitions could be that there are different approaches and ethos among different community gardens. In some cases, community gardens are managed top-down by external organizations, such as municipalities and schools, with the aim of improving students' educational experiences and skills or supporting food procurement for the poor and unemployed (Firth, Maye, and Pearson 2011; Draper and Freedman 2010). Others are managed by active members of a community, following a bottom-up approach. According to Holland (2004), sustainable local development will be more effective if it operates at a 'grassroots' community level. Especially compared to a traditional economic development model that assumes national policies will filter down to local communities irrespective of their appropriateness.

Furthermore, it is important to distinguish community gardens from other forms of landscaping or urban farming practices when further exploring their characteristics. There is one major difference between community gardens and other forms of urban agriculture: they are not necessarily aimed at producing food. They are community-managed spaces that serve diverse purposes, such as recreation, relaxation, food provision, public assemblies, and cultural events (Saldivar-Tanaka and Krasny 2004; Mees and Stone 2012). In addition to differences in functions and purposes, community gardens also differ from other agriculture types in terms of design, organizational structure, and management (B Turner and Henryks 2012).

Nevertheless, due to many similarities between allotments and community gardens, many people misunderstand them as the same thing. Historically, allotments and community gardens have been closely associated with poverty and food insecurity. When economic and humanitarian crises hit, both of them played important roles in ensuring food security (Keshavarz et al. 2016). The difference between allotment gardens and community gardens is that allotment gardens consist of individual or household-owned parcels of land that are assigned for personal use (Drescher, Holmer, and Iaquinta 2006), whereas community gardens are generally open to the public. In other words, community gardens are more democratic and public than allotments (Bell et al. 2016).

Additionally, allotment gardens are divided into plots that are cultivated individually, but allotment associations manage the land lease, setting up the common rules governing their management and operation and charging a small membership fee (Holmer and Drescher 2005). While the majority of community gardens are maintained by volunteers who devote a lot of time and energy to maintaining these spaces regardless of threats of demolition and shifting neighbourhood dynamics (Campbell 2017). Such voluntary maintenance and management has many advantages because of their heterogeneous, flexible, and non-mandatory organization and management. Volunteers are given the opportunity to shape the physical form of urban land in a way that enhances the health of participants, provides ecosystem services, boosts

community food security, and enriches community cohesion (Artmann and Sartison 2018; C. M. Porter 2018; McMillen et al. 2016).

Overall, community gardens are typically regarded as sections of community-managed land, cultivated individually or communally, for personal or collective benefit, regardless of their definitions, types, and characteristics.

2.4 Connecting with human health

Currently, community gardening has been identified as a way of improving health and wellbeing from an ecological public health perspective. The health benefits of community gardens can not only be viewed as an outcome but also as an important motivation for gardening activities. There are three main aspects to these health benefits.

2.4.1 Connecting with social health

The benefits of gardening on a social level have been documented in several research studies (Milligan, Gatrell, and Bingley 2004; Wakefield et al. 2007), including establishing healthy neighbourhoods (Mmako, Capetola, and Henderson-Wilson 2019) and encouraging people to be involved in safe physical and social places (Siewell and Thomas 2015). For instance, a recent thematic review concludes that community gardens are increasingly recognized as effective means of promoting social cohesion and motivating health-promoting behaviours (Malberg Dyg, Christensen, and Peterson 2020). However, this review was primarily based on studies conducted in the USA, additional studies need to be carried out in more countries as community gardens are context specific.

Additionally, the establishment of social relationships has been attributed to community garden participation, though there was no universal term used across studies, including social capital, social bonding, social support, social networks and social inclusion (Burt et al. 2021). A study conducted by R. Porter and McIlvaine-Newsad (2013) in a leisure context has found that engaging in community gardening with fellow-minded gardeners

has boosted socialization benefits and developed new friendships. This view is supported by Marshall et al. (2017) who writes that social relationships developed through community gardens serve as an important means of community engagement. Likewise, gardeners who participated in community gardens reported deeper and more active social and familial relationships such as trust and reciprocity (Burt et al. 2021).

Community gardens also provide an inclusive environment for socially isolated groups, such as people with disabilities and older adults, despite the fact that community gardens largely depend on those who are able-bodied (Tigere and Moyo 2022). For one thing, participating in community gardens can contribute to social capital, which Coleman (1988) defines as activities that benefit society and the economy as well as disempowered groups. According to a case study in South Africa, community gardens play a significant role in improving the livelihoods and welfare of people with disabilities (Tigere and Moyo 2022). The benefits of a community garden may extend beyond income generation, to ensuring food and nutrition security, as well as improving self-esteem and dignity.

For another thing, community gardens can address health inequalities by offering social and educational programs that engage all sectors of society (Schoen et al. 2021; Wells, Myers, and Henderson Jr 2014; Soga, Gaston, and Yamaura 2017). Noone and Jenkins (2018) particularly focused on people suffering from dementia. They argues that community garden participation can be a cognitive benefit for them by providing an opportunity "to live beyond the stigma and stereotypes associated with their conditions".

Though a number of studies have considered social benefits as an outcome from community garden participation, they are frequently cited as a motivation for gardening as well (Djokić et al. 2018). For example, Poulsen, Neff, and Winch (2017) and Scott et al. (2018) note that individuals who lack opportunities to meet neighbours are likely to join community gardens since they have access to social activities (e.g., potlucks, and harvest festivals). However, social benefits are more of a secondary motivation than an initial motivation. Previous studies have found that low-income populations working

in rural community gardens were initially motivated by access to healthier foods, but after a while was motivated by making new friends, learning more about gardening and sharing skills (Poulsen, Neff, and Winch 2017; Scott et al. 2018). In this way, motivation to participate in community gardens may arise during the process, rather than at the beginning.

Interestingly, a quantitative study in Austin found that social interactions with other gardeners were not significantly related to motivation for community garden participation (Lee and Matarrita-Cascante 2019). Together, the mixed results from previous literature suggest that while gardening activities result in interpersonal contact between gardeners, social interaction does not necessarily motivate gardeners to participate in community gardens.

2.4.2 Connecting with mental health

A substantial amount of literature has documented the psychological benefits of gardening, including the improvement of emotional wellbeing (Alaimo et al. 2016; Cockburn 2020; J. Y. Kingsley, Townsend, and Henderson-Wilson 2009), the reduction of stress and anxiety (J. Y. Kingsley, Townsend, and Henderson-Wilson 2009; Hawkins et al. 2011, 2013) , as well as enhancing mood (Thompson 2018), self-esteem (Wood, Pretty, and Griffin 2016), life satisfaction (Soga et al. 2017; Ozer 2007; Van den Berg et al. 2010; Schoneboom 2018). For instance, a recent study surveying five countries in the global north suggests that community gardens are normally capable of providing mental health support in people at risk (Schoen et al. 2021).

Additionally, experimental studies have confirmed that gardening can relieve stress. As an example, (Van Den Berg and Custers 2011) investigated an individual's psychological health before and after 30 minutes of outdoor gardening, and they found that stress levels significantly decreased after the treatment. It has also been observed in clinical studies that gardening activities alleviate symptoms of depression and anxiety in patients with psychological disorders and the effect persists for several months (Gonzalez et al. 2011). Also, several studies have demonstrated that community

gardens can improve mental health because there are numerous psychophysiological benefits, such as renewal of cognitive and response abilities, to being in a natural environment (Van den Berg, Hartig, and Staats 2007).

Also, mental health benefits are cited as motivating factors for community garden participation. Cervinka et al. (2016), using an online survey, found that gardeners were motivated to garden because of improved quality of life and psychological well-being they experience. In another qualitative study exploring community gardening motivations in New York, joy and personal fulfilment consistently ranked as the top motivators (Sonti and Svendsen 2018). In contrast, gardeners may soon leave if their psychological needs are not met. The reason for this is that mental benefits may not necessarily be gained from all community gardens. Especially for gardens that fall into disrepair, they can even be sources of shame or stigma (Clayton and Opotow 2003).

The evidence presented in this section suggests that taking part in community gardens can have various mental health benefits. However, these benefits may not always encourage gardeners to get involved.

2.4.3 Connecting with physical health

Gardening activities can provide a number of physical benefits, including improved grip strength, lower blood pressure, lower body mass index and enhanced general health (Wood, Pretty, and Griffin 2016; Zick et al. 2013). In comparison to people who do not garden, gardeners have significantly lower and healthier body mass indexes (Zick et al. 2013). In a pre-post study, for example, Veldheer et al. (2020) found that adult patients with cardiovascular disease risk factors can benefit from an intervention delivered at a hospital-based community garden.

These benefits of physical health may be mediated by exercise obtained during gardening activities. As noted by Hale et al. (2011) gardening provides both low-intensity leisure-time physical activity as well as vigorous intensity activity. By comparison, walking at a brisk pace has a MET intensity level between 3.8 and 5, and gardening also falls within that range. Additionally, the physical activity involved in

gardening can contribute to an active lifestyle (Hawkins et al. 2015), given that gardening reduces the amount of sedentary time (Genter et al. 2015; Poulsen et al. 2014). Detailed examination of the amount of physical activity between plot owners and non-plot owners found that plot owners engaged in more physical activity during the summer (Van den Berg et al. 2010). However, physical health benefits are rarely mentioned as a driver for community garden participation.

Collectively, the evidence presented in this section suggests that different kinds of health benefits are fully recognised as outcomes from gardening participation, with social aspects most frequently mentioned. However, few studies on the motivations for community garden participation have included health benefits. There has also been a lack of consistency with regard to health as a driving force for participation in community gardens. In order to increase participation, further work must be done to examine how health benefits motivate gardeners.

2.5 Connecting with nature

Previous research has established that community gardens play a critical role in building connections between gardeners and nature (Migliore et al. 2019; Calvet-Mir et al. 2016; Pourias, Aubry, and Duchemin 2016; Trendov 2018). In city centres, particularly, the cultivation of gardens offers city dwellers a fantastic opportunity to interact with nature in their daily lives (Soga et al. 2017; Acton 2011). Spending time in natural settings also reduces gardeners' exposure to artificial stimuli and pollution and allows them to enjoy peace and quiet. As a result, gardens are considered as restorative environments for the recovery of attention (Kaplan and Kaplan 1989). In addition, gardens can also provide unique and profound benefits of reflection (Herzog et al. 1997). For instance, connecting with nature can lead gardeners to ponder environmental issues. As a result, gardeners also cope with urban pollution, vandalism, rats, and real estate development, going beyond weeding and watering (Sonti and Svendsen 2018).

In addition, nature connection plays a part in motivating gardeners to get involved. Data

from seven European countries have identified that the high frequency of plot visits by users can clearly be attributed to the gardens' key role as places for nature contact (Poniży et al. 2021). Similarly, a study conducted in Norway found that the strongest reason community gardeners engage in gardening was to provide a place for their children to play outside (Nordh, Wiklund, and Koppang 2016). Furthermore, the desire to spend time outdoors, get in contact with soil and plants, and reminisce, gardeners are likely to become more motivated to cultivate their gardens once they become involved (Partalidou and Anthopoulou 2017; Scheromm 2015a).

An unambiguous relationship exists between the desire to connect with nature and increasing awareness of its importance. Nature contact is widely acknowledged to provide a cost-effective solution to improving our health and wellbeing (Tzoulas et al. 2007; Shanahan et al. 2015), including promoting psychological well-being (McCracken, Allen, and Gow 2016; Shanahan et al. 2016; Zhang, Howell, and Iyer 2014), general health (Kardan et al. 2017; Hartig et al. 2014) and social cohesion (Weinstein et al. 2015; Jennings and Bamkole 2019).

Considering all of this evidence, the involvement in community gardens can result in a connection with nature, with a series of associated health and environmental benefits. In the meantime, gardening participation is motivated by the connection with nature, and this motivation may accumulate over time. It is also highly possible that in the future, connecting with nature will become more and more important as public awareness of its importance grows.

2.6 Connecting with food

Participation in community gardens can improve people's knowledge of nutrition and vegetable preferences, therefore, increasing their vegetable consumption (Parmer et al. 2009). In a framework analysis of community garden participation, Alaimo et al. (2016) found that gardeners and their children were more likely to eat vegetables and fruits if they picked them themselves. Reconnecting to food can go beyond healthy eating habits; it can also act as a medium for exchanging resources and knowledge, leading to

the development of community gardens as places for learning and education (Bendt, Barthel, and Colding 2013; Krasny et al. 2014; K. G. Tidball et al. 2010; Walter 2013).

The ability to grow fresh food for household use is another important motivation for gardening participation. According to functional motivation studies, a primary reason for gardening is to obtain food for subsistence (Flachs 2010; Kettle 2014). Initially, as a result of economic crises and war conflicts, community gardens were established to procure basic foodstuffs and provide employment (Ginn 2012). Later, community gardens were developed to extend household budgets by producing vegetables and fruit for household consumption (Bellows 2004). The practice is rooted in historical events, for it was indeed the predominant goal of gardeners during and after World War II (Lawson 2004). In recent years, however, the motivations of modern gardeners have shifted, with the exception of gardeners in marginalized communities. Community gardens now provide healthier food options such as organic fruits and vegetables (Zanko et al. 2014). Several studies have evidenced that contemporary gardeners participate in community gardens for the purpose of achieving organic or healthier food (Lawson and Drake 2013; Meenar and Hoover 2012).

Together, participating in community gardens can build a reconnection with food and the food connection is always a motivation for gardening participation from a historical perspective. However, this motivation can be slightly focus shifted or ignored because knowledge exchange may replace actual food production as a motivator underpinning community garden participation (Burt, Mayer, and Paul 2021).

2.7 Connecting with place

Previous research suggest that community garden can foster sense of place as gardeners tend to recognize gardens as their individual domains, expressing ownership and feeling responsible for them (Eizenberg 2012; Schoneboom 2018). A qualitative study by Sonti and Svendsen (2018) has also shown that gardeners may become more attached to a site once they commit more time and effort to stewardship. The authors argue that the transformation of an urban landscape, as well as the hard work necessary to maintain

it, can be rewarding to gardeners because they see themselves reflected in their work (Sonti and Svendsen 2018). It has also been proved that social interactions in community gardens help to familiarize neighbours and cultivate a sense of place within communities (Ong et al. 2019).

There are two related concepts: place identity and place attachment. Place identity refers to a feeling about a specific space (Clayton and Myers 2015). As part of the stewardship of the local environment, community gardeners are able to strengthen their relationship with the place, which is a key component of identity development and also of social resilience (Clayton and Myers 2015; McMillen et al. 2016). Place attachment, which describes emotional attachments to places (Hidalgo and Hernandez 2001), can be generated intrinsically because community gardens allows participants to awaken the different senses and builds various connections while directly interacting with plants and people (Hale et al. 2011).

In addition, different levels of attachment to a place can lead to different gardening participation levels (Anton and Lawrence 2016; Estrella and Kelley 2017). In a quantitative study conducted by Lee and Matarrita-Cascante (2019), it was shown that place attachment can positively affect gardeners' intentions to participate in community gardening. Moreover, the dependence on a specific place might be rooted in tradition, memories, and a historical connection as well (McFarland et al. 2018). In a case study in Northern Greece, Partalidou and Anthopoulou (2017) argue that memories of the rural past can influence people's motivation to participate in urban gardening and to recreate the emotional experience they are attached to.

Though different terms are applied, connecting with place inspires participation and can lead to accumulation effects. It is also important to understand that the connection to a place is an emotional process that is complex and requires further study.

The evidence reviewed here suggests that participating in community gardens can result in a range of benefits, but only a portion of those benefits are proven to motivate people to participate. In other words, participants may not be encouraged by the benefits of

gardening involvement, which seems to explain why community gardens are at risk of disappearing. Despite growing support for community gardens in Scotland, little is known about whether these gardens are in good use or face challenges. However, it is clear that nearly 20% of total community gardens (about 323 out of 1615) in the US disappeared between 2007 and 2012, according to the American Community Garden Association (Lawson and Drake 2013). There are multiple reasons for their disappearance, including short-term land tenure because of competing interests for development (Staeheli, Mitchell, and Gibson 2002) and unsecured funding from municipalities for garden maintenance (Ghose and Pettygrove 2014), but the report stressed that the most significant barrier to community gardens' longevity is a lack of participation by gardeners over time (Drake and Lawson 2015; Lawson and Drake 2013). Hence, in addition to organizational and management barriers, consideration should be given to subjective barriers for participants.

2.8 Reasons for disconnecting

Compared with motivations for community garden participation, barriers are less explored in the literature. Lack of time, shortage of gardening skills, and not in close proximity to gardens are three most commonly mentioned reasons for losing interest in gardening activities.

Previous studies have explored the influence of lacking time on gardening participation. Mast (2013) surveyed 63 community gardeners using semi structured interviews. Results from the study suggests that unexpected time demands associated with gardening rules or service hours potentially deter interest in gardening. The lack of time is mentioned as one of the most frequently stated barriers for gardening participation, especially among non-food growing neighbourhoods (Kortright and Wakefield 2011). In 2020, one quantitative study reported that more than 80 per cent of respondents pointed to lack of time as a reason for not gardening (Cepic, Tomicevic-Dubljevic, and Zivojinovic 2020).

Additionally, a lack of gardening skills and knowledge is mentioned in the literature as

an important conditional factor. Based on a survey of 445 community garden organizations in 2011-2012, the American Community Garden Association concluded that a lack of gardening knowledge led to frustration and dropouts (Diaz et al. 2018; Drake and Lawson 2015). In another quantitative study, those who had no experience in agriculture or gardening tended to lose interest in gardening more easily than those who did (Lee and Matarrita-Cascante 2019).

The lack of proximity to gardens is also considered a barrier to gardening participation. Milburn and Vail (2010) found that the interest in gardening fell when gardens were not nearby, particularly when they were difficult to reach by foot or bicycle. Therefore, placing gardens close to people's homes or near public transport can not only save people's time but also reduce the city's carbon footprint (Bethaney Turner and Henryks 2012).

However, these barriers may not be decisive for participation in community gardens. There are some claims that although gardeners may lose interest when they lack gardening skills (especially in the case of newer gardeners) or are not in close proximity to gardens, these conditions have a small effect (Cohen and Reynolds 2015; Drake and Lawson 2015). Sometimes, the demographic characteristics of participants should also be considered in this regard. Based on a case study in Southeast Europe, younger respondents were less likely to be interested in gardening considering their time, skills, and requirements for growing their own vegetables (Cepic, Tomicevic-Dubljevic, and Zivojinovic 2020).

In all the studies reviewed here, participating in community gardens is recognised as an effective way to improve health and wellbeing and build connections with nature, food and place. A gap exists, however, in terms of whether health benefits serve as motivations and whether motivations change across time and space. In addition, prior studies have not adequately understood subjective barriers and how these barriers have an impact on participation. This work will generate fresh insight into motivations and barriers of participating in community gardens in Scotland in the post-COVID era, with additional focus on perspectives from potential users.

CHAPTER THREE: METHODOLOGY

3.1 Study design

A multiple qualitative case study was used to gain an in-depth understanding of diverse views on community garden involvement in a specific case of Dunbar. A major advantage of this approach is that qualitative studies have a more fluid and exploratory nature than quantitative studies, allowing greater insights into individuals' understandings and lived experiences (Mason 2017; Australian Institute of Health and Welfare 2004; Denzin 1994). Another advantage is that using a case study makes it easier to obtain data with limited resources and allows limiting the scope of the study to strengthen its qualitative nature. Furthermore, providing three semi-structured interview types allows participants to choose their preferred format, reducing misunderstandings between researchers and participants (Yin 2009).

3.2 Study area

The Belhaven community garden (BCG) as a long-established garden in Dunbar that is familiar to local residents is an interesting site for research. The garden was initiated in 2012 by community volunteers and has grown and developed to become a greatly valued community asset in Dunbar. In terms of the geographical and social background, Dunbar is situated in the southeast of Scotland (see Figure 4), a town of Dunbar & East Linton ward, which is one of the largest wards in East Lothian (see Figure 5). In 2020, Dunbar & East Linton ward had 15,640 people, a density of 83.02 people per square kilometre, higher than that in Scotland (70 people per square kilometre) (Statista 2021; City population 2020). It is estimated that 48.6% of the Linton ward's residents are males and 51.4% of the ward's residents are females, and 81.8% identify themselves as White Scots (City population 2020).

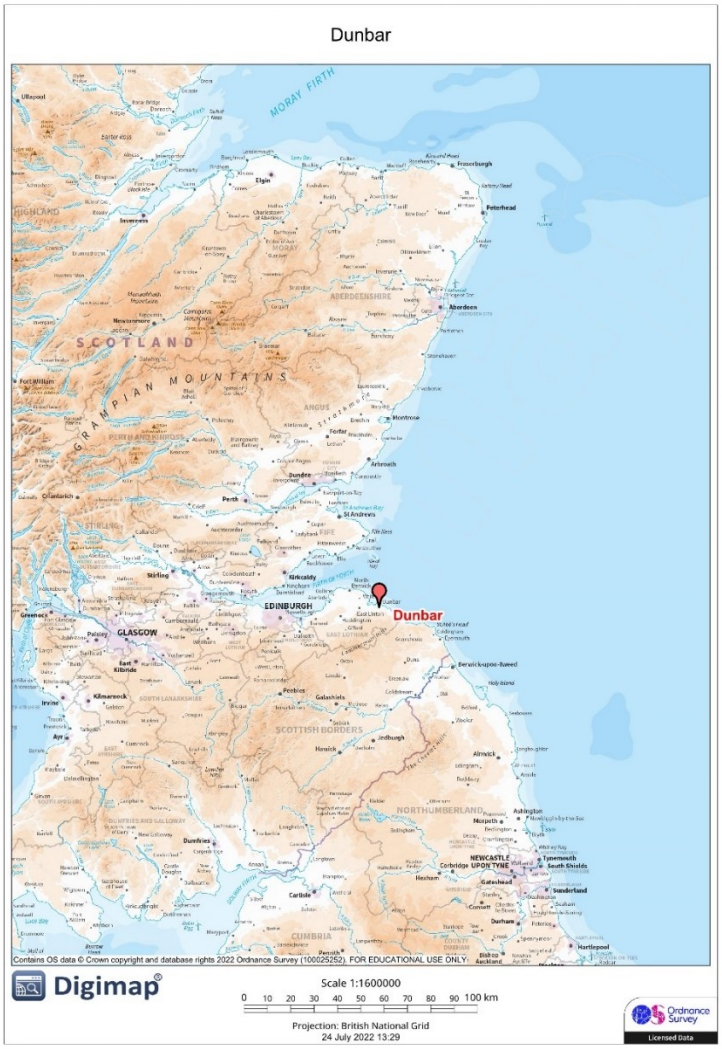

Figure 4. The geographical location of Dunbar in Scotland.

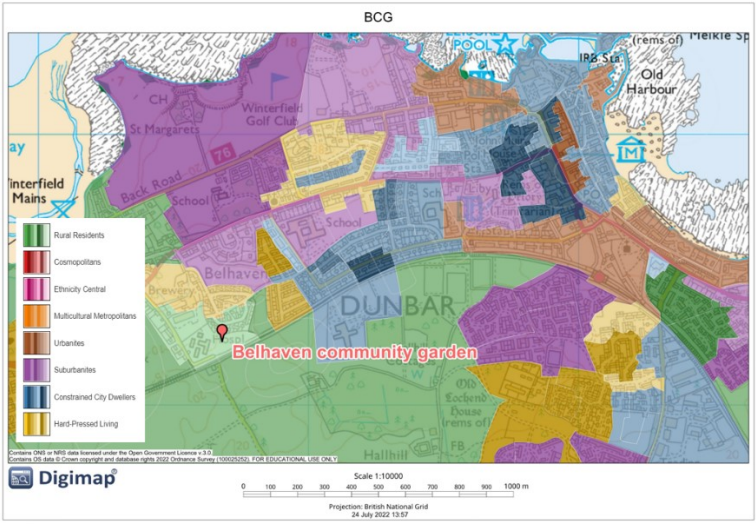

Figure 5. The location of the Belhaven community garden in Dunbar and the types of population surrounding the garden.

The BCG has been running since 10 years ago with an agreement with NHS Lothian and supported by Sustaining Dunbar, a local community development trust. The garden is open to everyone, including families, and includes a sensory garden, a poly tunnel, raised beds, including some designed for less physically capable gardeners, and several plots for community or individual use (see Figure 6 and Figure 7). Furthermore, a Steering Group (volunteers) coordinates diverse events and activities, including volunteer sessions every Saturday afternoon and Apple Day around September each year. For essential tools and supplies, Sustaining Dunbar contributes a small amount to the Steering Group. Fundraising activities, such as seedling swaps and produce sales, provide an additional source of income.

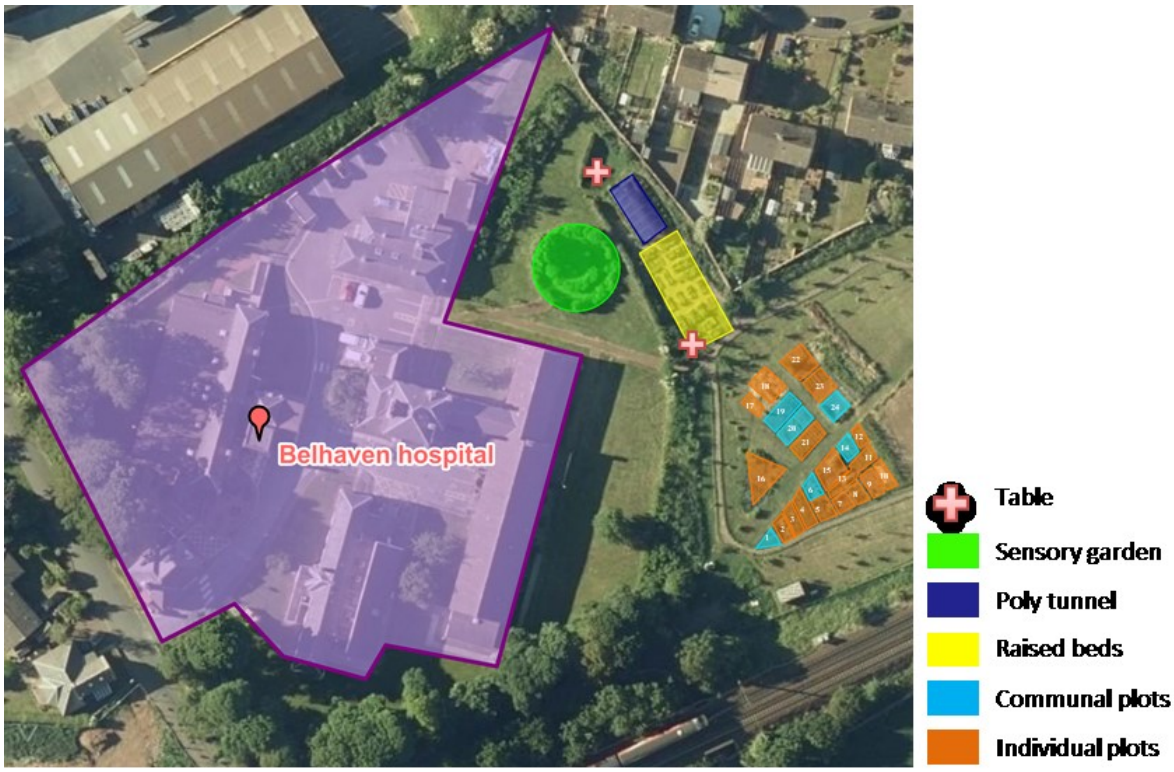

Figure 6. The layout of the Belhaven Community Garden.

Figure 7. Some pictures of the Belhaven Community Garden taken by the author.

The BCG has far exceeded its original expectations. It now has a beautiful garden space where trees, plants, flowers, and vegetables can be grown. Additionally, a well-established volunteer program and new projects are constantly developed. Considering the BCG is land adjacent to Belhaven Hospital, the future objective is to transform it into gardens where local residents, community groups, staff and patients can grow together.

3.3 Study participants

In total, 22 respondents were recruited, including 5 members of the steering group with insight into the day-to-day operation of the garden; 10 regular users who had signed a volunteer agreement; and 7 potential users who appeared in the garden but had not signed as volunteers. Participants were selected because they had personally experienced the BCG and they represented a perspective, not a population. The three groups were chosen because this study was to explore whether members in the steering

group or potential users have a different view on motivations and barriers to community garden participation, compared to regular users.

To recruit participants, the researcher spoke to members of the steering group individually and presented information about the study at the BCG volunteer session on the last Saturday in May. A study advertisement was also posted on the Discussion forum, an online communication platform for all volunteers, inviting active volunteers interested in the study to contact the researcher. This was done with the support of the steering group.

3.4 Process

Interviews were conducted face-to-face between June and July 2022 in the BCG, and recorded by a video camera (Hero 6 Go Pro Camera) by the researcher myself, who had no existing relationships with any of the participants. Before the interviews began, participants reviewed the Participation Information Sheet and signed the Informed Consent Form. Participants could choose which form to be interviewed, whether garden-along interviews, in-garden interviews or mini focus groups, though a garden-along interview was always prioritized. Prior to the study's commencement, three pilot interviews were conducted to assess the interview protocol and the quality of the audio and video recording, and they were not included in the analysis of data.

Snowball sampling was applied when the first respondent was asked if they knew anyone else from the gardens who was interested in getting involved. The number of people interviewed was determined based on saturated sampling, which was confirmed when there were no new themes emerging from the interviews. We reached saturation with 22 respondents, 11 of whom chose garden-along interviews, 3 chose in-garden interviews, and 8 chose mini-focus groups.

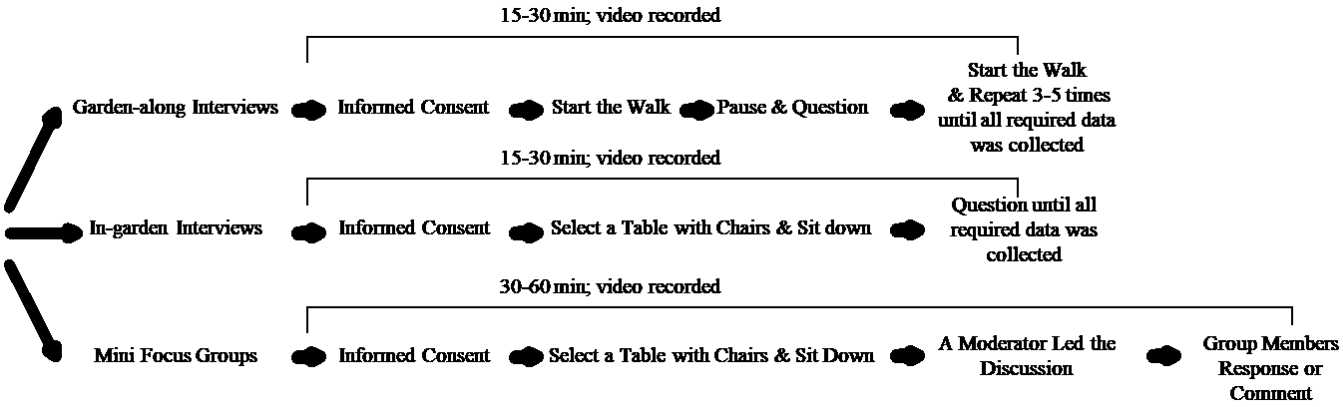

Figure 8. The process showing how this study conducted.

3.4.1 Garden-along interview

As with the 'go-along' or 'walk-along' interview, the garden-along interview takes place in the garden. A go-along interview is a variation of qualitative interviewing techniques used by urban planners and sociologists to explore and improve understanding of people's perceptions of and spatial practices in the physical and social environment (Carpiano 2009; Kusenbach 2003). An interview in which the researcher walks along with a participant in an environment familiar to them, such as their neighbourhood, is called a go-along interview. This approach provides a higher ecological validity than traditional interviews or surveys since responses come from people in and moving through real environments (Van Holle et al. 2012). Further, researchers can invite participants to explore their places with them and uncover the history and meaning of particular domestic spaces that may not be apparent to casual observers (Wen Li, Hodgetts, and Ho 2010).

The go-along interview has previously been used to examine how green or blue spaces, such as parks, gardens, street greenery, and lakes, have an effect on older adults' behaviour or subjective perception (Van Cauwenberg et al. 2012; Zandieh et al. 2016; Finlay et al. 2015; Wen Li, Hodgetts, and Ho 2010). Despite this, no studies have specifically examined enablers and barriers for participants in community gardens using such interviews. A majority of qualitative studies on community gardens have used in-depth one-on-one interviews (Sachs et al. 2022; McVey, Nash, and Stansbie 2018; Sonti and Svendsen 2018; Bonow and Normark 2018), requiring participants to

recall their perceptions at the time of exposure to community gardens, which may not always be easy for those with limited gardening experience. Therefore, garden-along interviews are particularly valuable for this study because they allow participants to communicate “in the moment” about their experiences and perceptions of people and plants in community gardens (Carpiano 2009; Kusenbach 2003), as well as encourage context-sensitive responses to interviewers and interviewees.

One garden-along interview took approximately 15-30 minutes and was video-recorded with permission. The participant would take the recording device to a familiar spot in the BCG and determine the location, route, speed, and duration of their engagement while the researcher enquired about their personal details, experiences in the garden, reasons for participating and barriers.

3.4.2 In-garden interview

An in-garden interview may be the best option for those who are unable to complete garden-along interviews independently or who prefer sitting down interviews for comfort reasons.

Figure 9. A table that can be used for interviews in the Belhaven community garden.

The in-garden interview is actually a variation of traditional one-on-one interviews, which is a sitting-down interview not carried out indoors but in a garden. Comparatively to indoor interviews, this approach offers respondents the opportunity to look, listen, and feel in a real garden setting, which provides more sensitive and richer information. Similarly to the garden-along interview, this in-garden interview lasted 15-30 minutes and followed the same steps.

3.4.3 Mini focus groups

This study also used group-based discussion techniques called mini-focus groups in order to enhance the quality of the information obtained. In a focus group, a discussion is planned to obtain the perceptions of the participants on a specific topic, usually with 6 to 12 subjects at the same time and a moderator to facilitate the discussion. One advantage of this approach is that people react to and build upon the responses and comments of others, and they speak only when they have definite feelings about a subject. The second advantage is the feeling of security by participants that they won't be interviewed on their own. This method is also particularly practical since data can be collected much more quickly and at a lower cost than individual interviews. In addition to observing verbal responses, the researcher may also observe nonverbal responses such as smiles, frowns, and gestures. However, some limitations do exist: a dominant member may monopolize discussions and significantly influence the views of others.

In the BCG, however, it is impossible to conduct a traditional focus group due to two factors. One thing to consider is that there are only about 20 registered volunteers in the BCG. Focus groups and in-garden interviews were conducted using the garden table and chairs, whose capacity was unsuitable for more than 6 people. As a result, mini focus groups were conducted in this study: a moderator (me) guided and facilitated the discussion, with between 2 and 4 participants involved. Approximately 30-60 minutes were spent in each mini-focus group.

3.4.4 Interview topic guide

A semi-structured interview topic guide was developed which consisted of both close-ended and open-ended questions. The closed-ended questions assessed the demographics of participants and a series of open-ended questions explored motivations and barriers of garden participation.

Starting questions in the topic guide include personal information, including age, gender, employment status, health status. This information about whether the person is registered as a volunteer for the BCG were also asked to enable further comparison between steering group members, regular users and potential users. For example, at the beginning of the interview, the researcher asked questions such as “How do you perceive your general health?” and “Have you signed as a volunteer in the BCG?”

The following questions were about participants’ experience in the BCG and motivations and/or barriers to participation. After a brief introduction, the researcher asked questions such as “How long have you participated in this garden?” and “What do you usually do here?” Knowing the basic participation situations, the researcher asked, “How did you get to know this garden?” and “Why do you become a volunteer here?” The researcher also asked participants the question “Do you feel tired in gardening?”, “Have you come across any constraints here?” and “Do you remember the first time you come here?”

Ending questions in the topic guide were more specific, concerning their views on certain aspects such as health outcomes, to examine the secondary research question about whether health benefits are considered a motivator for community garden participants. For instance, the researcher asked questions such as “Do you feel better in health after participating in the BCG?”

It is noted that the interview schedule was flexible, so the participants could lead the conversation to the topics they were most interested in, while the researcher followed up on matters that arose. This is in accordance with the Interpretative Phenomenological Analysis approach that interviewees are encouraged to speak freely, sharing their stories, thoughts, and feelings (Smith and Shinebourne 2012).

3.4.5 Analysis

To analyse the data, a thematic approach was chosen, allowing researchers to explore topics and questions for further research (Braun and Clarke 2012). In order to analyse the data electronically, we used NVivo 12 Plus for Thematic Analysis, a flexible software package that identifies frequently occurring themes and enables rich interpretations of the data (Braun and Clarke 2012). Initial codes were derived through primarily inductive methods, which link themes directly to data without attempting to interpret deeper meanings (Patton 1990). We also employed a partial deductive approach since we focused our attention on data that appeared to answer our research questions. As we were primarily interested in experiences explicitly described by participants, some interpretation of their speech was required, but the themes identified included both semantic and latent dimensions. Identifying latent themes helped the research team understand recurring themes that participants did not explain explicitly but were relevant to the research question.

Furthermore, we conducted a number of strategies to reinforce the rigour of our study. This included cross-checking full transcripts against original audio files for quality and completeness; writing reflective memos during the data generation and analysis process; identifying and thoughtfully examining "outliers" or "deviant cases" (i.e., those participants and themes that did not conform to the overarching coding structure and storyline created by researchers and participants) (Seale and Silverman 1997).

CHAPTER FOUR: RESULTS

4.1 Introduction

Two types of data were collected from garden-along interviews, in-garden interviews and mini-focus groups. The main form of data was text, which was professionally transcribed verbatim with pseudonyms to protect participant confidentiality. Whereas visual data assisted interpretation of deeper meanings. The first section of this chapter gives a brief overview of the characteristics of participants using some tables. Afterwards, five key themes and twelve subthemes will be presented, along with supplementary interpretations by direct quotation text and photographs on site. After that, results concerning the relative importance of motivations and barriers are present. Finally, corresponding bar charts are used to illustrate the different viewpoints among potential users, regular users, and steering group members.

4.2 Characteristics of participants

A total of 22 participants were interviewed, with 11 males (50%) and 11 females (50%). Nearly 41% of the participants were adults aged 25 to 54, representing the largest age group. There were no participants younger than 24 years, 27% (6) were 55-64 years old, and almost 32% (7) were older than 65 years old. With regard to employment status, half of the participants (12) were retired, about 41% were actively employed, and only one participant was unemployed. All of the above demographic characteristics of each participant, their role in the BCG, and the type of interview conducted are shown in Table 1.

Participant	Age	Sex	Work status	Role in the BCG	Type of Interview
PU01_W	25-54	Male	work	Potential user	In-garden interview
PU02_R	65 and above	Male	retired	Potential user	Garden-along interview
PU03_W	25-54	Female	work	Potential user	Garden-along interview
PU04_R	65 and above	Female	retired	Potential user	In-garden interview
PU05_W	25-54	Male	work	Potential user	Focus group
PU06_R	55-64	Female	retired	Potential user	Focus group
PU07_W	25-54	Female	work	Potential user	Focus group
RU01_U	25-54	Male	unemployed	Regular user	Garden-along interview
RU02_R	55-64	Female	retired	Regular user	Garden-along interview
RU03_R	25-54	Female	retired	Regular user	Garden-along interview
RU04_R	65 and above	Male	retired	Regular user	Garden-along interview
RU05_R	55-64	Male	retired	Regular user	Garden-along interview
RU06_W	25-54	Female	work	Regular user	Garden-along interview
RU07_R	65 and above	Male	retired	Regular user	Focus group
RU08_R	65 and above	Female	retired	Regular user	Focus group
RU09_W	25-54	Male	work	Regular user	Garden-along interview
RU10_R	55-64	Female	retired	Regular user	Focus group
SG01_W	25-54	Female	work	Steering group member	Garden-along interview
SG02_W	55-64	Female	work	Steering group member	In-garden interview
SG03_R	65 and above	Male	retired	Steering group member	Garden-along interview
SG04_W	65 and above	Male	work	Steering group member	Focus group
SG05_R	55-64	Male	retired	Steering group member	Focus group

Table 1. Participant demographics.

4.3 Themes developed

Themes were developed to address the research questions. The primary research question was to explore the motivations and barriers of community garden participants. One of the secondary questions was to specifically focus on health-related motivations for participating in community gardens and the other was to investigate whether members of the steering group, potential users, have different motivations or barriers compared to regular users.

Accordingly, there were five themes identified: Building Connections, Gaining Benefits, Making Contributions, Insufficient Inner Drivers, and Practical External Obstacles. Gaining Benefits was particularly relevant to the first secondary research goal. The themes described here are often intertwined. For example, Gaining Benefits could be embodied in their nature contact which relates to the theme, Building Connections. Likewise, the third theme, Making Contributions, is related to participants' sense of engagement and capacity to connect with people and nature. Also, Insufficient Inner Drivers can increase the negative effect of Practical External Obstacles. A summary of the themes and subthemes is shown in Table 2.

Furthermore, to answer the research question about different views on motivations and barriers to participating in community gardens from members in the steering group, potential users and regular users, the percentage of references by each group for subthemes was calculated (see Table 2). Qualitative data are reinforced by quantitative counts of participants discussing an environmental factor, as different pronouns are used to describe different results (see Table 3) (Sandelowski 2001).

Theme	Example participant quote	Participants Number (%)
Theme 1: Build connections		**21 (95%)**
Contact with nature	"It's just lovely to be out in the fresh air and listening to the birds."	18 (82%)
Socialize with people	"It's a nice way to meet people and they're lovely people, very friendly."	18 (82%)
Grow, harvest and eat own produce	"I like to grow vegetables and harvest them."	17 (77%)
Theme 2: Gain benefits		**21 (95%)**
Enhance psychological wellbeing	"I keep busy the whole time and it avoids to get anxiety."	20 (91%)
Satisfy spiritual need	"When I come here, it never feels like I wasted my time being here."	18 (82%)
Improve physical health	"It helps bring down your blood pressure and it makes you feel calm and peaceful."	3 (14%)
Theme 3: Make contributions		**14 (64%)**
Build and develop our community	"So coming here is maybe think about getting more locally."	13 (59%)
Protect and improve our planet	"Little old-fashioned wildflower, Hay Meadow, is part of trying to increase and enhance the biodiversity of the whole site."	5 (23%)
Theme 4: Insufficient inner drivers		**16 (73%)**
Limited energy and time	"I was thinking I can totally just sit on the couch. And that would be easier."	14 (64%)
Lack of confidence	"The only thing I've encountered is just not knowing very much about gardening."	4 (18%)
Theme 5: Practical external obstacles		**11 (50%)**
Environmental hinders	"And it gets very cold in the winter here. So we have to pick our times when to come."	10 (45%)
Social hinders	"So sometimes people leave because it's no longer a peaceful place for them."	4 (18%)

Table 2. Details of key themes (included quotes are illustrative of the themes and do not represent the entirety of the quotes available).

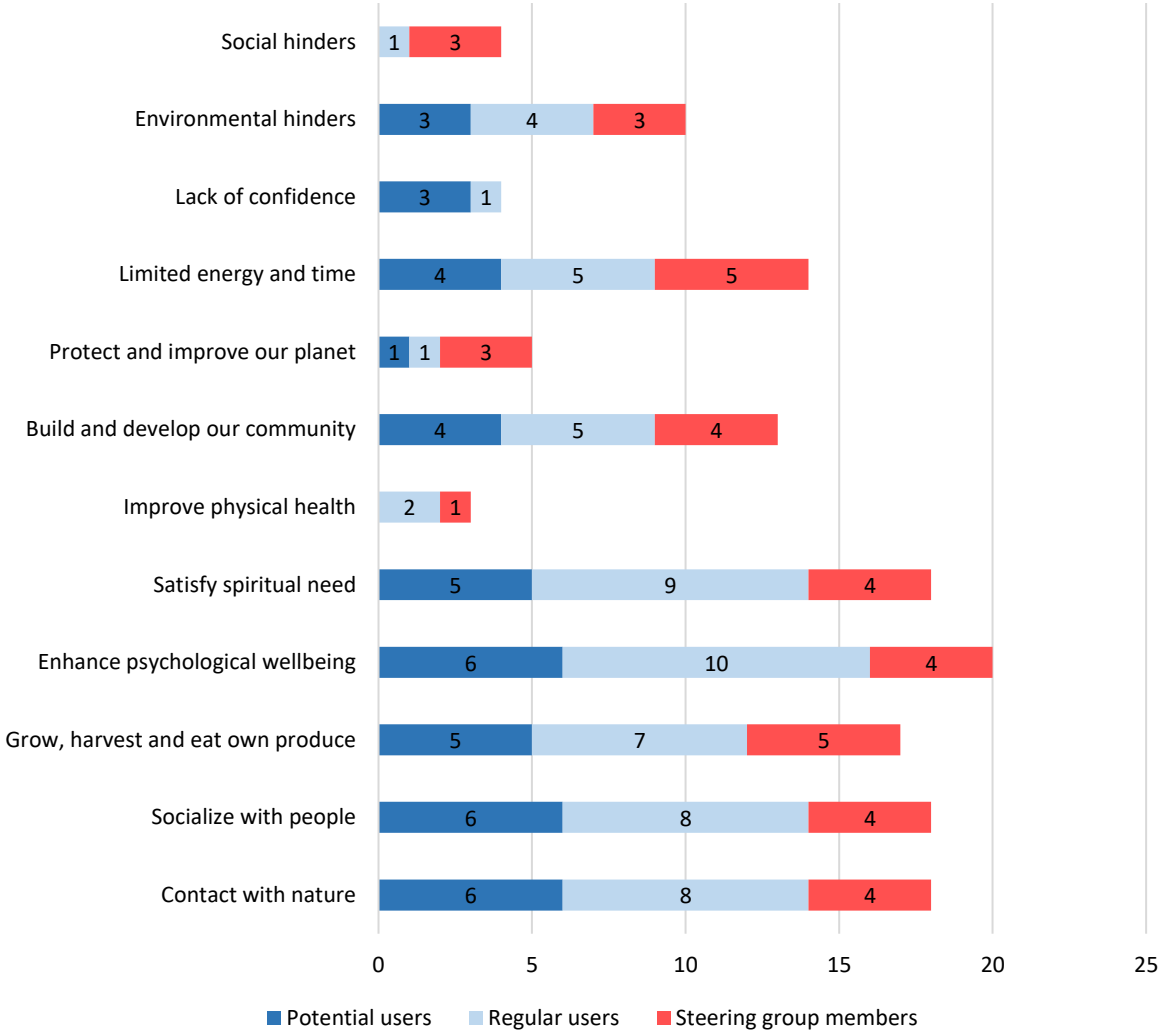

Figure 9. Number of potential users, regular users and steering group members who produced material included within each subtheme.

Percentage of participants discussing a (sub)theme	**Pronoun**
%<25	Few
25≤%<50	Some
50≤%<75	A lot of
%≥75	Almost all

Table 3. Percentages of participants discussing a subcategory and corresponding pronouns used in results' description.

4.3.1 Building connections

4.3.1.1 Contacting with nature

Participants generally emphasized the importance of connecting to nature, social, and food environments. Participants often cited their connection to nature as a primary motivation for participating. This is illustrated by the statement of a 30-year-old woman:

> *"Because, like it's a deadline and it's coming closer, but at the same time, you need to give yourself a break in your work, in your mental work indoors. You need to kind of compensate for it, going outdoors and doing something fun like relaxing and then you can go back. It can be more efficient."*(RU06_W)

Others directly emphasized the importance of communicating with nature without providing an explicit explanation:

> *"You need to go out and communicate with nature so a garden is a really good thing."*(PU04_R)

Otherwise, some participants expressed a particular fondness for flowers:

> *"I love the Flowers. I love being outside and love the garden and just how pretty it is."*(PU07_W)

Figure 10. Different varieties of flowers in the Belhaven community garden.

Furthermore, even though community gardens were mainly regarded as places with plants rather than places for contact with animals, some participants described hearing birds. For example, an old man in the steering group mentioned:

> *"What I do notice was…a train goes by these people here, you can hear the birds. Yeah, you can hear them, the small birds."*(SG03_R)

4.3.1.2 Socializing with people

Participation in community gardening was largely motivated by its social aspect. Community gardens were perceived as increasing social networks, as a young man said:

> *"I'm the head of marketing for a software company so I spend a lot of time at a desk inside. And I work from home because the companies are based in Berlin. So I don't get a lot of social interaction in my daily life."*(PU05_W)

Figure 11. People were chatting with each other while doing gardening activities.

Participants recognized that this was because the garden brought together like-minded individuals who shared similar values and a passion for something larger than themselves. This is illustrated by the statement of a 59-year-old woman:

> *"And the other thing that's good is just meeting people from the local community that enjoy doing similar sorts of things. So I get on very happy to spend time here."*(RU02_R)

Increasing community engagement was also frequently mentioned as a way to increase participation:

> *"From that point of view, I think just coming here and meeting new people, I'm getting involved in a community project like this and it makes you feel good as well."* (RU05_R)

For others, it was about improving ties within the family, such as sharing the food that they had grown themselves:

> *"I have a family who lives about 20 miles toward Edinburgh, so I'll take some vegetables to my family."* (RU05_R)

4.3.1.3 Growing, harvesting and eating own produce

In addition to connecting with nature and others, it was also made a point to reconnect with food, including growing, picking, and eating a lot of their own food. The satisfaction of growing one's own food was discussed, with a 59-year-old man explaining:

> *"But seeing it comes very satisfying…So many people around the world who totally depend on their own labours to feed themselves. We've become so disconnected from that in this country and in Western. I think it's good. The value of things and how much work goes into them and so on."* (RU07_R)

Figure 12. People were sharing cakes and tea after the volunteer session.

Community garden participation was also cited as important because of the opportunity to observe the progress of the garden. One member of the steering group who looked after the trees in the orchard described the incredible experience of watching them grow:

> *"And for me…that's so amazing to watch the growth, watch the trees take shape and to really grow. I love that. I have seen the change every single year and every year I take photographs of it. It's like…so it took a long time for the root systems to really get strong. And then they just started to come. It was funny. It was really amazing to watch that."* (SG01_W)

Figure 13. A gardener was observing the growth of plants in the poly tunnel.

Making and eating something from the garden was also cited as a reason for continued participation. This was described by many participants as:

> *"We're trying to make the cake with something that's in the garden so the last couple of weeks is being rhubarb cake. And then when the apples come, there will be loads of apple cakes."* (RU02_R)

4.3.2 Gaining benefits

4.3.2.1 Enhancing psychological wellbeing

While many participants expressed the view that making broader connections with

other people in the community garden was a major motivating factor for them, it was often mentioned that they preferred to achieve a variety of different benefits by participating in the garden. Almost all participants reported that they needed community gardens because they offered a restorative and therapeutic environment for psychological wellbeing:

> *"So I'm very busy with my other work during the week but I make a point of coming down here on Saturday whenever I can, which just provides a good sort of stress-reliever I suppose."* (SG04_W)

Some participants also expressed that gardening activities were good for mental health through a range of benefits such as better sleeping quality, slower life pace, and accompanying enjoyment and fun:

> *"The physical activity that you do and you get tired. So it helps your sleep pattern. So you could sleep better at night as well."* (RU05_R)

> *"I think the difference is it's nice and slow because you have to wait instead of looking at your watch. You look at the Sky and you wait next week, another week. It slows everything down. You plant in the spring and you have to wait till autumn instead of one minute, 2 minutes or an hour. You wait a month."* (SG04_R)

> *"And I don't have mental health issues, but you know, sometimes you just feel a bit down and miserable, then you just come here and lift your spirits. It's just lovely."* (RU03_R)

4.3.2.2 Satisfying spiritual need

On the other hand, participants also mentioned spiritual satisfaction as the main driver of participating in community gardens. Participants frequently expressed that they chose to continue participation because they can gain a sense of belonging and inclusion. For example, a 66-year-old man remembered the very beginning experience in the garden:

> *"I just went along to the shed one day and I liked the people there, which was good so I keep on going and the same with the garden. Generally, the people here are very pleasant and friendly and so that's good."* (RU04_R)

This is also illustrated by a steering group member, who described in detail how inclusive the garden could be:

"So I think one of the things which is really special about our garden is that anybody can take part. You don't have to be educated. You don't have to be important. You can be anybody and anybody can come and so when we have events, we get people here who are old, who are young, who have families, so we are completely inclusive of whoever wants to come and I think that makes it very special because you don't have to be a good footballer or a good gardener or you don't have to have any skills." (SG01_W)

For others, community garden participation was noted to strengthen the sense of achievement like having done a good job.

"Yeah, very happy, a sense of achievement. You feel very good after you've done a good day's work here." (RU05_R)

It was also about learning new skills or trying a different thing that they had never tried:

"When you're working with other people, you're learning the whole time because people will tell you things or ask someone with the phone and take a picture or something, trying to find out what it is. And I don't know how to do that, so you know. So you learn the whole time."(RU08_R)

"We're working in NHS and being a nurse for my career. I did consider going and helping at the day centre or the dementia group, but I think I needed to go a different direction and that was my work." (RU10_R)

Figure 14. New gardeners were learning how to use gardening tools from long-time volunteers.

For some, this interest was based on personal history, with references to past memories or experiences. A regular user recollected helping her father in the garden and drew associations between these experiences and community garden engagement:

> *"But I came up from England. I lived in England near Oxford for the early part. And we had a big garden there, all set out to vegetables. So we used to grow virtually all of the vegetables for the whole year and so I used to help my dad with that a long time ago. So we've also stored some potatoes, onions, and different types of brassicas and cabbages."* (RU04_R)

Other participants recounted previous gardening experiences that played an important role and they were looking for a similar experience.

> *"We were looking for something like this to be involved in because, in our previous home, we've been involved in a community garden that had been important to us."* (SG02_W)

4.3.2.3 Improving physical health

Lastly, few participants believed that by involving in community gardens, it was possible to address physical health issues.

> *"It really does. It helps bring down your blood pressure and it makes you feel calm and peaceful."* (SG01_W)

Figure 15. A gardener was well-equipped to cultivate and water her plot.

While others were more sceptical, stating:

> *"I don't think it's enough. I don't think it's the main source of fitness. But I feel like I would not be sick if I was working mainly on my garden. It's a combination of like being outdoors, working in a garden, moving, and plus it's a benefit of being able to eat something you actually grow."* (RU06_W)

4.3.3 Making contributions

4.3.3.1 Building and developing our community

It was widely agreed among participants that community garden engagement could make a series of contributions such as improving the community health.

> *"I have the vision of the longer term of this being a community-owned site, which is just serving the needs of the community for therapeutic activities or to help the well-being of the community."* (SG04_R)

Figure 16. A dementia group was visiting the sensory garden.

There was a need for more growing spaces in the community, according to a few steering group members:

> *"We need lots more plant life and we need people who have a garden…We don't need more benches and paving. And you know, we need lots and lots of spaces which are for growing."* (SG01_W)

Since the BCG is adjacent to Belhaven hospital, participants expressed an interest in involving hospital staff and patients.

> *"... hoping to get more involved with the staff and patients in the hospital, but the first thing we constructed here was the sensory garden, so we could create a space where visitors and staff and patients could just get outdoors."* (SG04_R)

4.3.3.2 Protecting and improving our planet

There were also many gardeners who acknowledged that environmental consciousness was a powerful motivator for initiating and maintaining gardening activities. For example, one potential user stated:

> *"We don't want one good gardener. We want lots of people who have gardens and lots of people who know how to grow for wildlife and grow for bees and we need everybody needs to do their little bit. And if everybody does that, then we'll transform our environments."* (SG01_W)

Figure 17. Diverse vegetables and fruits grown in the Belhaven Community Garden.

This is also illustrated by a 66-year-old man's statement that gardening activities were a good way to enhance the biodiversity:

> *"Little old-fashioned wildflower, Hay Meadow, is part of trying to increase and enhance the biodiversity of the whole site. And they also manage the bees on the site we have currently 4 colonies of honey bees on the site and I look after 3 of those at the moment."* (SG04_R)

4.3.4 Insufficient inner drivers

4.3.4.1 Limited energy and time

In addition to the motivations cited above, barriers to participating in community gardens were discussed. Participants often mentioned that they lacked the energy or time to participate. For example, an old man complained about his health issues:

> *"I've got lots of illnesses and problems. So I'm not as mobile as most of the other people. So I just have to be a bit careful about what I do and make sure that I can always have someone to help me get up if I'm kneeling down or something like that."* (RU04_R)

Whereas a 57-year-old man was busy preparing a new plot and said:

> *"Well, it needs a lot of work, especially when you're digging it up. We've only had this plot for a few months and it takes a lot of time to prepare it. This stuff here is called couch grass and it's horrible. It is really horrible and it takes a lot of work to get it out of the ground."* (RU05_R)

Figure 18. A gardener was digging up his new plot.

4.3.4.2 Lack of confidence

A lot of participants stated that they did not have enough confidence to do gardening activities. Some participants acknowledged that they lacked gardening skills:

> *"I'm wondering did I pull them all up thinking of the weeds. Because poppies come up so why aren't they all? So that's what does happen, I don't recognize what's the flower and what's the weed."* (PU06_R)

Others admitted that they were uncertain about their appearance in community gardens:

> *"It is actually a struggle to convince myself that I should come here. In the same way that anything that you know is good for you and that you'll enjoy once you're doing it, it is often a struggle to make yourself do it."* (PU01_W)

4.3.5 Practical external obstacles

4.3.5.1 Environmental hindrances

Even though many participants noted the internal barriers, a lot of participants said that there were indeed some external obstacles. Some participants talked about weather conditions influencing their participation in community gardens:

> *"And it gets very cold in the winter here. So we have to pick our times when to come."* (PU03_W)

It was mentioned by a few participants specifically that the garden was too far away for them to reach:

> *"Yeah, I think one of the things certainly is that it is a bit far from the High Street and at that end of the town. I cycled down and put them in, but it's not everybody can do that."* (SG04_W)

4.3.5.2 Social hindrances

Several participants expressed frustration with a range of social barriers. For example, personality conflicts were discussed:

> *"There are always problems. There are always difficulties because when you have lots of people in one place trying to do their own thing."* (SG01_W)

Figure 19. People were doing their own thing in the garden.

In other cases, complaints were made about an insufficient number of volunteers:

> *"I suppose that the main difficulty is that if you've got a vision for something and you want to see, for example, that's meant to be a perennial bed over there. So it's meant to be a bed, which is a pollinator bed. So that there is supposed to be full of flowers for the bees. But there are not enough volunteers and so a lot of the time is that there is a vision for more things to happen, but we're kind of limited by the manpower that is available."* (RU02_R)

Figure 20. A gardener helped water plots belonging to other gardeners who had no time to come.

A further barrier mentioned by participants was the fact that working pressure made it difficult for them to increase their involvement in the garden:

> *"I didn't do anything like this in England because I was working more hours and I didn't have the time."* (RU03_R)

4.4 Relative importance of motivations and barriers

The presence of certain factors appeared to be more important than the presence of other factors. There is a possibility that the benefit of a motivation may even outweigh the disadvantage of a barrier. Such an interaction between different factors is illustrated by a 33-year-old man's statement:

> *"We stopped buying anything from Hello Fresh. We cancelled it and thought we can actually we could do this ourselves with the investment, like half an hour of our own time, we can do this ourselves. Recreate, even the same, meals if we want to by walking 60 yards down the High Street. And that money instead of going to who knows where that company is based actually goes to this local organization."* (PU05_W)

4.5 Differences among potential users, regular users and steering group members

Overall the same motivations and barriers were discussed by potential users, regular users and steering group members (see Figure 21). There is no obvious difference among the three groups when discussing all themes and most of the subthemes, including contact with nature, socialising with people, growing, harvesting and eating own produce, enhancing psychological wellbeing, satisfying a spiritual need, improving physical health, build and develop our community, limited energy and time, and environmental hinders. However, there were some marked differences in frequencies of discussing certain subthemes among the three different groups (see Figure 22). For example, motivations related to Protect and Improve Our Planet and barriers related to Social Hinders were more intensely and frequently described by steering group members. And Lack of Confidence was more likely to be referred by potential users.

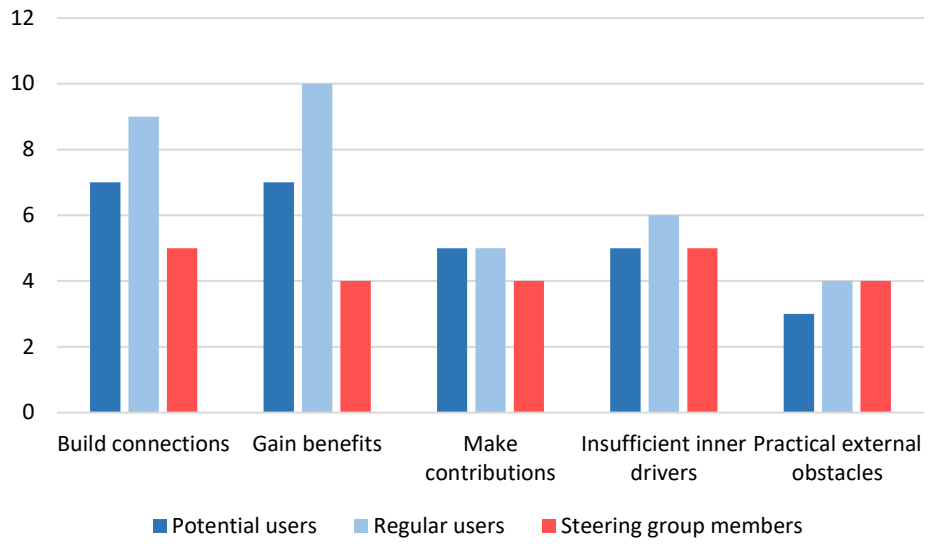

Figure 21. Frequency of potential users, regular users and steering group members who produced material included within each theme.

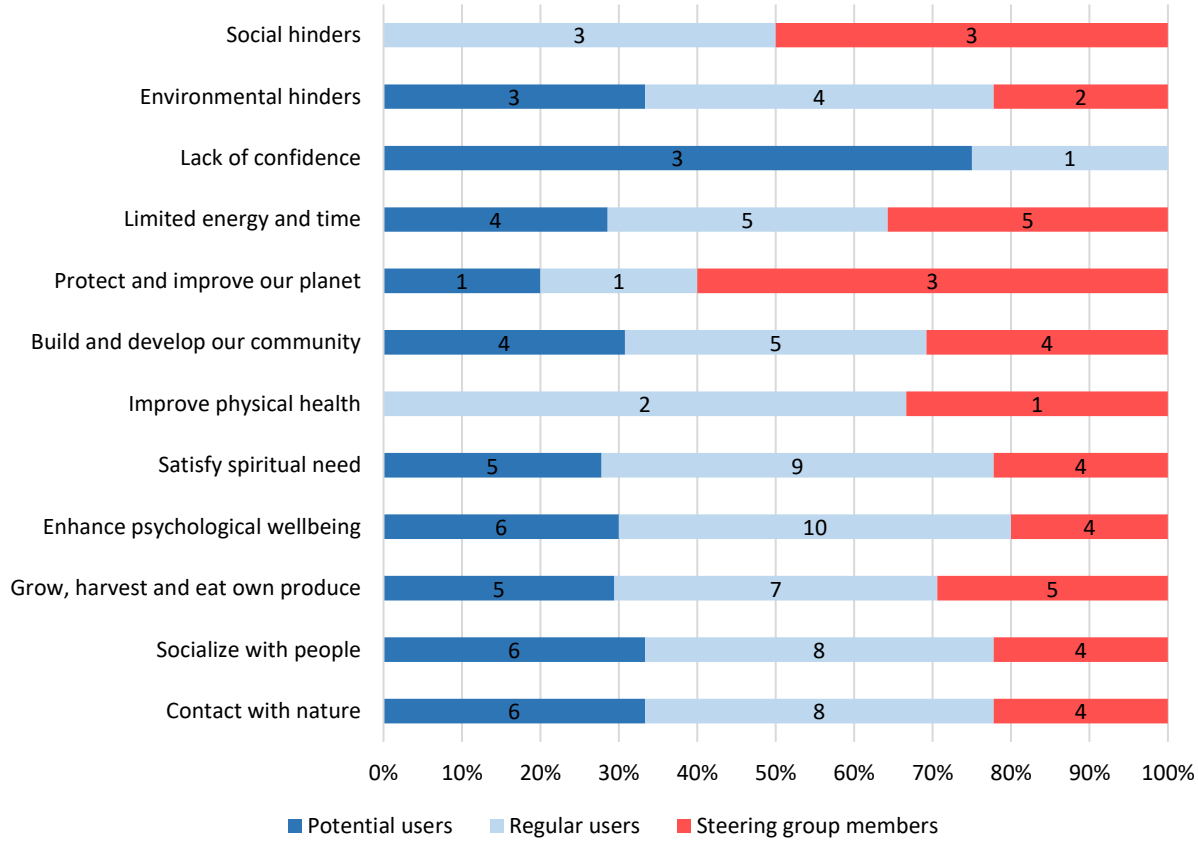

Figure 22. Frequency of potential users, regular users and steering group members who produced material included within each subtheme.

CHAPTER FIVE: DISCUSSION

The current study combined traditional qualitative methods and garden-along interviews to investigate the motivations and barriers to participating in community gardens among potential users, regular users and members of the steering group. This novel method resulted in detailed and context-specific insights into the influence of previously studied and new factors. Five different but interlinking themes were identified: Building Connections, Gaining Benefits, Making Contributions, Insufficient Inner Drivers, and Practical External Obstacles.

With respect to the first research question, three kinds of motivations (building connections to nature, food and people; gaining spiritual, psychological and physical health; making contributions to the community and the earth) and two types of barriers (internal barriers and external barriers) were found to affect community garden participants. In response to the second research question, the community garden participation of certain groups can be affected by specific reasons. The steering group members were more likely to be motivated by community gardens' contribution to the environment and hindered by social conflicts; potential users were mainly discouraged by a lack of confidence in participating in community gardens. As to the third research question, not all health benefits were regarded as motivators for community garden participation. Physical health benefits were more likely to be regarded as outcomes from participating in community gardens than as a driver.

5.1 Building connections to nature, people and food

Our finding that build connections to nature, people and food encourages community garden participation supports results from previous qualitative (Scheromm 2015a; Lewis, Home, and Kizos 2018; McFarland et al. 2018; McVey, Nash, and Stansbie 2018; J. Kingsley, Foenander, and Bailey 2019) and quantitative studies (Lee and Matarrita-Cascante 2019; Migliore et al. 2019). The current study found that participants exhibited strong connections to landscape elements, such as plants and garden decorations, in a personal and meaningful way. This finding is consistent with

that of Brook (2003) who stated, “people connect to place through plants”.

These connections may partly be explained by the biophilia theory that the presence of plants increases human wellbeing and mental health (Grinde and Patil 2009; Townsend and Weerasuriya 2010), which also ties into the theme of Gain Benefits. One unanticipated finding was that some participants found it pleasant to contact with animals (i.e. hear the birds, play with dogs outside) in a community garden. It can thus be suggested that people build a connection with place through both plants and animals.

Another commonly expressed factor driving the interest in a community garden was the desire for social connectedness and networking. In accordance with the present results, previous studies have demonstrated that community garden can be a place of innovation and exchange - an incubator for social cohesion, neighbourhood equity, and human well-being - critical to an engaged civil society and sustainable urban development (Ramaswami et al. 2016; Sampson 2017; K. Tidball and Stedman 2013). Some participants also expressed the benefit of building relationships with like-minded individuals through community gardens' social contact opportunities. This finding is in accord with an earlier study indicating that a community garden can provide a sanctuary for like-minded people to share a passion (J. Y. Kingsley, Townsend, and Henderson-Wilson 2009).

The presence of other people in the garden might also evoke a sense of community engagement. This corroborates the ideas of Glover (2003), who suggested, "community gardens are more about the community than the gardening". It is therefore likely that community gardens could fulfil an individual's need of both connecting with others and being part of something broader at the same time.

Furthermore, the desire to reconnect with food was found to motivate part of participants. This result may be explained by the fact that the food grown in community gardens are less likely to be affected by chemicals and can be more nutritious (Scheromm 2015b). Consistent with the literature, this research found that participants who believed what they were growing was better than what they were purchasing from

supermarkets. This finding also has important implications for developing healthier eating habits. Several studies have shown that people who garden have better nutritional attitudes and consume more fruit and vegetables than those who do not garden (Koch, Waliczek, and Zajicek 2006; Sommerfeld et al. 2010; Mmako, Capetola, and Henderson-Wilson 2019; Lee and Matarrita-Cascante 2019). Another implication of this reconnection is the possibility that food production will contribute significantly to social change and re-appropriation (Scheromm 2015a).

One interesting finding is that participants perceived it rewarding and enjoyable to watch the garden grow and develop over time. In reviewing the literature, no evidence was found on this motivating factor. This finding, while preliminary, suggests that the enjoyment of growing one's own food and experiencing the growing process may be more important than cost.

It can thus be suggested that community gardens allow participants to build a sense of connection to the world, not only the natural environment and neighbourhood community but also the food environment.

5.2 Gaining spiritual, psychological and physical benefits

The results of this study show that another major motivation for engaging in community gardens is to gain spiritual, psychological and physical benefits. In accordance with previous studies, we found that participants reported psychological benefits that included reducing stress and anxiety (J. Y. Kingsley, Townsend, and Henderson-Wilson 2009; Van Den Berg and Custers 2011; Kelley, Waliczek, and Le Duc 2017), having fun and enjoyment (Sonti and Svendsen 2018; Lewis, Home, and Kizos 2018), and maintaining calm and peace (Lee and Matarrita-Cascante 2019). A possible explanation for this might be that spending time outdoors can improve mood (Pretty et al. 2007), reduce negative emotions(Lades et al. 2020), and aid in the recovery from work-related stress (Hartig et al. 2014).

The health benefits of community gardens are well documented, but few of these

studies conclude the spiritual motivations. The current study found that the interest in community gardens was heightened by gaining a sense of achievement, with some of participants expressing their need to do something creative or something totally different from their daily routine. This result may be explained by the fact that people desire a different setting from their familiar working environment to escape the pressures of contemporary societies. This confirms earlier studies indicating that plants and the nature offer a sanctuary where people could come together and escape daily pressures (Muirhead 2012; Mmako, Capetola, and Henderson-Wilson 2019; McVey, Nash, and Stansbie 2018).

Another possible explanation for the spiritual benefits is that gardening can help gardeners achieve higher order needs listed in Maslow's hierarchy of human needs, including those related to self-actualization (Waliczek, Mattson, and Zajicek 1996). This also accords with a qualitative study, which showed community gardens facilitated the development of spirituality and a sense of accomplishment among participants (J. Y. Kingsley, Townsend, and Henderson-Wilson 2009).

The sense of belonging was also found to be a factor motivating gardening participation. This finding is contrary to an empirical study in Serbia which has suggested that basic physical needs are more significant than abstract satisfaction such as community belonging (Cepic, Tomicevic-Dubljevic, and Zivojinovic 2020). However, several studies have shown that saving money on food expenditure isn't a driving force behind community garden participation (Hynes and Howe 2009; D. Armstrong 2000; Blair, Giesecke, and Sherman 1991). This rather contradictory result may be due to regional differences. It appears that members of communities in crisis perform gardening activities for food provision. However, members of wealthier communities may perform the same activities for reasons of spiritual satisfaction.

This study surprisingly found that the promotion of physical health through gardening activities was not a predominant motivation but a secondary benefit derived from their efforts to maintain their plots. As mentioned in the literature review, community gardens could bring a range of physical health improvements, including reducing blood

pressure and muscle tension (Relf 1998; Demark-Wahnefried et al. 2018). This differs from the findings presented here, with some participants expressing scepticism about gardening activities as the main source of fitness.

Accordingly, gaining diverse benefits appears to be a major factor driving community garden participation, while their relative importance varies. In particular, physical health benefits are more likely to be perceived as outcomes than motivators.

5.3 Making contributions to the community and the earth

Make Contributions, encompassing the subcategories "Building and developing our community" and "Protecting and improving our planet", emerged as another motivator. In agreement with previous qualitative studies (McVey, Nash, and Stansbie 2018), findings of this study suggest that community gardens grow much more than just food; they also grow communities. It is consistent with a recent study which found that reclaiming unused land for community purposes was a strong motivation for participants (McVey, Nash, and Stansbie 2018). This result may be explained by the fact that the use of local and diversified food practices can be both environmentally friendly and contribute to food security at the community level (Cattivelli 2020). Gardens also allow residents to reclaim public land and revitalize neighbourhoods in order to strengthen collective efficacy and mitigate social inequality (Ramaswami et al. 2016; Sampson 2017; Wolch, Byrne, and Newell 2014; Krones and Edelson 2011).

In addition, the results show that supporting local businesses is another driving source. For example, the fruit shop in a close relationship with the BCG were frequently mentioned. This finding is consistent with that of J. Y. Kingsley, Townsend, and Henderson-Wilson (2009) who found there was an increase in the number of people interested in developing community-supported agriculture. Hence, it could conceivably be hypothesized that food provision may not be considered a personal benefit from gardening participation but as meaningful to contribute to the local community, especially in relatively developed regions.

The contribution to the earth has emerged as another source of interest in community gardens. This finding broadly supports the work of other studies showing gardeners are motivated by environmental awareness and independence from industrial agriculture (McClintock et al. 2016; da Silva et al. 2016; Scheromm 2015a). There are several possible explanations for this result. Gardens have traditionally and historically been a tool used to teach environmental stewardship (Aguilar, Waliczek, and Zajicek 2008). Conversely, separation from nature may intensify the loss of ecological knowledge and skills, potentially having adverse environmental effects (Blanco et al. 2009; Pilgrim et al. 2008).

However, it is essential to bear in mind the possible bias in these responses as environmental protection was only mentioned by steering group members. Such gardeners motivated by concerns about the environment and ecological sustainability were called 'idealist eco-warriors' in a case study in Dublin (Kettle 2014). The results of this study do not explain the occurrence of this bias. Nevertheless, a possible explanation might be that upper- and intermediate-income gardeners are more likely to garden to protect the environment, while low-income gardeners are mostly driven to gardening because they need access to affordable food (McClintock et al. 2016).

Consequently, future research may not only focus on what people can get from a community garden, but also on what they can contribute to the garden, the community, and even the environment.

5.4 Internal and external barriers

The current study found that gardeners' intention to participate is affected not only by motivations but also by internal and external barriers.

For an individual to be intrinsically motivated to initiate and maintain health-promoting behaviours and to experience well-being, the three universal psychological needs of competence, autonomy, and relatedness to others must be satisfied, according to Self-determination theory (Ng et al. 2012; Ryan and Deci 2000). As demonstrated in this

study, the lack of these psychological needs can be attributed to factors such as limited energy and time, as well as a lack of self-confidence.

In this study, limited energy was found to deter garden involvement. This is supported by the findings of Milligan, Gatrell, and Bingley (2004) who found that physical limitations accompanying ageing can create problems in meeting gardeners' expectations. This result may be explained by the fact that many people cannot maintain their plots on a regular basis due to their busy work schedules. Similarly, a qualitative study in the United States found that gardening participation is more likely when garden responsibilities are less time consuming (Lee and Matarrita-Cascante 2019).

This study found that the lack of self-confidence is another barrier to community garden participation, but this result has not previously been described. However, studies on community garden engagement do discuss the lack of gardening skills, though mixed results have been shown. In some cases, lack of knowledge appears to be a limiting factor for gardening practices (Goddard, Dougill, and Benton 2013; Taylor and Lovell 2014), while in others, a lack of experience and cultivation knowledge is not an obstacle (Dubová, Macháč, and Vacková 2020). This finding may help explain this disagreement. Possibly, the lack of practical gardening skills does not matter, but how subjectively one views such a deficiency makes a difference. Furthermore, in order to be intrinsically motivated, confidence is obviously an imperative psychological need.

In addition to internal barriers, practical external obstacles were found to decrease one’s interest in community gardens. There are several environmental factors that hinder gardening participation, including adverse weather conditions, crazy growth of weeds, and inaccessible gardens. These results are different from Lee and Matarrita-Cascante's (2019) findings which considered adverse weather conditions as an environmental bias but not a barrier. Similarly, crazy-grown weeds have not been regarded as a barrier in previous studies. In terms of complaints that the garden is too far from the town centre, this corroborates the ideas of Bethaney Turner and Henryks (2012), who suggested that having gardens located within walking distance or close to public transportation can not only maximize the use of gardens but also reduce carbon emissions.

With respect to social constraints, insufficient manpower and personal conflicts were identified as barriers. It seems possible that these results are due to the difficulties to have a large number of people in one place trying to accomplish their own goals. For example, some gardeners prefer a 'messier' appearance, while others prefer a more traditional, neat appearance. This seem to be consistent with a qualitative study in Switzerland which reported that gardeners did not feel obliged to maintain a certain 'standard' of a garden for the sake of their neighbours (Lewis, Home, and Kizos 2018). However, it contrasts with the prevailing belief that gardeners should live up to the expectations of their neighbours (Goddard, Dougill, and Benton 2013; Larson et al. 2010).

Consistent with the literature, this research found that participants who reported insufficient manpower. For most non-profit organizations including community gardens, the biggest problem is recruiting, motivating, and retaining volunteers to perform the organization's mission (Boezeman and Ellemers 2009). It is possible that the situation further worsens if volunteers continue to be a fundamental part of human resources and the sole support for these organizations (Shaw 2009). There is, therefore, a need for organisers to make better use of volunteers and sustain efforts when volunteers are in short supply (Pauline and Pauline 2009).

In general, therefore, it seems that internal and external barriers constrain participation in community gardens. However, these barriers were not applicable to all kinds of gardeners and current results do not explain the occurrence of these deterring factors.

5.5 Different motivations and barriers among different groups

Growing research has demonstrated that gardeners have diverse characteristics, rather than being one homogeneous group (Winkler, Maier, and Lewandowski 2019; Ruggeri, Mazzocchi, and Corsi 2016). Gardeners' socio-economic status (primarily based on their age and income), past gardening experience, gardening activity, the distance travelled to gardens, and needs and motives are all considered (Northrop, Wingo, and Ard 2013; Kettle 2014; Bell et al. 2016). The link between such diversity and various

motivations for participation has also been recognized by academics (da Silva et al. 2016; Van Holstein 2017). Despite this, no previous studies have examined how motivations and barriers to participation differ among potential users, regular users, and members of the steering committee.

When discussing all themes and most subthemes, there were no obvious differences among the three groups. When it comes to some certain motivations and barriers, some specific groups tend to show more interest or concern. The results of this study suggest that members of the steering group are more likely to be motivated by protecting and improving the environment. In a case study in Dublin, the author also found that a group of 'idealist/eco-warrior' gardeners were motivated by 'wider concerns for the environment and ecological sustainability' (Kettle 2014). A possible explanation might be that steering group members in this study were typically long-term volunteers who were active and committed. It may also come from some of their characteristics, such as a sense of responsibility and dedication, so that they wish to contribute to a more societally beneficial environment.

Members of the steering group were more likely to be frustrated by social hindrances, such as personality conflicts. T A possible explanation for this might be that steering group members were responsible for organizing volunteer sessions so they might be more sensitive to conflicts that might disturb the peaceful nature of the garden. Additionally, considering potential volunteers were the least active garden users, there may be no opportunity for them to be constrained by social conflicts. It should be noted that such social barriers should be considered secondary barriers that emerge as a result of the experience, which can refer to the statement regarding initial and secondary motivations (da Silva et al. 2016).

Another important finding was that potential garden users more frequently reported a lack of confidence when speaking about barriers to garden participation, compared with the other two groups. As mentioned earlier, lack of confidence is related to the psychological need to feel competent, which is to feel capable of achieving the desired result (Ryan and Deci 2000). It can thus be suggested that lack of confidence is one of

the primary barriers preventing potential users from becoming regular and active gardeners in the community.

These findings suggest that there are different motivations and barriers among different population groups. This discrepancy might be explained in this way: people's motivations are different before and after gardening experiences and vary across diverse roles in community gardens (Partalidou and Anthopoulou 2017; da Silva et al. 2016). However, the possible interference of demographic characteristics of participants cannot be ruled out. These results therefore need to be interpreted with caution.

5.6 Motivators or outcomes?

There is a growing body of literature suggesting that community gardens can offer a wide range of health benefits, and recent studies have indicated the need to gain a broader understanding of the factors influencing participation in community gardens (Lee and Matarrita-Cascante 2019; Cervinka et al. 2016; Martens, Nordh, and Gonzalez 2018). However, no studies have explored how these benefits could also act as motivations to encourage community garden participation. There is a striking similarity between the benefits and motivations in some cases, while in other cases, the benefits are not the motivation.

The current study indicates that psychological, spiritual, and physiological benefits are main driver for community garden participation, but their relative importance varied. In other words, some health benefits are more likely to serve as motivators than others. The majority of participants talked about psychological and spiritual benefits, which may be included in the category of mental health in other studies. However, the results suggest that improving physical health is a secondary benefit of maintaining community gardens rather than being a predominant motivation.

Overall, it appears that health benefits are not necessarily considered as motivations to participate in community gardens. In future studies, a quantitative method should be employed to examine the impact of health benefits on gardening participation.

CHAPTER SIX: CONCLUSION

The purpose of this paper is to fill gaps in the literature in several ways. First of all, a significant amount of research has focused on health outcomes and motivations associated with participation in community gardens, but a relatively small amount has examined barriers. According to the findings of the study, community garden participation is primarily motivated by building connections, gaining benefits and making contributions; and deterred by insufficient inner drivers and practical external obstacles. Hence, it could conceivably be hypothesized that community garden participation is influenced by diverse underlying factors. Besides motivations, gardeners are also likely to encounter external and internal barriers that impede their progress.

Second, to expand limited perspectives from founders, coordinators or regular members, views from potential users, regular users, and members of the steering group were investigated. This study indicates that there are different motivations and barriers among different groups. The steering group members were more likely to be motivated social conflict and potential users were more deterred by the lack of confidence.

Last but not least, the study can contribute to enriching the current literature by analysing whether health benefits are considered motivations in the community garden. The results show that some health benefits are more likely to serve as motivators than others. In particular, improving physical health may be a secondary benefit of maintaining community gardens rather than a predominant motivation.

6.1 Strengths

There were three main strengths of the study. First and foremost, garden-along interviews provided an opportunity for all participants to experience the garden spaces as they responded to interview questions. It was possible to conduct in-depth interviews and focus groups in the garden to enable older adults who were not able to participate in garden-along interviews to view the garden while responding to interview questions.

Thus, participants became aware of and discussed aspects of the community garden which may not be apparent without either of these methodologies.

It is likely that future research will benefit from in-site interviews for a number of reasons. One of their main contributions is that they provide a wealth of detailed and context-specific information pertaining to how and why previously studied factors influenced participation in community gardens. Further, participants appreciated the use of garden-along interviews, which, when compared to traditional interviewing methods, create a more egalitarian relationship between the researcher and the participant (Carpiano 2009; Kusenbach 2003).

Furthermore, the qualitative design of this study allowed newly identified motivations and barriers to gardening to emerge. This is unlike quantitative designs that presuppose researchers knowing what reasons to include in survey questions. It also provides insights into potential users, regular users, and steering group members' perspectives. Due to their role in basic gardening issues and community garden integration, the steering group members may have provided different but equally valuable perspectives. As well, the opinions of potential users are important in understanding what drives or hinders their participation in community gardens. The new themes of satisfying one's spiritual needs and not having sufficient inner motivations that emerged in this study could be used by quantitative researchers to further examine the effect of these reasons on engaging in community gardens.

Lastly, previous published studies on community garden participation are limited to Europe and North America societies, with few case studies in Scotland, much less in rural or suburban areas. This study contributes to the geographical scope of the research and provides insight into community gardens in south-western Scotland.

6.2 Limitations

The study had some limitations. This study presents a snapshot of the motivations and barriers to participation in Belhaven community gardens rather than a comprehensive

or longitudinal analysis. With a small sample size, caution must be applied, as data was gathered from a single interview with each participant. This is an important issue for future research. A further quantitative study gathering data from a diverse range of cultural and geographical contexts is therefore suggested.

Furthermore, since our sample represented suburban regions in a developed country and functionally fit adults, extrapolating the results to rural areas and functionally impaired adults should be cautious. Underdeveloped areas might find food security and provision more motivating, while functionally disabled participants might have physical limitations as their primary barrier. As well, since the suburban environment differs between cities, countries, and continents, the findings of this study may not necessarily apply to other regions.

There is definitely a need for additional research to determine whether or not our results are applicable to other seasons and subgroups around the globe. Due to the fact that the gardens chosen for this study were managed by steering committees, the findings may not be applicable to types of community gardens without such a committee (Lee and Matarrita-Cascante 2019).

Another limitation of this study was its use of self-reported data. It is sometimes possible for self-reported data to be biased by the researcher as well as the participant (Fan et al. 2006). In addition, demographic variables such as ethnicity, income, and education were not collected. Some age groups and males should have been represented more. Our findings of the different motivations and barriers among different groups might be interfered with by such demographical information. Further studies, which take these variables into account, will need to be undertaken.

6.3 Implications and further directions

Our case study research allowed us to identify the main motivations and barriers and to determine how they differ based on the participants' roles in the garden. In future studies, it should be investigated whether similar findings are produced in other areas

with different socio-cultural contexts, such as regions with lower urban densities or warmer climates, since these factors may affect the results. The interaction between race, ethnicity, socioeconomic status, age, gender, and motivations or barriers to participation in community gardens, should be studied further. Additionally, further research should be undertaken to investigate these motivations and barriers in gardens with varying organizational structures. For example, they could compare gardens with more communal plots with those with more individual plots.

This finding has profound implications for developing community gardens by avoiding barriers and increasing motivating factors to attract more volunteers. As various identified motivations for garden participation are likely to be a fundamental component of enhancing ecological public health in the future, policy implications are anticipated. A variety of identified barriers also assist managers and decision-makers to create and sustain better community gardens. Even though community gardens are often small, they have a cumulative impact on the environment, both directly and indirectly, as well as on individuals and society in general.

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APPENDIX ONE: SEMI-STRUCTURED QUESTIONS SAMPLE

Introduction

- So thank you for taking part
- I'm Crystal.
- The study aims to explore some of the thoughts and feelings have about the Belhaven community garden.
- There are no right or wrong answers, I'm just keen to hear about you, your experiences at and perceptions of this community garden

Consent form

- I'd like to record the interview by a Go Pro camera to help remember and analyse all the interviews and the text will all be anonymous.
- Is it OK if I turn the recorder on now? Are we OK to start?

A few simple questions that people can answer easily to help them relax and get comfortable.

1. How long have you participated in this community garden?

2. How often do you come here?

3. Who, if anyone, do you spend time here?

4. How long do you usually stay here?

5. How far do you live from here?

Experience

6. What do you usually do in the garden?

7. How do you get to know this garden?

8. Do you remember the first time you come here?

Perception

9. Do you enjoy the activity you currently do? Why?

10. What impressed you the most during the past participations?

11. Is there any change in your life after you participate in this garden?

12. Have you come across any constraints?

13. Is there anything we haven't covered that you think is important?

Demographic Questions

Age

Sex

Employment status

Crystal 00:26

What are you doing today?

RU07 00:27

Well, this is starting for the patients mainly so it's a sensory garden, smells, touch and feel. So we're just kind of weeding.

RU07 00:37

A lot of people don't know a great deal about gardening, but they want to enjoy it so weeding is a good way of starting. I find weeding very therapeutic. I think I like untidy to tidy. It appeals to me. When you're doing this, you forget about everything, you know. And I really believe they talk about getting your hands in the air and connecting with the Earth. I think there's a lot in that. I really believe that the more we are separated from there, I think that's bad for our health. We depend upon the Earth. We are part of it, so we should be connected to it.

Crystal 02:07

Are you a gardener at home?

RU08 02:13

Yes, I like gardening. I've just moved into a new house, so it's got nothing there. So I am still at the thinking stage.

Crystal 02:20

Could you start from your social background?

RU08 02:38

I am 70 and I am retired. I fit.

RU07 02:43

I am 67 and I barely fit. Probably as fit as most people of my age. Yeah, but just physically. I need to be outside and need to do that to keep my mental health.

RU08 03:10

Weeding this garden.

PU07 03:20

I think I'm not retired? I wish I was. It's a long time yet before. Not that long, actually.

I was in pretty good health and this is my cheese cellar. But in good health, I like being outside and I do a lot of walking. I eat enough food to make up for the calories.

Crystal 03:49

Are you a gardener?

PU07 04:03

I'm very passionate about gardening being outside. I work with young people who have mental health problems.

PU07 04:15

I really enjoy gardening and I wasn't taken on there because there was a horticulturist. Because I work with young people with mental health problems. A Garden is a vehicle, really, to get access to people and to be able to get your hands in the soil with young people along the dialogue and talk to them about the problems and things to be along in the line.

PU07 04:45

How long have you been there?

RU07 05:15

So I would say that I couldn't do very much.

PU07 05:28

Well, I have a long relationship with Belhaven Gardens and I am working for Sustaining Dunbar now. And I, generally, come to the garden at the weekend because I work full time and appear to my daughter and my husband and I've got hands to clean. But my daughter is away this weekend so I thought it would be really nice to come down and spend some time and get to know a few of the people that are working here. Because I come on a Tuesday afternoon with people who have learning disabilities, so they can enjoy the garden, too. Yeah, and I'm trying to. My job is to assist in Sustaining Dunbar and try to expand that and get more people from the Dunbar community who have got learning difficulties to come down and enjoy the space and to be volunteers like everybody else and also be invited to all the other things that are going on so that they are properly part of things, so that's what I'm working on just now. I am working on a link with the hospital, so I'm running a consultation and trying to put together a project with the school and with Belhaven Hospital in the garden to connect a little triangle to connect them all together. So young people will eventually for applying for funding at the moment young people will have the opportunity to come down and they will get dementia awareness training.

PU07 07:01

Yeah, and then we'll come down and get training here and then eventually they are going to take elderly patients from the hospital on well-being walks around the garden.

PU07 07:20

I mean, we're just it's a pilot and it's we're just pulling everything together all the different. You know what are our goals and objectives from the project and how it fits all together and we're now at the stage that we're seeking. We've got support from everybody and now it's funding and we're really working hard and funding applications to try and so we've got a coordinator.

Crystal 07:48

And how often do you come here?

RU08 07:53

I live 5 minutes' walk away.

RU08 07:57

I've only ever been on a Saturday just because I feel I'm very new and therefore you want to come when people are there.

Crystal 08:10

How about you?

RU07 08:13

I tried to come on Saturdays and I have a plot over there.

Crystal 08:25

What do plants there?

RU07 08:26

Vegetables. Potatoes, carrots, parsnips, onions.

Crystal 08:33

Do you like just planting them or harvesting them or eating them cooking them?

RU07 08:41

All of these. I think the thing I probably love the most is propagating. You know,

growing them from seed and then planting them, seeing them grow. I enjoy eating them, too. But seeing it comes very satisfying. And not least you realize from that just and what it was like for people. So many people around the world who totally depend on their own labours to feed themselves. We've become so disconnected from that in this country and in Western. I think it's good. The value of things and how much work goes into them and so on.

Crystal 09:30

How about you?

PU07 09:39

Well, I'm employed to come here and today I'm just here because I'm volunteering like everybody else. But on a Tuesday I come down with the group that has learning disabilities. So I mean here every week, but not always as a volunteer. I live up in the spot, which isn't far away.

PU07 10:49

At the moment I'm not here very often and it is really the second time I've been down to volunteer in a month. So only twice because I work and the weekends are quite precious and need to spend time with my family as well.

Crystal 11:54

What do you like to do in the garden and why?

PU07 12:01

I love the Flowers. I love being outside and I love the garden and just how pretty it is. But my favourite thing is meeting new people and the social aspect of it. Yeah, really important to me, especially after the Covid, it's just really nice to be able to breathe and be able to get out and meet people.

PU07 12:34

Yeah, you know you're going to meet somebody. And that's really nice like that.

RU08 12:50

Because I'm new although I've got family who lives here. I haven't got any friends or my friends are all a long way away. So it's a good way to just get to meet people, get to know people and make friends along the process. It takes months and years. But if you need to meet people. So you come for many reasons but one of these is socially meeting new people. I love gardening so it's just like I really enjoy. And I want to learn more. When you're working with other people, you're learning the whole time because people

will tell you things or ask someone with the phone and take a picture or something, trying to find out what it is. And I don't know how to do that, so you know. So you learn the whole time.

Crystal 13:53

How about you?

RU07 13:54

For all those reasons, I think it's a really good way of meeting people. I only moved to Dunbar relatively recently and you couldn't meet people so it's been very good from that point of view. But I think most of all I love being among nature and I think one of the lovely things from the actual plant is the birds and it's just a lovely place to be in. I always go back, feeling much better. I like doing anything as I said to you before. I've got a bit of a control freak and I like to start with something messy and then end up with something neat and tidy but then nature has its own way. I also really like not having to be in charge as one of the things I loved it. I spent a lot of my life being in charge of things and it's great not to be in charge just to do what you're told.

PU07 15:03

I love being outside in nature and It's just so well documented. You go home and you feel great. Yeah, just so great for your mental health and your emotional well-being.

RU08 15:17

I would say mental health because they're just seeing things or just looking at that plant. I could walk that path or not. But you're sitting here so you see a plant and you really understand it. Or you look at things carefully and it's just the wonder of them. So it is good to be doing outside doing things.

RU08 16:52

I just love being in nature. I look at them and it's amazing how these plants are and how they grow. It's spiritually good because I believe in God and believe he made these things. I feel that it would all fit together like a jigsaw, fitting together like that. But every way it's good for me and I think it's good for everyone to be outside. I can't imagine someone who says it's not good to be outside. There are people who are not well enough to be outside physically or mentally. But I think if you can get outside, it will always do you great.

PU07 18:01

Years ago, I was here when they had an Apple Festival on and I could see patients at the windows looking out. It was a deal and I said, we'd be really lovely at some of these patients who come out and join us. We're short of staff and they don't get out unless

family comes and takes about. And I was watching them from the window, thinking we were all outside, having a lovely time. And that was about 6 or 7 years ago. I also run a project with kids with mental health and they're all being excluded from schools so I took them into the Cafe and it was an absolute wreck in there. Yes, and I've got these kids together and eventually we could be in the queue where we made mood boards. And then they went in and met all the elderly patients and the elderly patients chose a mood board. And then we use that design to paint and renovate the cafe, which still looks how it used to. So that's my connection with it. And then I always remembered that Apple day. I was a volunteer manager, as well for volunteer Midlothian I thought, so when I went to this interview I said look this is what Sustaining Dunbar needs to do with this garden. We need links and if they build those links, it is less likely that the hospital will shut down.

RU07 19:23

Absolutely I'm not talking a lot to Phillip about that. And I mean, the border links are because I really believe in this green prescription. It's just massively important.

PU07 19:35

That's what's happening in my Little Garden as well. I'm not agreeing to describe it and it took a lot to get management on board. Especially people who are not outdoor don't see the benefits quite often. But now that little garden is on an awareness day. People are in there, making lanterns and prayer flags, also painting and a lot. That could happen absolutely here as well.

PU07 20:03

But my meaning now is to get the young folks who are actually headed towards negative destinations at the high school. Not everybody's academic so getting them volunteering to build bonds and service intergenerational projects and get them Saltire awards, which is a kind of accolades for young people for their contributions.

RU07 20:25

Precisely.

PU07 20:25

So when you come down, you're going to get a lot out of it. So that's why I landed here. That's my back story.

RU07 20:38

About 10 days ago, I lost my phone in the garden here. And what is in the wallet is my bank card. It was an evening and cut the long story short. I gave up searching for it and I cancel my bank card and then the following morning, I was sitting at home and

somebody arrived at the house. One member of staff from here said that a lady had handed in this phone and nothing was missing. So I know that there are a lot of grammar school kids so I emailed the head teacher and the first thing was, I got this response immediately and she was just saying it's so lovely to hear from somebody with something positive.

PU07 21:26

I'm really grateful that you did that because at the minute they really got a bad reputation and it's not fair.

RU07 21:33

No, it isn't and as it happened, I arrange to go and meet her. She identified through the boy who just left school at 16 and I went to with her agreement. I went to arrange to meet her and him in the school because I want to give him something and turned out that it was a boy that goes to Belhaven's Church, which was completely incidental, but Ryan then showed me around the school and the project that they do in their learning that people support as you do. They cook and lay out all the tables for elderly people, and they were so proud. And I spoke to some of the other young people and there's one girl who was so impressive and she obviously really looked up to Ryan, but she came over and she spoke to me because he was speaking to me and I would never have spoken to you before. But I was too nervous and I suffer from anxiety and so this project has our elderly friends help me to believe in myself and so it's fantastic. That's going on there and you know this could be a part of that.

PU07 22:42

It will be and how lovely if we can then put a bit of the product and a bit of food back in that.

RU07 22:51

And the thing when we got the vandalism on the poly tunnel you feel we really need to make that link and help because whoever did that they've got their own issues and they've got their own reasons for vandalizing stuff. And who knows what's going on in their lives and to try and find a way of making people feel this belongs to us and so we should look after that.

PU07 23:14

That's exactly what I'm doing and I'm going to be bringing it down when I do come on with people on Saturdays. Some young men from the grammar and actually one of them is the rugby player and he's well respected, and hopefully, it will put off the kids that have done the damage. But like you said there are 200 children in that year, my daughter is in that year and it's been really tricky, but it's about 200 kids and it's not fair that her

whole year is being tarnished with the surrenders reputation.

PU07 24:31

Yeah, so we will make huge improvements and admit links with the school kids out because that was my way forward. There's no point in waiting for them. People found it. There's no danger and I've got the same look as you and that's the type that she's been getting them involved and getting them down here and getting a bit of ownership. You'd better not be going down there and do not let them do. They will self-regulate. They will do that for us.

RU07 25:06

They are sitting in there as they do, and they're not doing any harm. If they're vandalizing, that's a different thing. I mean, if they feel the place belongs to them and they put some ownership and that's all about health, too, isn't it? It's all about community proving lives, very much.

PU07 25:23

I'm giving young people positive destinations. When I worked at the community garden, I got these skills. Now I've got Saltire awards and volunteering.

RU07 25:36

I was very fortunate to have a very middle-class, upbringing, but even I look back in my life and know there were points where you could have gone one way or in whatever way people helped you or encouraged you. So I think it's really important we all do that. Not every young person has that and not by any means.

PU07 25:57

You're right because I've met and I know the children that are causing these things. And if people realised how drugged-up that punched holes in the poly tunnel. But you know what? It's unpleasant and I know it depresses a lot of people who come here, but the chaotic lives that these young people lead and the abuse is all behaviours of communication. And I believe that wholeheartedly.

RU07 26:25

And deprivation takes all sorts of different forms because there can be a lot of money around but it doesn't necessarily mean they're not deprived if they're not getting love and affection. And valuing, that's really important.

PU07 26:44

I'm just happy that sustaining Dunbar goes right. So you've applied for a job as a

community gardener or you're not a gardener, you got the job.

RU07 27:08

In a way, I suppose that's partly why I grew up in a small town and there was a great civic feeling there. Then that's back in the 60s, I will be kind of lost to Lord I think. Dunbar is a special place, really community.

PU07 27:24

Absolutely yeah, so we can't run away with it.

Crystal 27:41

The last 2 questions are about the steering group. Do you do know the steering group?

PU07 27:50

I think Naomi decided that there were a lot of people that were coming. And they had a lot of skills to offer but it was a little bit disjointed so they formed a steering group to kind of bring some form to the plans and what they were doing, and to see what needed to be done and then also to speak to people in communicating well. You're really good at it, like planting on or planting and bringing things on you are really good at, like green tomatoes. You're an expert on potatoes? So could you share your skills? Yeah, yeah, Crystal was just asking a question about the steering group.

SG05 28:53

Well, we did have one lady who run the whole thing. Years ago, she gave it up, so we decided to go with a group of people making decisions instead of one person making all these things, basically. So it is about 6 hours on the steering group, so we meet every month just to decide what best to do through the garden. It works quite well because we have long meetings and we talk far too much.

Crystal 30:01

What do you like to do here and why?

SG05 30:07

I like to grow plants in the winter. So one Christmas, I tried to sow seeds at home and grow lots of vegetables in the garden. We keep going right until the weather gets better and then put things outside so I look after all those plants. The tomatoes and all that kind of stuff and that's what I like doing at that moment. By the time we get to May, I've got other things on because I'm doing as part of Dunbar in Bloom and so it takes up more time, so I have problems allocating time here because I need to do in Dunbar in Bloom.

SG05 30:47

We keep Scotland beautiful and so all the towns in Scotland could have an in Bloom competition. We've been doing this now for 10 years, maybe. The big square planters in the High Street. They grow them on floors and they come in ready to go in the ground and we just put them in those countries and keep watering them through the summer.

Crystal 31:56

Do you feel tired sometimes?

SG05 32:14

I'm not working at all, so I can go and make sure like those little ones until I do feel tired and I can sit down and have a rest.

RU07 32:43

So often, we go to bed and we are mentally tired but maybe not so physically tired. I love going home and being really tired physically and you sleep better.

Crystal 33:06

What motivates you to come here?

SG05 33:15

I like to grow vegetables and harvest them because they taste much better from the garden than from the supermarket.

Crystal 34:05

Do you think the steering group helps the garden and do think it is very necessary?

PU07 34:14

Well, I do because it's like a boat without a rudder otherwise. You know it's really helpful that they can give people a sense of direction and it makes cohesive so then everybody knows kind of what they're doing, and what's on when. And then we just get the guidance on what needs to be done in the garden.

RU08 34:40

I agree. The first day I came here, everyone looks out for new people. So I felt very welcomed by everybody, literally everybody. But I think 2 people in the steering group told me what they did on the committee and that was what they can help because one of the people said put me in contact with someone else who lives near. And just lots of things, but I think the steering committee is really important. It's the kind of backbone

in the background, but I think the whole ethos of the group is also really important so that it is not just the steering committee. Everyone takes responsibility and welcomes people and works together. We call the management, but they're not because they communicate and make sure everybody's happy and help make decisions. You can't manage without that because it will be chaotic. Notice its cohesiveness.