

The Journey of the Broccoli:

*The 'Feel-Good' Activity of Community Gardening, Reconnection to
Nature, and Food Waste*

Hege Lindtveit Frøystad



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Hege Lindtveit Frøystad

<http://www.duo.uio.no>

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Abstract

This thesis examines the possible impacts of community gardening participation on perceptions of food, nature, and food waste. *What is the impact of community gardening on participants? Does participation in a community garden have an impact on perceptions of food and nature? Further, does participation in food growing have an impact on food waste behaviours?* An interdisciplinary approach is used to gather a holistic understanding of participants' motivations, experiences, and narratives. In-depth, open-ended qualitative interviews of 11 community garden participants, and a supplementary online survey, forms the basis of the research material. Ultimately, the gardeners that considered the consequences of their actions and believed in their ability to impact change adhered to the notion that gardening had impacted their views on food, nature, and food waste. Interestingly, garden participation encouraged a circular view of food: its entire journey from seed, to plant, produce, waste, and return to soil. Thereby, garden participation had intriguing impacts on food waste behaviours.

Key Words: urban agriculture; community gardening; food; nature; reconnection; reconciliation; food waste; waste cycle.

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1 Introduction

Following in the footsteps of countless other expanding ‘developed’ cities, urban agriculture in Toronto has re-emerged. As a leader in the sustainable food movement, urban agriculture (UA) has been promoted by the city as a solution to issues of poverty, food insecurity, and food sovereignty. Urban food production is seen as a productive resolution to health and food issues, with social justice and hunger cited as the most important concern. Sustainability issues are presented as secondary. Combined with municipal support and promotion of urban agriculture, community gardening has become widely popular amongst the general population. The number of community gardens in Toronto is currently at an all-time high.

Community gardening has been the topic of a great deal of research. Both benefits and challenges have been raised. Some have promoted UA as a saviour to end all issues of food insecurity and sovereignty, while bolstering community cohesiveness and limiting poverty. Critics’ counter-argument asserts that UA is a ‘trojan horse’, making communities and individuals bear the responsibilities previously provided by the state (Jermé and Wakefield 2013, 309; Pudup 2008; Rosol 2010). However, despite the challenges and critiques, the noted benefits and continued participation speak volumes. It appears that urban agriculture’s re-emergence is fully established.

Climate change is the looming threat of the Anthropocene. Food production and consumption are some of the most resource consuming activities, as Carlsson-Kanyama writes: “the consumption of food has been identified as one of the most resource demanding or polluting activities within a household” (1999, 278). We are all intrinsically linked to the global food system by virtue of survival. Scholars have argued that our current food system sets out an inherent disconnect between consumers and producers; people and nature. A reoccurring theme in UA research is the proposed potential of community gardens in providing spaces for people to reconcile this ‘disconnection’ and ‘reconnect’ with food and nature.

The purpose of this research project is to examine community gardening participation and identify the potential impacts on their relations to food, nature,

and waste. Research questions are: *What is the impact of community gardening on participants? Does participation in a community garden have an impact on perceptions of food and nature? Further, does participation in food growing have an impact on food waste behaviours?*

1.1 Outline

This thesis is structured as follows. The subsequent chapter provides a background for the themes examined in my research: community gardening, theories of reconnection, and food waste. First, by presenting an account of urban agriculture and community gardening in recent North American history. Further, a brief synopsis of the benefits and challenges found in research on community gardening is set out. Despite the challenges demonstrated, I argue that community gardening should still be considered to be a positive contribution to tackling some of the issues faced in the Anthropocene. Subsequently, I give a shortened summary of previous research on food waste pertaining to individual behaviour. This includes dealing with the dangers of an individualized focus. Afterwards, theories related to the human-nature dichotomy, and a call for ‘reconnection’, is examined. Lastly, critiques of community gardening as a ‘neoliberal governmentality tool’ is presented, as it has important implications for the analysis of my research findings. In chapter 3 I demonstrate the methodological framework and research methods that are used to gather and analyse the data. Additionally, issues pertaining to ethical considerations and reflexivity are grappled with. The analysis and discussion of the empirical findings as they correlate to my research questions are tackled in chapter 4. In three subheadings, the impacts of gardening, the impacts on food and nature, and waste, I interpret and analyse interviewees narratives of their gardening experience. Following, I present an argument of two alternate groups experience in regard to the impact of gardening on perceptions of food and food waste. Finally, chapter 5 provides a summary of the main findings in this thesis and concluding remarks.

2 Literature Review

In this section I will present a general overview of research on urban agriculture, community gardening, and food waste as it corresponds with my research questions. Challenges and benefits to community gardening found in previous research is exhibited. Further, an introduction to theorization of nature will be given. This involves theories of reconnection and reconciliation between humans and nature. Subsequently, a brief overview of existing literature on food waste behaviour is given. Lastly, I will touch upon critiques of the overwhelming promotion of urban agriculture and community gardening.

2.1 Urban Agriculture

Urban agriculture (UA) lacks a concise and agreed upon definition. It is a chameleon that takes on the shape and form it needs, depending on where, who, and what. Sweeping language is challenging, as the practitioners, scale, and nature of UA is ever-changing and multifunctional (Teitel-Payne, Kuhns and Nasr 2016, 3). One definition was proposed by Mougeot, who describes UA as:

...an industry located within (intra-urban) or on the fringes (peri-urban) of a town, a city or a metropolis, which grows or raises, processes and distributes a diversity of food or non-food products, (re)using largely human and material resources, products and services found in and around that urban area, and in turn supplying human and, material resources, products and services largely to that urban area (2000, 10).

UN's definition is "...the production of food and non-food plant and tree crops, and animal husbandry, both within and fringing urban areas" (UN Organization for Economic Cooperation and Development quoted in Kaufman and Bailkey 2000, 3). These broad and vague definitions themselves alludes to UA's adaption and modification qualities: UA is and becomes what its creators wants or needs it to be, dependent on location and motivation.

The concentration and degree of UA depends on its environment: the political, agricultural, geographical, and economic (Bhatt & Kongshaug 2005). In North

America, UA has a particular history that has guided its current formation. It is particularly diverse, as Lesher writes in his review:

...[it] contains some aspect of the household subsistence activities of stressed economies, some degree of planned governmental involvement at the municipal, state and federal levels that is indicative of formal support of the general benefits of farming in the urban context, and instances of urban activities that can only bloom in a developed and stable economy and culture (26, 2006).

Historically, UA has emerged in times of crisis. Community gardens were important tools of patriotism and survival in war-times (Mok et al. 2013, 22). Called Liberty Gardens during WWI and Victory Gardens during WWII (Henderson and Hartsfield 2009, 12). Continued during the Great Depression, Relief Gardens were promoted as a response to poverty, food shortages, and economic deprivation in cities (Mok et al. 2013, 22; Henderson and Hartsfield 2009, 12). When crisis subdued, and food-patriotism was no longer promoted, this form of UA slowed. As the economy of North America flourished, images of consumerism and conformity replaced victory gardens.

Urban agriculture re-emerged as a response to the status-quo in the 60s and 70s (Maloney 2013). The patriotic poster-child of strength and resilience during troubling war- and post-war times took on a new persona. Embraced by urban activists in a counter-culture movement, against growing inequalities and degradation, UA once again claimed land in North America (Henderson and Hartsfield 2009, 12). Inflation and unemployment, rising food prices and nutritional decrease, environmental degradation, accessibility issues, and high energy costs, motivated people both ideologically and economically to grow their own food (Maloney 2013; Mok et al. 2013, 24).

A newfound interest for urban agriculture has once again emerged. Historically a widespread practice in developing countries and a sporadic practice in developed countries, new motivations such as awareness of climate change and concerns about urban food security has sparked newfound interest (Benis and Ferrao 2016, 785). The consumer, the urban dweller in this context, is progressively aware of food

losses, waste, food mileage, and environmental impact of the current food system. They are therefore seeking alternative food supplies, such as sustainable and/or locally produced foods (Benis and Ferrao 2016, 794).

In Canada, UA mainly exists in a variation of these three forms: community-supported agriculture (CSA), community gardens, and backyard gardens (Brown and Carter 2003). Community gardens generally refers to "...open spaces which are managed and operated by members of the local community in which food or flowers are cultivated" (Holland 2004; Pudup 2008; Kingsley et al. 2009 qtd. in Guitart et al. 2012, 364). They often take the form of large lots of land being divided into smaller plots for individual households and can be owned by a municipality, community group, land trust, or institution (Mok et al. 2013, 24). Participants in urban gardening are as diverse as UA itself (Draper and Freedman 2010, 459). Although historically UA in North America has been promoted for food subsistence and survival, the modern form of UA, community gardens or allotment plots, are generally seen as a leisure activity with monetary incentive not at the foreground (Shinew, Glover & Parry 2004).

2.2 Community Gardening

Historically, UA has been a widespread practice in the global south (Benis and Ferrao 2016, 785). For decades, most literature has focused on examining the nature of UA in 'developing' countries. Only recently the re-emergence of urban agriculture in cities in the 'developed' countries has become a topic for research (Pagliocchini 2014, 6). Long dismissed as "...a by-product of the environmental movement and a feel-good activity for the bourgeoisie" (Mok et al. 2013, 38), UA has now emerged as a positive force for economic, social, community, and individual development and well-being (Mok et al. 2013, 38). One of the most common forms of UA in 'developed' nations are community gardens. They are not only a source of food, but can also have other benefits, such as "community building, education, and promoting health" (Guitart, Pickering and Byrne 2012, 364). Research on community gardening in developed nations find benefits such as "...social development or cohesion, enhanced health, access to fresh foods, saving

or making money, and education” (Guitart, Pickering and Byrne 2012, 367). Additionally, other benefits may also arise, such as environmental sustainability, life satisfaction, increased biodiversity, reduced crime, and increased safety (ibid). Although UA has often been presented as an unequivocally positive response to a wide range of urban issues. Critiques of these ‘saviour’ narratives of UA have found that there are also challenges with the practice. Such as complicated dynamics of inclusion/exclusion, environmental issues of contamination, and resource use. Further, the popular ‘food miles’ argument has also received some important critique and nuance.

2.2.1 Benefits

In terms of economic benefits, societal and individual economic development has been mentioned. UA has been found to lessen the load of individual household’s food budgets with supplementing groceries from their gardens (Baker 2012, 9; Mok et al. 2013, 24). Even a small plot of land can yield big amounts of food, which results in monetary value and savings (Draper and Freedman 2010, 481). Further, savings to healthcare budgets by improving vegetable consumption and from increased social cohesion (Baker 2012, 9; Mok et al. 2013, 24; Benis and Ferrao 2016, 793-94). Healthy behaviour, dietary choices, and physical exercise are proven benefits of UA (Schram-Bijkerk et al. 2017, 864). This may help prevent development of chronic diseases, which limits associated healthcare costs (ibid). Other economics benefits are not as easily quantifiable, such as the reduced energy demands from locally sourced foods and/or healthcare savings that derives from a more diverse diet (Baker 2012, 9).

A myriad of studies have found community benefits to UA. Specifically, community gardening, or other UA projects that incorporate community, are paramount in bringing people together (Baker 2012, 9). Some studies have found that community gardens make neighbourhoods safer; crime is reduced as community projects brings activity to an area (Baker 2012, 9; Draper and Freedman 2010, 483). Community members have stated that there is a considerable difference in community crime rates once gardens were established (ibid). Community

gardens facilitate neighbourhood gatherings and interaction across generations and cultures, providing a space for social interaction between people who would not normally connect (Mok et al. 2013, 24; Draper and Freedman 2010, 480). This promotes societal development and empowerment (Mok et al. 2013, 24).

Community gardens not only have positive impacts on the community, but also individuals themselves. For instance, in terms of dietary, physical and mental health. Numerous studies have found that involvement promotes healthy eating and enhances positive dietary habits, such as fruit and vegetable consumption (Mok et al. 2013, 24; Draper and Freedman 2010, 479). Further, it also encourages exercise and a greater amount of physical activity (ibid). Beyond that is asserted “...improvement[s] to mental health, spiritual connection, and community belongingness” (Mok et al. 2013, 25; Schram-Bijkerk et al. 2017, 869). Contact with nature can be beneficial for psychological health, both in a restorative way by alleviating stress, or by encouraging physical and emotional healing (Schram-Bijkerk et al. 2017, 868; Santo, Palmer and Kim 2016, 12). Research has also found that participants see community gardens as “therapeutic learning environments” (Liu et al. 2016, 371), where they can learn lessons about themselves and valuable life skills (ibid). Participation can provide individuals with: “encouragement, a sense of purpose, pride, therapeutic activity, new skills, self-confidence and increased feelings of security” (Dubbeling, de Zeeuw & van Veenhuizen, 2010; van Veenhuizen, 2006; Viljeon, 2008 in Pagliocchini 2014, 48).

An urban environment invites an excess of interrelated environmental problems. UA can aid in the effort to stabilize climate change both through direct and indirect pathways, such as greenhouse gas mitigation, urban lifestyle changes, and education (Okvat and Zautra 2011, 380). In terms of direct effects, UA may assist in adding greenery to cities, thus increase shading and counter the heat island effect (Haas 2017, viii; Goldstein et al. 2016, 985). Urban agriculture may encourage a change in the waste streams, by inviting opportunities for composting and recycling through providing a space and use for solid waste (Whittinghill and Starry 2016, 327; Cooley and Emery 2016; Goldstein et al. 2016, 985). Also, it has the potential to improve climatic conditions such as air and water quality (Irvine, Johnson and

Peters 1999, 5; Cooley and Emery 2016; Baker 2012, 8). As Okvat and Zautra find in their article, “gardens can assist by sequestering existing atmospheric carbon [and] decreasing new GHG emissions” (2011, 284). In terms of indirect pathways, UA can promote environmentally-friendly habits that may invite further effects at the global scale through social and educational activities (Sanye-Mengual, Rieradevall and Montero 2017, 274). Gardening can provide local people with the skills and aspiration to achieve positive changes in their own lives and neighbourhoods (Schram-Bijkerk 2017, 870).

Correlated to, and independent of, these documented benefits of UA, many have argued for varied assets in connecting people with food and nature. Community gardening, amongst other types of gardening, has the potential to enhance people’s relationship with nature (Santo, Palmer and Kim 2016, 12; Cooley and Emery 2016, 17). Gardening may assist in reconnecting people with the Earth, and thus “gain a greater appreciation for where our food comes from” (Haas 2017, viii). Theories of reconnection, which revolves around the proposed benefits of, and need for, human connection with nature, will be re-visited in section 2.4.

2.2.2 Challenges

Despite all these documented benefits of UA and community gardening, one should take caution when presenting UA as a ‘quick fix’. In the current structure of the urbanized, modern world there is “effectively no possibility of nostalgic return to the days of ‘growing (all) one’s own food’” (Hallsworth and Wong 2013, 2). Rather one should focus on the heavily researched benefits, such as individual health and community socializing. Although UA has been advocated as a solution to food security, it may be that the benefits of community gardens mostly revolve around the enjoyment of growing one’s own vegetables.

Importantly, one has to address that UA is not inherently a socially just practice. Without attention to community dynamics and social equity, UA may actually exacerbate economic disparities through differentiating between *who* has access to these spaces within *what* communities (Specht, Reynolds and Sanye-Mengual 2017,

278). Firstly, the community gardening movement in North America has generally been largely white and middle-class. The Alternative Food Movement (AFM), in particular, has been motivated by individual and community health, environmental quality, and socio-economic justice, which has inhabited a ‘moral’ and ‘feel-good’ dimension (Tornaghi 2014 cited in Pagliocchini 2014, 60). This ‘whiteness’ has previously raised questions about the inclusivity of the movement itself (Slocum 2007; Tornaghi 2014). Further, as Rappaport writes “...the most important and interesting aspect of community life are by their very nature paradoxical” (1981, 1). Community gardens, with their values, memberships, and ideas, may end up being exclusionary and filled with conflict (Okvat and Zautra 2011, 383). Okvat and Zautra writes:

Fences, locks, posted hours, and close-knit interaction among some gardeners may appear exclusionary towards the wider community, and the possibility of discriminatory tendencies must be weighed against the considerable efforts of the gardeners and their desire to protect what they have worked so hard to cultivate (2011, 383).

Community dynamics, and their inherent inclusion/exclusion nature must be paid attention to assure equal access both within and between communities. Further, many urban gardens are fenced, locked, and enclosed with limited opening hours due to issues of theft and vandalism. Kurtz writes: “...enclosure is essential to gardening, and this raises fundamental questions, such as who is doing the enclosing, who owns the lands, and who is being kept out” (2001, 660). Aptekar’s research on community gardens in New York found that rather than building tolerance and inclusion, the community gardens in question functioned as sites of conflict (2015, 210). Located in a gentrifying neighbourhood, the community gardens created tensions around judgements of beauty, and ended up reproducing social hierarchies and conflicts in a distinct way (ibid, 212). In the end, the garden reproduced dynamics of gentrification. As Aptekar writes: “...public space can also be exclusionary, with urban elites attempting to control its use through design, surveillance and outright privatization...” (2015, 210). Conflict solutions in the garden “...reproduce[d] hierarchies in the larger society that privilege place-making of more affluent white urban residents” (ibid, 223). Community gardens have been found to not only be sites for our ideal form of harmonious community. Rather,

dynamics of conflict and tensions, both amongst members of the garden and differentiating between members and non-members, are apparent.

The question of UA diminishing the carbon footprint of agriculture by limiting food miles is a contested issue (Mok et al. 2013, 31). The argument of ‘food miles’ has served an important political role in drawing attention to the issue of carbon footprints of the food system, but the argument is complex (Coley, Winter and Howard 201, 508). On the one hand, it is argued that reducing food miles will result in less emissions (Mok et al. 2013, 31; Goldstein et al. 2016, 985). But, as others counter, in circumstances where additional energy and inputs are needed for a plant to grow in suboptimal conditions, this may lead to an increase in total carbon emissions (Mok et al. 2013, 31). While numerous studies have been conducted on the greenhouse gas emissions associated with food transportation, it is an estimate imbued with a lot of uncertainty (Mok et al. 2013, 31; Goldstein 2016, 989). Components such as bulk-freight and consumer transport are examples of how the real cost of transportation is filled with complexity and ambiguity (Goldstein et al. 2016, 989). Reflecting the true cost of transportation for these goods may be close to impossible. Therefore, it is unsure how UA may assist in mitigating greenhouse gas emissions in terms of the ‘food miles’ argument.

Additionally, environmental challenges have also been discussed. Sustainable and organic soil management practices must be in place to help the natural environment rather than harm it (Okvat and Zautra 2011, 383). Water supply for UA is another contested issue. Both in terms of water resources, which are scarce in some areas in the world, and the issue of water pollution possibly leading to waterborne diseases and contaminated foods (Mok et al. 2013, 34; Haas 2017, vii). Further, food grown in urban areas also bear the risk of being contaminated by industrial pollution (Mok et al. 2013, 37). Inner city air- and possible soil-pollution may also lead to contaminated foods and possible health problems (Haas 2017, vii; Mok et al. 2013, 37). Conversion of industrial land to UA purposes may pose substantial risk in forms of soil contamination and heavy metal exposure (Mok et al. 2013, 38). These issues must be kept in mind when discussing the affirmed benefits of UA.

2.2.3 The Value of Urban Agriculture

Despite these challenges and counter arguments, I do believe there is still a place for UA in our cities. Although, it may not be the answer to alleviating food insecurity. As most urban agriculture does not offer major contributions to food production, but rather “...opportunities for people to engage more actively around issues of food, health, waste, community and environment” (Martin, Clift, and Christie 2016, 2-3). Urban agriculture can still be a part of a multi-faceted system to tackle the issues brought on by the current food system. As Benis and Ferrao writes: “...global food systems are as vital for human survival as they constitute a major threat to the environment, being key drivers of climate change, water use, toxic emissions and habitat change” (2016, 784). In this context, change must be promoted. The existing literature has focused on two “deep paradigmatic changes to address this situation” (ibid, 784). Firstly, structural changes on the production side that move toward a more efficient food supply (ibid). Secondly, “large-scale dietary changes on the consumption side” (ibid, 784). The aim of this research is to offer some insight into the holistic, broad-encompassing changes needed for the second research objective.

Carlsson-Kanyama writes: “the consumption of food has been identified as one of the most resource demanding or polluting activities within a household” (1999, 278). It has been estimated to account for about 20-30% of the total environmental impact in the Western world (Tobler, Visscher and Siegrist 2011, 647). Therefore, food and the ways in which we grow, process, distribute, sell, and eat it, is of ever-growing concern (Nasr, MacRae and Kuhns 2010, 5; Mahadevan 2014, 539). In attempting to make our cities more sustainable, the issue of food consumption, and the processes attached to it, is in critical need of reform.

Including the social, individual, and community benefits presented previously, I believe there is a benefit to urban dwellers interacting with, engaging with, and growing their own food. With the industrialization of agriculture, and the emergence of the global food system, most people are left with little-to-no say in the way their food is produced, as major decisions are made by small groups of

executives (Corrigan 2011, 1234). Food system is defined by the High-Level Task Force of Global Food and Security Entities as:

A system that embraces all the elements (environment, people, inputs, processes, infrastructure, institutions, markets and trade) and activities that relate to the production, processing, distribution and marketing, preparation and consumption of food and the output of these activities, including socio-economic and environmental outcomes (United Nations 2014, 1).

Inherent in the food system is a systemic de-evaluation of food. This may be “triggered at all levels and by all actors in the food supply chain, including the consumer” (Rohm et al. 2014, 2). In the separation between consumption and production, meaningful food experiences are fewer and further between, and this has created a “food dis-ability” (Tornaghi 2014, 791). One component of the global food system is a “divorcing of foodstuffs from the biological” (Dowler et al. 2010, 200). This biological separation, a separation of the ‘natural’ processes in food production, also “contributes to the emotional, intellectual, and cultural distancing which people experience in their understanding of and relationship to food...” (ibid, 201).

How can we begin to counter the current de-evaluation and commodification of food? As Haas says, “the successful places in the future will be places that have a meaningful relationship with growing food close to home” (2017, vi). Most urban dwellers do not have direct experiences with growing food (Tornaghi 2014, 791). Tornaghi defines “food dis-ability” as “the absence of meaningful food experiences coupled with (and made possible by) the agro-food industry and corporate global supermarkets in its double grip on land control and the commodification of the food experience...” (2016, 791). This combined with the lack of food or horticultural literacy in modern education, “...rare exposure to edible plants in public space [and]... no systematic opportunities for urban farming and foraging” (ibid) creates a world in which one is dislocated from food processes. Food-disability is, according to Tornaghi, further “...socially produced and normalised, and often hidden behind discourses of human emancipation” (ibid). Community gardens can be one such arena that invites urban citizens to re-establish a connection between themselves,

nature, and food. Gardens can serve a function in reconnecting with the Earth and thus "...gain a greater appreciation for where our food comes from" (Haas 2017, viii). In the same way that research has established that UA strengthens relationships within the community, so too can gardening and growing one's own food encourage the development of an awareness and reflection of what food means to them (Cooley and Emery 2016, 17). Through a close connection between the experience of "...growing, harvesting, preparing, and eating food one may attribute more value to it" (Ganglbauer, Fitzpatrick and Comber 2013, 14).

It is important to note, however, that this argued "food dis-ability" (Tornaghi 2014, 791) is not only the result of a lack of connection to food production in cities. Other facets of this "dis-ability", like poor cooking skills or unhealthy eating, is a result of broad social-economic roots (ibid). Anecdotal experiences such as cooking classes or a gardening clubs will not change broad structural conditions of injustice (ibid). In essence, it is a privileged position to inhabit when food consumption, preparation, and purchasing is entirely a *choice*. Food consumption will continue to be a reflection of lifestyles, income level, socio-economic status, and other structural conditions (Carlsson-Kanyama 278, 1998). As Cairns and Johnston writes: "...food choices occur within a complex matrix of social, cultural and economic factors. Ethical eating discourse frequently underestimates the power of habit, emotion, routine, and economic constraint" (2018, 569). Without acknowledging that the individual is situated within the context of broader systemic factors, cultural and institutional, one runs the possibility to fall into the dangerous pitfall of simply 'blaming the consumer' (Parizeau, Massow and Martin 2015, 210). Household and individual food practices, habits, and behaviours are impacted by social, cultural, economic, and institutional factors (ibid). Tornaghi writes:

My point here is not to deny these differences, and their roots in current or past logics of capitalist exploitation, but rather to raise the point that for food justice to be achieved in the long run we need a greater investment in the creation of urban environments that nurture a re-skilling culture in which everyone has plenty of opportunities and incentives to learn, value, engage and take full control... (2016, 791-792).

To fully invite transformation, one must take into account these structural and socio-economic constraints that impact, limit, and influence people's interaction with, and relation to, food. In order to create urban environments that promote a 're-skilling culture' for everyone, projects must be created with these socio-political complexities in mind.

This brings us to food waste. A major component of unsustainable food production and consumption is food waste (Rohm et al. 2014, 1). Some researchers have found evidence for the connection between growing one's own food and being more effective, aware, or less wasteful in terms of their food. As Ganglbauer, Fitzpatrick and Comber writes: "[w]hen participants grew and sourced their own food, they placed greater value on the food and from more practical concern also wasted this food less..." (2013, 18). In gaining greater consciousness around food and their eating habits, consumers tended to be less wasteful and manage their waste more effectively (Parizeau, Massow and Martin 2015, 213). Self-grown food is in fact less likely to be disposed of because people are more mindful to the time, effort, and work that was put into producing it (Ganglbauer, Fitzpatrick and Comber 2013, 14). Perception and engagement with waste itself may also be impacted by UA participation, as waste becomes food again through composting for fertilizers, which may change one's relationship to waste (Ganglbauer, Fitzpatrick and Comber 2013, 18). *The question then remains, does participation in a community garden have an impact on perceptions of food and nature? Further, does participation in food growing have an impact on food waste behaviours?*

2.3 Food Waste

Generally, people do not want to waste food. Yet, we do in large quantities. Between 30-40% of food produced globally is wasted (Godfray et al. 2010, 812). It has been found that decreasing current food waste is crucial to attain a resource-efficient and sustainable food system (Aschemann-Witzel 2016, 408). Although food waste occurs along the entire supply chain (retailer, production, and distribution), in industrialized countries most waste is concentrated at the consumption level (ibid). A substantial amount of food waste is caused in retail-

consumer interaction and in consumer households (Aschemann-Witzel, de Hooge and Normann. 2016, 272; Stancu, Haugaard and Lahteenmaki 2015, 7).

In North America, it is estimated that household-level waste accounts for 50% of overall loss of food and crops (Aschemann-Witzel 2016, 409). Food waste, in this context, entails wastage of food ready for human consumption at the household-level. Limited natural resources and a growing global population exacerbates food insecurity around the world (Stancu, Haugaard and Lahteenmaki 2015, 7-8). The global food network has significant impact on the environment as production, transportation, and consumption hinges on non-renewable resources (Mahadevan 2014, 539). At the rate we are consuming, the renewable resources involved are being used at "... rates exceeding their replenishment (Mahadevan 2014, 539). Not only is the issue connected to the waste of resources used and the carbon emitted, but disposal of food waste also invites additional environmental impacts such as methane emissions caused by food decomposition in landfills (Aschemann-Witzel 2016, 409; Aschemann-Witzel, de Hooge and Normann 2016, 272). Distressing statistics and a looming catastrophe tell a tale all too familiar. The caveat, however, is that we are all inevitably forced to be participants in this food network, as it is essential to our survival.

Halting food waste is an intricate issue. Research has found that wasting food is a complex calculation that combines a myriad of interacting activities (Quested et al. 2013, 43). Food waste at the consumption level can be influenced by "...economic situation, technological innovation, and food legislation, but also more immediate factors such as product and packaging characteristics and retailer marketing strategies" (Aschemann-Witzel 2016, 409). Rohm et al. distinguishes between the internal and the external factors that may foster or hamper sustainable food choices (2014). Firstly, internal factors may include attitudes, motives, and sensory perceptions (ibid, 2). Beliefs, habits, and emotions have been proven to have an impact on food waste behaviours (Aschemann-Witzel 2016, 409). Further, skills in food preparation, provisioning, and handling may also have a substantial effect (ibid). Secondly, external factors may be factors such as social influence, information provision, and food waste initiatives (Rohm et al. 2014, 2).

Additionally, food waste often does not incorporate much forethought, and may simply boil down to a trade-off between taste, convenience, health concerns, and waste (Aschemann-Witzel 2016, 409; Quested et al. 2013, 45). As Rohm et al. concludes, “consumers differ in their choice of suboptimal foods and food waste behaviour depending on their food (waste-) related lifestyle, in particular regarding food involvement, price orientation, planning and using means as social event...” (2014, 17). A complex system of calculations and trade-offs goes into describing food waste behaviours. Therefore, it is a difficult issue to address. As many researchers suggest, “... food waste is best viewed not as a single behaviour but as the result of multiple behaviours... relate[d] to many different aspects of food’s journey into and through the home: planning, shopping, storage, preparation and consumption of food” (Quested et al. 2013, 44).

Values, beliefs, attitudes, and emotions are important aspects to research conducted on food waste behaviours. However, there is a reported “attitude-behaviour gap” between environmental attitudes and values and actually performing environmental behaviour (Schanes, Dobernig and Gözet 2017, 980). This might be due to motivation. Siegrist, Visscher and Hartmann have proposed that motivation is a crucial aspect to research on food waste. They have found that to be properly motivated, “consumers need to be convinced that behavioural changes can have positive environmental effects” (2015, 34). Also, research has found that “...consumers behave more responsibly when they are aware of their behaviour’s consequences... [while also] belie[ving] in their ability to contribute effectively to environmental or social problems” (Buerke et al. 2017, 979). If one feels like one is actually in the position to change something, or that one’s actions has an impact, then people are more likely to behave sustainably (ibid, 981). Control plays a crucial role in food waste behaviour and motivation to reduce: “consumers who trust in their ability to reduce their waste and consider reducing food under their control, are more likely to reduce food waste directly or at least have a higher intention to do so” (Schanes, Dobernig and Gözet 2017, 983).

Food waste, like other food behaviours, are often non-conscious, habitual decisions (ibid, 36; Quested 2013, 46). Research conducted by Russell et al. on food waste,

found that habits and emotions were important determinants for intentions to reduce food waste (2017, 107). Much research has found that guilt may function as an important motivator for reducing food waste (Schanes, Dobernig and Gözet 2017, 81). On the other hand, Russell et al. research concluded that negative emotions actually contributed to wasting more food (2017, 107). Negative emotions around food waste, such as guilt, made people feel overwhelmed and the easier option was to not think about it, and thus not reduce food waste (ibid, 112). Some have argued that a large sense of guilt attached to food waste stems from framing the bulk of responsibility for reducing food waste at the individual level (Parizeau, Massow and Martin 2015, 215). This individual guilt, coupled with a lack of ideas of how one could reduce their food waste, produced a tension (ibid). Echoing the previous studies, Russell et al. found that engaging a larger sense of control and positive effects of one's behaviour may be a more effective way to change food waste behaviours (2017, 107). Furthermore, given that food waste behaviours are largely habitual, and the relationship between these behaviours and the generated waste is not straight-forward, the factors that encourage people to limit their food waste are multiple, varied, and cover a range of themes and motivations (Quested 2013, 47). The seemingly universal aversion for food waste, that most people "perceive food waste as obviously unethical" (Aschemann-Witzel 2016, 409), might provide a good source for individuals to engage with issues of sustainability (ibid). In this context, researchers suggest a holistic approach that includes messages related to health, environment, and social issues to engage with a wide range of people on the issue of food waste and sustainable consumption (Quested 2013, 50; Russell et al. 2017, 112; Schosler, de Boer and Boersema 2014; Siegrist, Visscher and Hartmann 2015, 38; Eppel, Sharp and Davis 2013, 41; Tobler, Visscher and Siegrist 2011, 681; Aschemann-Witzel 2016; Parizeau, Massow and Martin 2015, 216). My research attempts to discover whether participation in urban agriculture may be a part of this holistic approach.

Food waste has invited ample debate. Some scholars have argued that the extensive focus on 'food waste' is misguided and inaccurate. Bellemare et al. (2017) argue that the measurements used to establish the widely cited statistics on food waste are flawed. Such as FAOs assertion that "one-quarter to one-third of all the food

produced worldwide is wasted” (Bellemare et al. 2017, 1148). In the critique, Bellemare et al. claims that these flawed methods of measurement overstate the issue of food waste, and thus misallocates resources that could be of better service in other food policy issues. It is stated that the outlandish numbers of food waste are used in line with existing social norms that elicit “...an almost visceral reaction...” (Bellemare et al. 2017, 1148). Although it is agreed upon that food waste has both social and environmental costs, the article proposes that current definitions and measurements of food waste ultimately overstate the issue. Rather, Bellemare et al. propose a definition in which food waste “...essentially boils down to whatever is produced in the food system that ends up at the landfill” (2017, 1156). In that sense, food waste, according to Bellemare et al., should not be considered as such until it rots at the landfill.

2.4 Reconnecting People, Nature, and Food

Food is our most basic need and most fundamental connection with our environment and yet modern conveniences and an industrialized food system have created a culture of cheap food while alienating people from the landscapes that sustain them (Hale et al. 2011, 1853).

A new buzzword in narratives in search for a path to sustainability within the realm of food is *reconnection*. Both activists, scholars, and civil society alike have called for a ‘reconnect to nature’; yet, what does reconnection really mean? Despite calls for reconnection growing increasingly louder, “...there is relatively little coherence about what reconnecting to nature means, why it should happen and how it can be achieved” (Ives et al. 2018, 1389). This section will attempt to summarize the main arguments.

In the broadest sense, the notion of reconnection sets out that there is an inherent disconnect in the current food system, and that moving forward one must seek to reconnect “...producers, consumers, markets, knowledges and nature” (Dowler et al. 2010, 205). For some, this reconnection entails bridging the gap between consumer and producer (Albrecht and Smithers 2017, 67). In bringing the consumer and producer together, strategies often revolve around a new ‘local food’ narrative

that ultimately is played out at farmers markets where producers have the opportunity to connect directly to their consumers and vice versa.

Another approach originates in the proposed disconnection between people and nature itself. Many scholars have asserted that a connectedness to nature not only contributes to personal well-being, but also is a predeterminant for environmentally responsible and protective behaviour (Church 2018, 878; Nisbet and Zelenski 2011; Schultz 2001). These narratives are exemplified by Edwards et al.:

...disconnection between food production...is increasingly seen as problematic for both producers and society at large. Consumers now know very little about where their food has come from, leading potentially to less sustainable practices and less engagement with what they eat and drink (2013, 563).

Further, we are not only disconnected from the food system, and all the processes it entails, but we are disconnected from nature as the source of food itself.

We have theorized and analysed our relationship to nature and the natural world for hundreds of years. Environmental degradation has evoked a newfound interest in the human-nature relationship in connection to ecological or sustainable behaviour (Ives et al. 2018,1389). In essence, the argument is that "...urbanization severs perceived and experienced relations between people and nature as modern life-styles are adopted and as access to green areas is reduced" (Bendt, Barthel and Colding 2013, 18). This, in turn, has created an "...ongoing generational amnesia among city peoples about their relationship to, and dependence upon, diverse ecosystems" (ibid). Across various disciplines, scholars have called out for human reconnection to nature as an antidote to our precarious future (Ives et al. 2018, 1389). However, what 'reconnection to nature' actually entails is as varied as urban agriculture.

Scholars have argued that people living in cities are particularly disposed to this 'disconnect' as they adapt modern lifestyles in areas that restrict their interaction with nature, and thus clouds the human dependency on their local ecosystem

(Colding and Barthel 2013, 162; Nisbet and Zelenski 2011, 1101). This asserted disconnect, and potential implications, is progressively significant given that 2/3 of the world's population is projected to live in urban centers in a few decades (Colding and Barthel 2013, 162). Cities are often structured in a way that limits human contact with the natural world, such that they "...largely [ignore] the natural processes through which humans are sustained (food, energy, and water) thereby perpetuating a human disconnect from nature and natural processes" (Church 2018, 878). Cities are structured for human comfort (Church 2018) and are increasingly becoming privatized (Colding and Barthel 2013, 157). Therefore, common property for the purpose of green spaces are diminishing (ibid). This is exacerbating the alienation of the urban dweller and local ecosystems (ibid).

Shifting the narrative from environmental degradation, which invites guilt and fear to motivate sustainable behaviour, to positive, restorative, and connective experiences in nature, might do more to inspire ecological behaviours (Hartig, Kaiser and Bowler 2001, 590). As discussed previously in regard to food waste, negative emotions such as guilt and fear may actually inhibit positive behaviours. Hartig, Kaiser and Bowler writes

[a]s fear and threat can in some instances result in the denial of an environmental hazard... attempting to instill such negative feelings could actually work against involvement in environmental protective activities. Attention to fascination, restoration, and other positive motivations might be better suited to promoting ecological behavior (2001, 603).

Ecopsychologists and ecologist have long advanced the notion that "...connection to nature is an important predictor for ecological behavior" (Mayer and Frantz 2005, 503) and a "...key component of fostering ecological behavior" (ibid, 504) in addition to feeling happier and spending more time in nature (Nisbet and Zelenski 2011, 1104). As Samways writes: "for everyone to value biodiversity, which is an essential underpinning for its conservation, the closest we can get is to feel nature and to love it" (2007, 1995). Thus, connection to, and positive experiences in, nature might be a more viable and effective strategy for promoting ecological behaviour.

2.4.1 What is Nature?

Many have debated the defining characteristics of nature and the infinite question: ‘what is nature?’ My study approaches the issue empirically by asking interviewees to define what they mean by the term nature. However, Cronon and Church’s understanding of wilderness and nature as a destination offer important insight when analyzing participants’ responses.

Cronon (1996), in his article “The Trouble with Wilderness; or, Getting Back to the Wrong Nature”, takes us on a journey through the history of the attachment between nature and wilderness in North American history. Starting out as a synonym with ‘savage’ and ‘desolate’, wilderness moved to become an image of the world’s “...pristine, original state” (Cronon 1996, 79). But, as Cronon says, what we see as the most untouched, pristine version of our world is not genuine: “...there is nothing natural about the concept of wilderness. It is entirely a creation of the culture that holds it dear, a product of the very history it seeks to deny” (ibid, 79). As we continue to revel in the beauty of the wilderness, a vision of our own creation, we continue to cement the boundaries between ourselves and nature. As Cronon writes:

But the trouble with wilderness is that it quietly expresses and reproduces the very values its devotees seek to reject. The flight from history that is very nearly the core of wilderness represents the false hope of an escape from responsibility... This, then, is the central paradox: wilderness embodies a dualistic vision in which the human is entirely outside the natural. If we allow ourselves to believe that nature, to be true, must also be wild, then our very presence in nature represents the fall (1996, 81).

Cronon continues this argument by saying that if we uphold this dualism of nature-human, then we maintain a worldview where nature and humans are on different poles. In this way, the possibility of a sustainable human living *with* nature is not a prospect accessible to the human mind. Further, by positioning nature as a destination, outside of us, we ignore the very nature that is “...all around us only if we have eyes to see it” (Cronon 1996, 85).

Idealizing a distant wilderness too often means not idealizing the environment in which we actually live, the landscape that for better or worse we call home. Most of our serious environmental problems start right here, at home, and if we are to solve those problems, we need an environmental ethic that will tell us as much about using nature as about not using it (Cronon 1996, 85).

For Cronon, the issue of wilderness is that it asserts a world in which *human* is taken out of nature and nature is constructed as an untouched and distinctively non-human destination. The nature we interact with on a daily basis, on the other hand, is perceived as an artificial creation. We forget about the nature that both surrounds us and is inside of us.

...people should always be conscious that they are part of the natural world, inextricably tied to the ecological systems that sustain their lives. Any way of looking at nature that encourages us to believe we are separate from nature – as wilderness tends to do – is likely to reinforce environmentally irresponsible behavior... If wilderness can stop being (just) out there and start being (also) in here, if it can start being as humane as it is natural, then perhaps we can get on with the unending task of struggling to live rightly in the world – not just in the garden, not just in the wilderness, but in the home that encompasses them both (Cronon 1996, 86-89)

Building on Cronon's article on human perception of "pristine wilderness", Church (2018) grapples with how one can organize cities to promote human connectedness to nature. She argues that this idea of nature as wilderness, an untouched place detached from human impact, is so intrinsic to how we humans see the 'ideal' form of nature. This has also contributed to the understanding of nature as a drive away: a destination. Church builds on Cronon's argument and writes: "By keeping nature 'away', a separation of humans and nature is perpetuated, which may contribute to continued environmental degradation" (Church 2018, 879). By conveying nature as a destination away from our homes, we perpetuate this human-nature disconnect, which may have detrimental effect on environmental behaviour (Church 2018, 898). Church argues for the incorporation of natural systems into the built city environment, thereby giving urban residents an opportunity to interact with nature, either actively or passively, and thus foster human-nature reconnection (ibid). To build urban landscapes that "...heal and empower, that make intelligible our relations with each other and the natural world" (Wilson 1991, 17).

This is also the argument of Leiserowitz and Fernandez (2007) who claim that the notion that humans are ‘above’ and ‘independent of nature’ has resulted in humans in modern society to be increasingly “...physically, psychologically, and culturally separated from the natural world” (2007, 62). Navigating the modern world, especially the urban reality, “...we live in a system that has severed or rendered invisible many of our connections to nature” (ibid). According to Leiserowitz and Fernandez, this dichotomy and dualistic separation between humans and nature is one of the root causes for the attitude-behavioural gap between environmental values and actual behaviour (63). The proposed antidote is “...actual experience and interaction with nature...” (2007, 63).

2.4.2 Theories of ‘Reconnection’

[Reconnection] articulates ecocentric and biophilic ways of thinking. In this view, humanity is understood as coexisting within nature – a community that includes land, water, air, and biota. The central challenge is for humans to conceptualize ourselves as existing as part of and because of the biosphere... We must now adapt to this global scale by reconceptualizing our relationship to nature (Leiserowitz and Fernandez 2007, 66).

In tune with Leopold’s statement that “...[w]e abuse land because we regard it as a commodity belonging to us. When we see it as a community to which we belong, we may begin to use it with love and respect” (1949, viii) scholars have argued for a reconnection between human and nature. Pyle coined the term “extinction-of-experience” in 1978. He attributes current environmental challenges to the loss of contact between humans and the “more-than-human world” (Pyle 2003, 206). As human-nature relationships are increasingly disconnected in the contemporary world and we lose our sense of dependency on the ‘more-than-human’, the value of natural life dwindle, and richness of our neighbourhoods are lost (ibid, 209). This, in turn, creates a “...cycle of disaffection, degradation, and ultimate separation from nature” (ibid, 209). At the root of his argument is the idea that reconnection is an exercise of the mind that we need to engage in on an everyday basis; we must let ourselves be aroused, fascinated, stimulated, and excited by the nature that we are intrinsically linked to (Pyle 2003, 209).

In the same line of thought from a biologist's perspective, Wilson (1984) formulated the 'biophilia' hypothesis. According to Wilson, human beings have a biological need for nature, which is developed to a greater or lesser extent in all of us (Church 2018, 895; Pyle 2003, 206). Central is the idea that innate in all of us is a need to connect with nature and other living organisms (Kellert 2008, 462). In turn, our physical and mental well-being depends on this contact (ibid). The argument is rooted in the idea that humans evolved in response to the natural world: "...the evolution context for the development of the human mind and body largely was a sensory challenging and diverse natural environment... that provided much of the basis for human learning and maturation" (ibid). Wilson contends, from an evolutionary perspective, human beings rely on a connection to the natural world around them for human physical and mental well-being as we were forged in this relation from the beginning.

These theories and studies of reconnection are in line with Leopold's quote of seeing nature as part of our community. His aim was to encourage a spiritual connection with land and nature. An extension of that, is the hope that: "...if people feel connected to nature, then they will be less likely to harm it, for harming it would in essence be harming their very self" (Mayer and Frantz 2005, 512).

The term 're-connection' establishes that there is a previous state of 'connection' that one must revert to (Holstein 2017, 1161). As Pyle also notes, it is important to not be captured by the idea that one need to revert to a time where connection was perfected, as "...reversing the fall, getting back to Eden..." is not possible because "...these states never occurred" (2003, 208). There is no 'Golden Age' worthy of our worship and admiration as a previous state of perfection (Dowler et al 2010, 205). Rather, 'reconnection' must be approached as an exercise of the mind of the contemporary, urban persona who is arguably caught in a cycle of disconnect and apathy (Pyle 2003, 206). As Dowler et al. writes: "...to see 'reconnection' as a process rather than an end-state: a sense of 'doing and becoming'" (2010, 205). Some scholars have contended that community gardens have the potential to promote a connection to food production that stimulates a reconceptualization of

food and encourage more sustainable ways of urban living (Holstein 2017, 1162). As one participates in the activity of growing food, using both physical and mental capacities, it involves an active mind and body: an embodied experience (Martin, Clift and Christie 2016, 11). This might offer more learning impact than traditional educational activities (ibid). Can we rediscover this proposed innate connection to the ‘more-than-human world’ through gardening?

2.5 Critique: Neoliberal Governmentality Tool

For scholars like Pudup and Rosol, the overall benefits of community gardens are more complicated than some might care to admit. They argue that ‘organized garden projects’ (Pudup 2008) is “...a Trojan horse mak[ing] communities take responsibility for replacing services previously provided by the state” (Jermé and Wakefield 2013, 309). Neoliberalism, which entails privatization and deregulation, has according to Rosol increasingly impacted our cities since 1980s. This includes “...a shift in planning paradigms towards competition and a new understanding of cities as entrepreneurs and enterprises” and “...new forms of governance-beyond-the-state... [leading] to an increasing importance of non-state actors” (Rosol 2014, 16). Community gardens, they argue, are part of the current...

...roll-out neoliberalism [where] voluntary and third sector initiatives organized around principles of self-improvement and moral responsibility stand in for state sponsored social policies and programs premised on collective responses to social risk (Pudup 2008, 1229).

A space where individuals are ultimately in charge of their own responses to the roll-back of the new, neoliberal state and city.

Pudup represents the critique of modern community gardens as spaces of ‘reconnection’, and rather argues that, what she terms ‘organized garden projects’, are actors of neoliberal governmentality where individuals are put in “...charge of their own adjustment(s) to economic restructuring and social dislocation through self-help technologies centered on personal contact with nature” (2008, 1228).

Pudup contends that narratives promoted by community gardens named “Seeds of

Change” and “Sprouting Minds” functions as ‘cover stories’ for the neoliberal state to continue their roll-out as voluntary initiatives, framed as self-improvement, substitute state sponsored social security programs.

In these stories, gardening does not just change seeds, soil, sunlight and water into plants. Their titles suggest gardening heals the spirit, expands the mind, mends the broken body, and realizes a deeply felt human need for connection with the earth and other people. Far from being spaces for unexamined or unappreciated physical labor – mere work – organized garden projects are the sites, and gardening the practical path, of individual, social, and spatial transformation (2008, 1228).

Pudup concludes with the observation that in her experience as a coordinator of an organized garden project, the rightful explanation of these initiatives should be “...communities of self-interest...” (2008, 1231) where individuals are brought together because of their interest in the cultivatable urban land (ibid).

Rosol’s (2010) article on community gardens in Berlin arrives at a similar conclusion. She finds that the recent approval for community gardens by the local state is encouraged precisely because of the neoliberal restructuring of cities (559). Although some of this approval can be attributed to activism and lobbying by pioneers, cities are now mostly approving of communally run green spaces (albeit temporary) because “...existing neoliberalization of cities, where the local state withdraws from its welfarist functions and civic engagement is seen as a cheap solution. The newer gardens exemplify the turn toward the ‘enabling and activating’ state...” (Rosol 2010, 559). Temporary support is seen as a good ‘interim use’ of the spaces until real estate investments surge (ibid, 560). In agreement with Pudup’s perception of individual responsibility, Rosol also states that “...self-help is legitimated as compensation for cuts in funding public infrastructure maintenance...” (560) and cheap labour is masked as volunteering.

Pudup and Rosol’s critiques of UA as a neoliberal tool that ultimately puts the brunt of the responsibility on the individual is in line with Cairns and Johnston’s (2018) article on ethical eating. They describe the ethical eating discourse as a narrative that posits a “...clear connection between knowledge and behavioural change”

(569), which advance the argument that the more people know then the more sustainable and humane their consumer choices will be (ibid). It is noted that there is still importance in educating the consumer to create a knowledge-driven understanding of the food system and a generally informed food citizenry (ibid). However, food choices are imbued with tensions and contradictions. Most importantly, an individualized focus of ‘voting with your fork!’ “...draws attention away from the need for structural reform in the deeply inequitable, corporate controlled food system” (Cairns and Johnston 2018, 570). Similarly, Guthman contends that this ‘if they only knew’ logic “...obscures the privilege of white, affluent eaters, perpetuating ‘colorblind mentalities and universalising impulses often associated with whiteness’ which become inscribed in culturally dominant ideas of ‘good food’” (as cited in Cairns and Johnston 2018, 571). In the same way Pudup contends that ‘organized garden projects’ put the individual in charge of their own adjustments, their argument is that a knowledge-focused narrative such as ethical eating ultimately affirms “...a neoliberal view of food system change that downloads responsibilities to individual eaters and upholds the class and race privilege of elite consumers” (Cairns and Johnston 2018, 572). Simply focusing on individuals making the ‘correct’ choices upholds the status quo and shifts both blame and responsibility to the individual.

McClintock occupies a space in-between. His argument is that neither the radical assertion that urban gardening is the saviour of food security and food justice, public health, sustainability and a green future nor the critical social scientists, like Pudup, are correct (McClintock 2014). Rather, urban agriculture cannot be simplified into neither category. Urban agriculture, McClintock contends, has the potential to be “...one of many means to an end...” (2014, 166). To ask urban agriculture to bring about food justice, food security, environmental sustainability and a green future is simply asking too much. McClintock continues to assert that food justice is about entitlement, and only by political change, such as jobs and living wages will it be ushered in (ibid). Further, urban agriculture must be valued on the political level for the land use for the purpose of gardening is seen as a viable and prioritized.

With these ideas in mind, I now set out to analyse the data found in my own research to examine whether urban gardening can be a tool in the shift to an urban dweller that waste less and value more.

3 Methodological Approach

This study is based on fieldwork in Toronto completed in the fall of 2018. Using a mixed methods approach, empirical data was gathered in a qualitative manner through interviews and an online survey. My research also involved participation in several events orchestrated by the gardens examined. Although the experiences from the events were eventually not substantial enough to be included in the analysis, they offered me great initial insight into the gardens and helped me gather interview subjects.

A qualitative approach was selected because the research goal is to delineate gardeners experience, motivation, and interpretation of their relationship with growing, living, consuming, and wasting in their respective ways. Qualitative research is constructivist and interpretivist: it seeks to understand the social world through examining "...the interpretation of that world by its participants" (Bryman 2012, 380) and "...implies that social properties are outcomes of interactions between individuals, rather than phenomena 'out there' and separate from those involved in its construction" (ibid). As such, a qualitative approach was best suited for my research objective.

Incorporating insight from environmental psychology, sociology, anthropology, philosophy, and political science, this study is in essence interdisciplinary. In research attempting to gain understanding about issues of sustainability and environmental behaviour, one must mimic the dynamic ways of the world itself to the best of one's ability. Integrating knowledge from multiple disciplines, interdisciplinary research is better equipped to "...grasp and address complex worldly problems..." (Tarrant and Thiele 2016, 355). Distinctive disciplines and academic specialization, although offering invaluable knowledge, tend to analyse one dimension of an issue with a largely disciplinary specific approach (Ives et al. 2016, 30). However, "...the real problems of society do not come in discipline-shaped boxes" (Spence 2012, 123). In embracing the benefits of openness and collaboration between disciplines, their various insights can be incorporate to better address 'real' problems at hand and stimulate more holistic thinking and problem-

solving (Tarrant and Thiele 2016). As various fields of study offer “...different pictures and contributions to the ‘infinite jigsaw puzzle’ of ‘creating’ knowledge. Openness to other disciplines... and methods and their findings can improve any... research” (Vedeld 1994, 10). To answer the research questions in this study, an interdisciplinary approach was chosen. Approaching this thesis with an openness to research from various disciplines, continuously analysing multiple dimensions of the issue at hand, and interpreting the data collected through numerous lenses, was fundamental in forming the desired holistic understanding.

3.1 Study Site: Toronto

Toronto is the largest city in Canada. According to the latest survey, the city has a population of 2.7 million people within its city borders and close to 6.5 million people in the GTA (Greater Toronto Area) (Statistics Canada 2018). It is a very diverse city with over 50 percent of the population being first-generation immigrants (City of Toronto 2019). Additionally, the prevalence of low-income is higher in the Toronto than in the rest of Canada, with one in five adults and more than one in four children living in poverty (Toronto 2017, 4). Research published in 2016 reports that 1 in 8 households in Toronto are food insecure, meaning “...the inadequate or insecure access to food due to financial constraints” (Tarasuk, Mitchell and Dachner 2016, 1). Although the city continues to attempt to deal with these problems, poverty and food insecurity persists.

Accelerated urbanization is a global issue. Over ten years ago, more than over half of the world’s population resided in urban areas and these numbers continues to increase (UNFPA 2007). Canada and Toronto are no different. Toronto’s population continues to grow (Statistics Canada 2019). Rapid urbanization also entails a swallowing of farmland as the city continuously expands (Irvine, Johnson and Peters 1999, 8; MacRae et al. 2010). This “intensive urban sprawl” (Jäggi 2013, 148) currently underway through population growth is threatening the preservation of agricultural land and food production outside of the GTA.

UA in Toronto has a vibrant history (MacRae et al. 2010). As alluded to in the shortened history of UA, Toronto followed the same trajectory. Victory gardens turned into a re-evaluation of the need for urban horticulture and subsequent new garden spaces were established (Cosgrove 1994, 4; Baker 2012, 4). Moreover, in the past decades the prominence of urban gardening in Toronto has increased (Baker 2004, 4).

Toronto has become a leader in the sustainable food movement, promoting food security and urban agriculture (Jäggi 2013; Baker 2012; Nasr, MacRae and Kuhns 2010). As Jäggi notes, Toronto "...is one of the most advanced cities in the world in terms of supporting and implementing urban agriculture-related policies" (2013, 148). The unique characteristics of Toronto's food movement in conjunction with the municipal support for UA presents an interesting subject of study. As the first city in North America to create a Food Policy Council, first to have a Food Charter, and one of the first cities in Canada to fund community food projects, Toronto has played an important role in the global food security movement (Jäggi 2013, 148). Community gardening has established itself as the most common form of UA in Toronto. Currently, there are more than one hundred gardens for food growing established on city-owned land (Baker 2012, 5). They take the form of allotment gardens administered by the city or community projects overseen by non-profit groups (ibid). Almost all these gardens are organic (ibid).

The community food security movement was integral to Toronto's promotion of urban agriculture (Jäggi 2013, 148; Baker 2012, 4). Fuelled by a desire to solve dependency on food charity, the Toronto Food Policy Council (TFPC) was created by the public health department (Jäggi 2013, 138). As an advisory body to the government, its task is to "...investigate the potential of urban food production as a tool to secure future food supply and to develop food-related projects" (ibid). It is a sub-committee comprised of a small number of staff and majority volunteer council members (Blay-Palmer 2010, 405). From the early stages of the development of the TFPC, health and food were intrinsically linked (Blay-Palmer 2010, 403). TFPC's work continued under the food security banner, as they voted to cite hunger and social justice as their most important issues over sustainability issues (Blay-Palmer

2010,406). This was done purposely to continue to be able to do their work with the support of social advocates, industry and agriculture sector alike (ibid). Toronto's Food Charter, authored by the TFPC and adopted by the city of Toronto in 2000, sets out a goal to make Toronto a food-secure city (Toronto's Food Charter 2000, 2). This included the aim that "no-one in the city goes to bed hungry" (ibid), while also presenting food security as an environmentally friendly action and a general "waste not, want not" objective (ibid, 4).

In 1993, the report "Supports for Urban Food Production: Creating a Garden city" was published through interdepartmental collaboration (Baker 2012, 5). Then in 1999, with the endorsement of the Community Garden Action Plan, the city set a promise to create a community garden in every ward of the city (Baker 2012, 5). Two years later, the Toronto Food Charter was adopted. Amongst other things, it was agreed upon to continue to promote food safety programs, protect agricultural lands, and stimulate community gardens (Mok et al. 2013, 25). The city reaffirmed its support for community gardening and urban agriculture as a tool for establishing food security in the city (Baker 2012, 5). The charter is still a guiding document in Toronto's food policy, as it sets out the right of citizens to get access to healthy food (Blay-Palmer 2010, 407). These sentiments, a support for community gardening, rooftop gardens, and UA in general, continues to be reaffirmed by the city (Baker 2012). In 2007, UA was also confirmed as a factor in the "Climate Change, Clean Air and Sustainability Energy Action Plan" (Toronto 2007). In 2010's Toronto Food Strategy, UA is presented as an integral part of strategic developments (Jäggi 2013, 148). Further, in 2012 the "GrowTO: An urban agriculture action plan" was published. The document presents urban agriculture in Toronto and set out goals and actions for future betterment and promotion of urban agriculture (Baker 2012; TFPC.to). With the guidance of the TFPC, urban agriculture and community gardens continues to be affirmed as a tool to make citizens of Toronto food secure.

Public awareness among Torontonians is at an all-time high (Jäggi 2013, 146).

The public and the government – increasingly understand that food is as much about social and community interactions as it is about poverty, hunger, and health issues. Food is also about population growth, urban planning, and suburban sprawl covering fertile land and about food control and food security. Moreover, it is also about climate change and air pollution. Today, these factors top the list of social and environmental issues. They have become a primary concern for urban social and environmental policy making in Toronto with clear implications for future production in and outside of the city (Jäggi 2013, 146).

However, echoing the grievances from any other North American city, land restrictions continue to limit the full potential for urban agriculture (Jäggi 2013; Baker 2012; Martin, Clift and Christie 2016, 8). As Baker writes in the GrowTO Action Plan: “...the infrastructure around these movements – from policies to practical support – has not kept pace with the enthusiasm and energy that exist to move urban agriculture forward (Baker 2012, 3). A shortage of ‘low-value vacant land’ within the city is a barrier to the expansion of urban agriculture (Hallsworth and Wong 2013, 2). It has been noted that despite political support for, and public interest in, urban agriculture in Toronto, there has not been a vigorous community gardening culture in Toronto (Cosgrove 1994, 8; Baker 2012, 11). Reasoning is said to be the lack of vacant lots in the city (ibid).

3.1.1 Community Gardens Studied

The gardens examined in this study were similar in nature with only a few contrasting characteristics. First off, they had all started out from public-private or private-private partnerships and continued to be run by an organized group of volunteers from the gardens. Thereby operating as non-profit organizations. In contrast, most community gardens in Toronto are run by the municipality and located on city owned land. Secondly, memberships are also similar, with an annual membership fee collected each year from participants and gardening plots allocated to people on an official waiting list. Further, there are some general rules that they purposely call guidelines, such as a requirement to take care of your plot or to volunteer a certain amount of time for the communal areas. However, if a gardener does not adhere to the official rules, they run the risk of being put on ‘probation’. On the occasion that they do not improve their behavior, the garden plot would be

taken away from them and given to the next person on the waiting list.

Interestingly, only one community garden had specifications on residency location within 3km. However, all people interviewed lived very close to their community garden. Lastly, their locations are more diverse. Only one garden has fences and opening hours. One is located within a private park that is open to the public. Another is located on a busy street, and open to the public at all hours of the day. All gardens have around 40 individual plots, as well as some communal areas and garden beds.

Table 1 Community gardens studied

	Garden 1	Garden 2	Garden 3
HISTORY	<ul style="list-style-type: none"> - Started 11 years ago. - Partnership between a national charity, community members, and privately funded grants. - Public/private partnership initiation. 	<ul style="list-style-type: none"> - Started 22 years ago. - Land was donated by private individuals. Now controlled by municipal structures in a partnership between private and public sectors. - Public/private partnership initiation. 	<ul style="list-style-type: none"> - Started 11 years ago. - Battle with city transport agency over land use rights. Private land currently identified as land granted for public recreational use. - Civil society association and private partnership.
LOCATION	<ul style="list-style-type: none"> - Located within a municipal green space that is fenced in. - South-West in the city-centre. - Secluded; difficult to locate. 	<ul style="list-style-type: none"> - Located on privately donated city-land on a busy city street tucked in-between two buildings. - South-West in the city-centre. 	<ul style="list-style-type: none"> - Located within a larger green space open to the public at all hours. - Residential area. - North-East in the city.

		<ul style="list-style-type: none"> - Very open; easy to see. 	<ul style="list-style-type: none"> - Open; not as easy to see.
CHARACTERISTICS	<ul style="list-style-type: none"> - 38 gardening spaces, 21 raised beds, and 1 communal plot. - Organic. 	<ul style="list-style-type: none"> - 40 individual plots and additional communal green space. - Organic. 	<ul style="list-style-type: none"> - 40 individual plots, 2 community plots, and fruit trees. - Organic.
MEMBERSHIP	<ul style="list-style-type: none"> - About 83 members. - 25 people on the waiting list according to latest reported data in 2017. - Membership approved based on your position on the waiting list. Requirements are residential location within 3km of the garden, and no other access to planting facilities. - Membership fee \$50 per year. 	<ul style="list-style-type: none"> - About 30-40 members. - Some plots set aside for residents at the neighbouring non-profit social housing complex. Remaining membership is open for all members of Toronto community and is attributed to individuals on the waiting list - Membership fee \$25 per year. 	<ul style="list-style-type: none"> - About 40 members. - Membership is open to any member of the Toronto community. A minimum of 10 hours of volunteer work each year is required to maintain membership. Plots attributed to individuals on the waiting list. - Membership fee \$25 per year.
GOVERNING STRUCTURE	<ul style="list-style-type: none"> - Non-profit volunteer-based organization with a steering committee/org 	<ul style="list-style-type: none"> - Non-profit volunteer-based organization with a steering committee/org 	<ul style="list-style-type: none"> - Non-profit, volunteer-based organization with a steering committee/org

	anizational board.	anizational board.	anizational board.
INTERVIEW SUBJECTS	- Matthew, Thomas, Karoline, Molly, Monica, and Alexander.	- Marie, Christopher, and Lauren.	- Frank and John.

3.2 Data Collection

Initial contact was established through the Toronto Community Garden Network’s overview of community gardens. I sent out an email to the registered contact person with a short overview of my research project, my interest in interviewing gardening participants, and the necessary contact information. All community gardens in the register was contacted. I was allowed to attend events at two and established personal contact with the originator of the third. At one event, I completed an interview with one gardener while assisting their fall clean-up. After attending the events, I recruited 8 people to be interviewed and gathered their contact information. Contact with the remaining two were established and continued over email.

Interview subjects were between 30-80 years old. They all identified as white. Six were male, and five were female. Their community gardening experience varied from 1 year up to 22 years. All gardeners had diverse occupations, but 4 out of 11 interviewed identified as working in, or retired from, the arts. 9 out of 11 gardeners only grew food, and the remaining two mostly grew flowers.

Table 2 Interview subjects

Date of Interview	Alias	Age	Occupational status	Garden	Years of involvement	Characteristics

Oct14th	Matthew	40s	Bank employee	1	11	White; lived and worked close to garden; part of steering committee.
Nov 1st	Thomas	30s	Data analyst	1	2	White; lived and worked close to garden.
Nov 1st	Karoline	30s	Working in urban planning	1	2	White; lived and worked close to garden.
Nov 11th	Molly	70s	Retired	1	1	White; lived and worked close to garden.
Nov 13th	Monica	50s	Photographer and filmmaker	1	11	White; lived close to garden; part of steering committee.
Nov 13th	Alexander	40s	Self-employed painter	1	11	White; lived close to garden; part of steering committee.
Oct 25th	Marie	70s	Artist	2	22	White; lived close to garden.
Oct 25th	Christopher	70s	Artist	2	22	White; lived close to garden.
Oct 25th	Lauren	70s	Psychotherapist	2	12	White; lived and worked close to garden; did not grow food.

Nov 1st	Frank	30s	PhD in Agro-Ecology	3	8	White; lived close to garden.
Oct 9th	John	70s	Retired	3	11	White; lived close to garden; part of organizing board; did not grow food.

3.2.1 Qualitative Interviews

The information that forms the main source of data for this research project was gathered through in-depth, open-ended, semi-structured interviews with participants from three different urban gardens in Toronto, Canada. Altogether, 11 interviews were conducted that varied in duration from 1 hour to 2 hours. Every interview, with the exception of one, was recorded and transcribed with signed consent. The last interview participant was not interested in being recorded but consented to an informal conversation while working together on their garden plot.

A semi-structured interview may follow an interview guide, but the interviewee has a margin of freedom in how to respond to the question (Bryman 2012, 471). Questions did not necessarily follow the guide completely and follow up questions specific to interviewee’s responses were asked (ibid). The form of interview used is often called the ethnographic interview. Questions are worked into conversation and participants’ own explanations are encouraged (Wilhite et al. 1996, 796). In particular, open questions such as “what do you think about when I say, ‘food waste?’” and “what is your relationship to nature?”, were used to allow participants to define what nature and food waste meant to them. It was of importance to provide a space of *flexibility* where the participant could analyse and describe their garden involvement without imposed definitions and narrations (Bryman 2012, 471). Hence, I was allowed into *their* understanding of their gardens, what they

viewed as important, and the complexity of their thoughts, behaviours, and motivations.

Before the interview took place, I made sure to visit the garden they were members of. I took pictures, took detailed notes of its characteristics, and researched the history of the garden to make sure I could ask specific questions for the garden in question. Immediately after the interviews I wrote down thoughts and observations from the interaction. Any details regarding location, body language, interview dynamics, and other specifics regarding the interaction was noted.

With the completion of the interview, all recorded interviews were transcribed. 10 out of 11 interviewees agreed to be recorded, which allowed me to include in the analysis not only *what* they said but also *how* they said it (Bryman 2012, 482). Additionally, recording the interview allowed for complete focus on interesting points made and preparing follow up questions (ibid). Yet, recording also comes with costs: "...the use of a recorder may disconcert respondents, who become self-conscious or alarmed at the prospect of their words being preserved" (ibid, 483). One interviewee wanted several things, such as their food choice at the restaurant, to be 'off the record'. Another addressed the 'people listening' several times instead of me, the interviewer. Only one interviewee did not consent to being recorded. The non-recorded interview was written down from memory as soon as the interview was completed. As the interviewee asked me to assist in the cleaning up of their garden, note-taking was not possible during the interview.

3.2.2 Online Survey

To gain a further understanding of possible impacts of gardening activities, I created an online survey for both urban garden participants and non-gardeners to complete. The survey was given to interview participants after the interview and emailed to the gardens I had established contact with. In order to obtain insight into non-gardener's food waste behaviours, flyers for the survey was handed out and also posted on library community boards in the same geographical areas around the three gardens.

The survey consisted of 36 questions about gardening, food purchasing and preparation habits, food waste and other garbage sorting, and finally a few questions about food value. In total, 20 people responded to the survey. Of the 20 people, 9 were non-gardeners and 11 were gardeners. Of the 9 non-current gardeners, two had previously been involved in urban gardening and one was currently involved in a CSA program. As the sample size remained rather small, the results from the survey is used as supplementary data in the descriptive analysis of the information collection in the in-depth open-ended ethnographic interviews.

3.3 Data Analysis

A thematic analysis was conducted based on the data collected. The idea of a thematic analysis is to collect themes and subthemes through a thorough reading and re-reading of the interview transcripts (Bryman 2012, 579). Reading through and scanning the interviews thoroughly, I noticed several themes that repeated themselves. These categories were put in a secondary document where I collected quotes of relevance from each interview. Additionally, repetition by and of itself is not substantial enough to be labelled a theme, it must also be relevant to the research focus (Bryman 2012, 580). Hence, after initial collection, the main categories of interest were analysed in relation to the research questions. Main storylines presented by the interviewees were pieced together in line with the themes discovered. Three main themes carried on from the initial research questions were garden, waste, and nature. Subthemes were identified from the responses. My analysis unfolded by studying the different statements made by the interviewees.

3.4 Limitations of my Research

With only 20 people conducting the survey and 11 people participating in the interviews, this research is not generalizable. Rather, the purpose of this research is to show the particular experiences of these gardeners as an insight into the possible impacts of urban gardening on food relations, connections, and behaviours.

Of the 11 people interviewed, 6 identified as male and 5 identified as female. All identified as white. Similarly, 18 out of 20 respondents of the online survey identified as white. The neighbourhoods in which the gardens were located were relatively affluent. Similarly, all participants in the interviews were long-standing citizens of Toronto, which is a contrast to the wider GTA population. These backgrounds and their lived experiences reflect a particular experience. Because of the sample's homogeneity, the level of variability and confidence level is low. This leads to a low level of generalizability.

Similarly, amongst the gardens researched, there were many differences. As the focus was to find the common themes in relation to the research objectives, some of these differences may have been subdued unintentionally. Further, interviewees made up 7%, 7.5% and 5% of the members of these community gardens, therefore I cannot claim their individual experiences to be a reflection of the dynamics of the whole garden. It is simply the analysis made of their individual narratives.

All of the participants have jumped through hoops and worked hard to get a plot of land to grow on. The people interviewed are not random, and have gone through troubles to be in the position they are in. Therefore, they represent a certain type of person that might be already inclined to think about nature, food, and the environment in a certain way. As Rossi et al. writes about their research results in relation to their study on consumption patterns of CSA participants:

It is possible that these individuals are a unique set of consumers who have food politics or values that make them more likely to be concerned with self-improvement, health, and sustainability. In other words, CSA participation may simply be the logical extension of consumption patterns generally associated with healthy lifestyles. Yet, it is also possible that the structure of CSA provides more opportunities for individuals to engage in different food related behaviours, regardless of their initial food values prior to joining (2017, 864).

However, as discovered through interviewing these subjects, their reasons for both joining and continuing their gardens were varied. As researchers have found, motivations to join community gardens are widely diverse (Guitart et al. 2012;

Drake and Lawson 2015; Scheromm 2014; Turner 2011; Holstein 2017). It is important to note, however, that the causation chain of environmental behaviour and garden participation might be difficult to distinguish. What comes first: the garden or the behaviour?

Another limitation is the issue of self-reported measures, as used in the online survey. Reliance on self-reports is a threat to validity. The goal was that complete anonymity offered in the online survey would offer a safe space for participants to answer truthfully about their behaviours. Participants may simply claim to have low levels of food waste to conform to peer pressure and social acceptance (Gan et al. 2008, 94). Further, it has been found that a large portion of the population underestimate the amount of food they discard of, and therefore the self-reported amount of food waste may be reported as lower than its actuality (Quested et al. 2013, 46).

3.5 Ethical Considerations and Reflexivity

When conducting a research project, reflexivity is fundamental and invaluable. My particular position, experience, and perspective can, and will, influence both the direction of the study, the data collected, and the interpretation (Alex and Hammarström 2008, 169). To enter a field of research devoid of biases is impossible. Our identities are intersectional and impact social interactions. My background, age, gender, nationality, and ethnicity will inevitably affect my perception, analysis, and completed writing. Additionally, these attributes also unavoidably affected participants' perceptions and behaviour towards me. As one interviewee wrote back after my follow up email: "I was impressed by your professionalism". This suggests that they were not expecting me, after our initial informal meeting, to conduct the interview in the manner in which I did. Both researcher and participants bring with them all that they are into the process of research. Participants were often intrigued by my nationality and the political stances they assumed I had, being both Norwegian and a master student studying urban gardening. As previously noted, there can be a lot of guilt and emotions attached to notions of sustainability and living a 'green' life, this may have

impacted both survey and interview responses. I perceived the participants to be especially guilty and ashamed of telling *me* about their behaviour that they deemed 'less desirable or 'less sustainable'. Such as requesting for their order of a food item considered 'bad' to be 'off the record'.

Similarly, the interviewee's knowledge of my research objectives may also have impacted the way in which questions were answered. An example of this is when I asked the question: "do you see the garden as just a positive thing in your life?", the interviewee chose to respond with: "Negative aspects in the sense of 'oh no this just opened my mind up to why can't things be better, the world is gone to hell and I can't help', 'we're all f*****'. No, I don't think like that". As such, the limited introduction made of my research project and objectives undeniably impacted the ways in which interviewees perceived my questions and also how they chose to respond to them.

All participants interviewed were guaranteed anonymity and voluntary participation. All were given a written consent form which described their rights and the purpose of the research. Before asking them to sign, I also verbally reiterated their rights. As the qualities and the history of the gardens in question are so distinct, I do not engage in any prolonged discussion of their characteristics as to not expose any of the participants that expressed their need to remain completely anonymous. The names of the participants have also been changed in order to anonymize them. Additionally, all survey participants consented to the use of the data collected in the beginning of the online survey. Using the University of Oslo's survey feature, Nettskjema, all responses were anonymized and given a code.

4 Analysis and Discussion

In this section, I will analyse the participants' self-reported narratives of their gardening experience in relation to my research questions. To begin with, my first research question will be addressed. *What is the impact of community gardening on participants?* The impacts of gardening will be explained in section 4.2. Gardeners presented a story of their garden plots as having significant therapeutic benefits, which was also correlated to feelings of reward, gratitude, and confidence. Community was found to be supplementary to all gardeners with the exception of one. Similarly, food was also found to be in the background of their narratives. In contrast, the trope of 'getting your hands dirty' was presented as an essential part of gardening. Further, almost all gardeners connected their participation to experiences of food growing and gardening in childhood and with family. At the same time, community gardens exhibited interesting facets of exclusion and inclusion. Additionally, there was a stark contrast between the gardening presented and conventional farming.

Secondly, the findings in regard to the next research question will be analysed in section 4.3. *Does participation in a community garden have an impact on perceptions of food and nature?* Nearly all participants interpreted and defined nature in line with 'destination wilderness'. Interestingly, this had important implications for how they perceived their garden space as being within or outside of nature. Findings show that there was a distinct difference between what participants saw as 'real nature' and nature within the city. However, the embodied experience of being in the garden offered almost all gardeners a unique opportunity to *connect* and engage with nature.

Furthermore, the final research question will be discussed. *Does participation in food growing have an impact on food waste behaviours?* Findings will be presented in section 4.4. Learning about the process of growing food and the resources it takes, both in terms of labour and natural resources, had important implications on gardeners' relations to both food and waste. Connecting the food with the normally 'invisible' backstory of its production increased gardeners'

perceptions of food's value. Most importantly, the gardening experience influenced their understanding of waste. Also making visible the further journey of the food after being discarded, thereby displaying the full 'waste cycle'. Issues of individual responsibility versus the collective will also be addressed in this section.

Lastly, there were two main groups in relation to the final research question. First, the "tend your own garden" group fit the analysis by Parizeau, Massow, and Martin (2015), who found that negative emotions, such as guilt, can stifle more sustainable waste behaviours. Second, most gardeners were attuned to the idea that garden participation had at least promoted a deeper engagement with and questioning of food issues. For some, it had definitively changed their perception of food and its value.

4.1 The Impacts of Gardening

The three gardens examined were all organized as non-profit organizations (*Table 1*). Gardens were divided into individual plots, with some communal areas and garden beds. All community gardens had established a volunteer board with distinct tasks such as membership, finances, and communications (*Table 1*). They all had yearly gatherings, mostly revolving around the growing season, with communal planting and clean-up meetings. Most communication was conducted per email. Funding was gathered from yearly member fees and external donations. All had initially collected public funding or private donations to get started. Gardens and plots were extremely diverse in production. Everything from fruit trees, flowers, herbs, and produce was grown. All three gardens had a long history and had been founded between 10 to 22 years ago. A commonality among the gardens was that each of their distinct histories were characterised by outside support. Establishment of land access by the city and/or the owners of the private land for a longer period of time, there was no precariousness involved in the land access. This security of tenure has important implications for the dynamics and organization of the garden, which is not the case for most community gardens. All gardens had long waiting lists and a continuous flow of people interested in gaining a plot.

Information gathered in these interviews echoes assertions in previous sections: people's motivations and experiences in urban gardens are widely diverse (Guitart et al. 2012; Drake and Lawson 2015; Scheromm 2014; Turner 2011; Holstein 2017). Although each participant's experience with their garden plots were unique, there were some common themes in their descriptions. Participants mentioned therapeutic benefits, love of food, the garden as an escape from the city, the pleasure of getting one's hands dirty, and the rewarding experience of producing as some of the most important attributes of the garden. The aspect of community is dealt with, but in contrast to previous research, it was not found to be of major importance to most gardeners. Further, many of the gardeners brought up stories of their childhood and their families when explaining their motivations and experiences with the community garden. They connected themselves, their past, and the garden together in a network of stories portraying their particular community garden experience.

4.1.1 Therapy: Escape and Sanctuary

Research has found that contact with nature in UA can be beneficial to mental health, both in a restorative way and alleviating stress (Schram-Bijkerk et al. 2017, 868). In tune with what many previous studies have found, the garden offered therapeutic benefits to many of the participants (Santo, Palmer and Kim 2016, 12). My interviewee Lauren said: "...I think that it is therapy... Because my life is so intense... So, to get to go to the garden where I don't have to do any of that shit I can just hang out. I go right back to being a kid". Similarly, another interviewee, Frank, described the difficulty in leaving the garden once he was there.

It is also fun and it is mentally good for you... when we have been stressed at the end of the week or at the end of a weeknight or something, we've sort of like 'okay we have to be here, so we got an hour, we better just do some weeding, water, whatever'. We gotta be super quick. But at the end of it... we're like, let's just take it easy, we're enjoying ourselves, maybe we can do a bit more weeding or whatever. It is just a very... it is nice. Especially when we're sitting at computers all the time when we're working for the most part. It is nice to just go and stick your hands in the soil and work at it.

Being in the garden gave both Frank and Lauren the feeling of having fun and giving them a break from their day-to-day life. They both described the garden as encouraging a calming effect. Their garden was a calm, therapeutic space away from their regular stressful routine. Moreover, the garden was a space to ‘hang out’.

Thomas also noted the ‘good feeling’ it gave him when visiting the garden:

I find that it is therapeutic. I like taking care of my little plants, watching them grow, and then eating them. I like it... It is because it is very therapeutic, like I said. Karoline always has a really big smile when we come back from the garden. I do to, because Karoline is smiling. Happy wife, happy life. But I feel it too, it's nice to be there and connect with something that you're growing. You take care and pride in it. It becomes a part of your daily routine, and it is healthy. Almost like going for a run or eating healthy or good food, getting enough sleep, stretching or doing yoga, taking care of your body – it just feels good and feels right.

In addition to making him ‘feel good’ because of his wife’s increase in happiness when being at the garden, he also saw it as a healthy activity that he could incorporate into his routine. Thereby offering him the therapeutic benefits that he saw as the most important part of the garden experience. Similarly, John said that in addition to the community aspect of the garden, the most important part for him was the *peace* that that garden offered.

In line with characterizations of therapeutic benefits, many of the descriptions of the ‘peace’ and ‘good feelings’ attributed to gardening was connected to the idea of the garden as a “sanctuary” or “escape” from the city and/or daily life. Frank, who talked of the garden as a space where he and his partner could “...turn [their] brains off...” attributed the garden as a sanctuary in that it offered a contrast to his everyday life: “...we spend so much time indoors or on our computers or whatever, and it is nice to feel that different aspect of the city”. For Monica as well, the garden was a ‘getaway spot’: “When you live in such an urban environment and in an apartment, contact with a garden, just being able to hang out, sit on the grass, and chat with people. I think that connection is very important”. Karoline and Thomas also mentioned that they would gather their folding chairs and a bottle of wine and

walk to the garden just to sit there and enjoy the peace. Matthew described the garden as a 'zen space', where he could escape his busy day-to-day life and spend hours on end tending his garden. For Frank, Matthew, Thomas and Karoline, the garden was a small getaway in the city where they could go and enjoy their green surroundings.

For Monica and Lauren, the aspect of 'peace' was an important attribute the garden offered them as a stark contrast to their everyday lives. As Lauren said:

It is a moment in time away from other things. It's a reflection of my own soul... Mostly it is for relaxation... It sounds so corny in a way, but it is a sacred space. Right in the middle of Toronto, downtown, this opportunity to hear the birds, take care of nature.

Monica also compared it to an oasis and an escape from the city: "I think it is for us that have very urban lives, a very important escape into something that is enjoyable and productive and tasty". Also, she extended this garden attribute of peace to also involving a connection to the plants and the living nature within the garden: "It is away from my extremely stressful work. To watch something grow, plant it, and grow it. It gives me more of a connection with myself. There is no stress to it". Monica and Lauren, who both described their jobs as taking up a lot of their energy, connected to the gardens in a more spiritual sense. They both described the garden as a sanctuary and an oasis, which connected them to the plants and in turn reconnected them to themselves. Molly, whose face lit up when talking about the excitement of gardening itself, described the garden as a space of solitude where she did not have to engage with anyone but the plants.

I think that being in that space, because I don't have a garden, so being in that space, and particularly it is not a crowded space, so you can be alone there and not have to communicate with anything other than the plants and the vegetables you are with.

Finally, Alexander connected the idea of gardening as being a place of solitude and escape not only from the physical tolls of the city, but the constant chatter. The garden was a space where he could revert to a child-like state, simply engage with

the earth and turn off some parts of his brain.

It seems more and more all of these technologies and social networks are invading everything... I find it very stressful. I am not interested in people that much. Like really, most of the chatter is just bullshit.... When I come and garden, it is just like digging something, it almost washes it away or displaces all that stress. I don't know... It is kind of like being a kid too, playing in the sandbox and stuff. It hits part of your brain that goes back to those primal instincts. I think a lot of people would be better off if they did a little bit of gardening. It is kind of work, but the benefit is always there.

Almost all participants interviewed mentioned therapeutic-like effects as major benefits of gardening. For Lauren, Frank, Thomas, and John the therapeutic benefits of the garden were extremely important. The aspect of ‘feeling good’ was attached to the garden, and the peace offered by the space was a major part of why they were still active participants. There was a close association between the therapeutic benefits offered by the garden and the notion of the garden as an ‘escape’ and ‘sanctuary’. Frank, Monica, Lauren, Alexander, Molly, Thomas and Karoline all talked about the garden as a ‘getaway’ from either the physical space of the city or the psychological tolls of their everyday lives. Describing the garden as a space where they could ‘turn off their brains’ and simply engage with the earth and the plants around them.

4.1.2 Gratitude, Reward, and Confidence

Also related to therapeutic benefits are the other positive emotions gardeners received. Some participants spoke of pride, gratitude, and reward. These benefits have also been found in previous research, which notes the positive influence of UA in providing individuals with “...encouragement, a sense of purpose, pride, therapeutic activity, new skills, self-confidence...” (Dubbeling, de Zeeuw & van Veenhuizen, 2010; van Veenhuizen, 2006; Viljeon 2008 in Pagliocchini 2014, 48). This is in line with the research that found that community gardens are seen as “therapeutic learning environments” (Liu et al. 2016, 371) that encourage gardeners to learn both lessons about themselves and important life skills.

Alexander described it as a mini celebration every time something got picked in his garden. Although gardening itself was described as hard work that involved lots of time and dedication by all gardeners, it was all forgotten by the time they were able to harvest the fruits of their labor. Often this rewarding experience was described in tandem with the celebration of the flavour and taste of the produce grown. As Alexander said:

It's tremendous to just show up at your garden and you see something that is ripe, and you can just reach in and pick it and eat it immediately. The flavour is unlike anything in the supermarket. I mean, it is like a money tree or a candy tree, it is just like instant gratification, right?

Frank echoed this statement when describing why him and his partner chose to keep gardening:

What made us stick around, in a sense, is just the fact that we realized how rewarding it is in terms of being able to have these tomatoes that you can just pull off the vine. I am sure I am not just imagining it because we grew the food, but the tomatoes do actually taste better, right?

Karoline talked about distinctly remembering the amazing taste of the strawberries they grew the previous year and how much better they tasted than the ones in the grocery store. That reminded Thomas of the reward they both received in terms of pride the garden offered them: "Karoline likes to admire the plot first. She admires the plot. Then she comments on how well the plot is growing. She gives herself a pat on the back. 'Look how good this is'". For Thomas, this pride and reward was the second most important part of the garden experience after the therapeutic effects: "I am greedy. I am a narcissist... I wanted to feel good about *myself*... It makes me feel good. Planting stuff. Bragging to my friends, making them feel jealous. The taste of *my* food going into *my* body". 'Feeling good' was integral to the gardening experience for Thomas, this was also related to the pride given by the garden. The same garden plot gave Karoline both pride, encouragement, and reward in form of amazing tasting strawberries.

Alexander and Monica talked about the challenge that it can be to grow something, especially the learning curve involved, and the subsequent confidence boost received when you are able to overcome that. This in turn offered both the reward of the produce itself and the gratification of overcoming a challenge. As Monica said: “It was always a bit of a challenge, but I enjoyed that. It was rewarding. Felt like I accomplished something for myself”. Alexander said:

...by [gardening], I've become better at it, so has my confidence with gardening... Before it seemed like a mystery, now it feels like something achievable. I've never had that before. I think confidence is the thing. At first, you're completely lost. Then you have a few failures and then it is nice to know you can learn from failures. I think that is a big part of farming in general...

Molly's gardening experience was full of both gratitude and reward. She exclaimed that gardening was “tremendously rewarding on many different levels”. Firstly, she described the excitement of watching things grow. Secondly, “...the communal aspect of sharing the food you've grown” was something that offered her great inspiration and reward. Lastly, she spent the concluding remarks of the interview expressing her gratitude:

I feel really grateful for having the opportunity to experience all of the parts that are the community garden. The actual beauty of it. It is very beautiful. The space... It is very heartening and very uplifting. I think it really uplifts the spirits to experience just being in that environment with all of that growth happening. Certainly, you have gratitude that you're experiencing that. It makes you feel grateful. Being fortunate enough to have had his experience.

All the gardeners had positive stories about their garden experiences. Alexander, Frank, Karoline, Thomas, Monica, and Molly all explicitly brought up stories of unique, individual reward, gratitude, and confidence given to them through gardening. Most gardeners did not have any previous experience with growing food and opted for a ‘learning-by-doing’ strategy. To watch their food survive, grow, and lastly, eat it, offered them tremendous pride and gratitude. Not only the taste of the produce itself was a reward, but also the confidence and skills earned.

4.1.3 Community

Academic work has focused a lot of attention on the perceived community benefits from community gardening. Researchers have found that UA makes communities safer, facilitate neighbourhood gatherings, promote societal development and empowerment, and brings people together (Baker 2012, 9; Draper and Freedman 2010, 480-483; Mok et al. 2013; 24). It has also been claimed that community gardens facilitate interactions between people in neighbourhoods that would not normally connect (ibid). The gardens in question did not exhibit most of these results.

For the participants interviewed for my research, only one brought up community as the most important part of the garden. The remaining 10 people viewed it as a happy coincidence to engage with people and went on to explain that interactions were usually minimal and superfluous. However, the garden was seen as a space that invited interaction and engagement with people, which was noted as uncommon in a big city like Toronto. There were also general meetings organized every spring and fall that all gardeners were encouraged to attend. However, most often this functioned as preparation or clean-up of the individual garden plots, coupled with some social interaction. I observed that most of the participants were members of the same socio-economic strata, which meant that the gardens failed to be a facilitator of neighbourhood gathering amongst people that would not normally meet. Rather, the gardens examined encouraged limited, superficial interactions with people mostly within the same culture, ethnicity, and socio-economic strata.

John mentioned the feeling of community as the most important factor of the garden for him, both participation and the creation of the garden itself was for him always about people and creating something beautiful everyone could share as a group. Marie and Christopher had joined one of the first community gardens in Toronto. It was created by a group of like-minded friends who shared the same politics, ethics, and artistic careers. Therefore, the social aspect was one of the main reasons for joining, and subsequently one of the reasons why they stayed motivated to garden. Although the demographic of the garden has changed, Marie still valued the social

interactions the garden offered. She said:

It's a social. It was just a plot in the middle of nowhere, would you still be doing it? No. It is a social aspect that you're talking about. The collective sense of it. And like I said, when you're sitting there, people stop and talk to you that sort of thing... I think it gives you a sense of the people that are living in the same place that you're living in. Because there are not a lot of places where you engage with people.

However, Marie did acknowledge that most of this social interaction was with strangers walking through the garden and admiring its beauty, and not with other garden participants. Living in a large city, the garden was a space that invited interaction. Instead of bumping into someone in your condo building or taking your dog to the same park - the garden was a space that opened up the *possibility* of connection. Thomas and Karoline echoed this statement:

And usually we all know each other, and we all say hi. It is more tightly knit than on our floor in our condo. Nobody says hi to each other in the condo. But when you go to the garden, everybody says hi. Why all of a sudden now everybody says hi?

At the same time, a couple of gardeners mentioned the ability to also respect each other's want to enjoy the silence and solitude at certain times. As Monica said:

...we do respect people if they come and we will wave and say hi. But we are not necessarily social all the time, because sometimes it is just a total get-away to just get in your garden... sometimes it is just good to be quiet. It is not an opportunity to be social. We're all farmers. We are all out there farming our little 8-foot square plot.

Monica and Alexander both described their enthusiasm for the collection of such a 'diverse' group of people. For Alexander, the diversity was one of the first things he witnessed when joining the garden and was motivated to continue gardening because of this. He also said that: "I've made some really good friends that I plan on keeping". Monica described that it was a positive experience to see a group with such diverse backgrounds and lives "...come together through the interest of growing". Although Monica and Alexander did discuss the diversity of their garden, the way they described this perceived diversity is significant. Monica and

Alexander talked about diversity in the sense that gardeners were bankers, nurses, and artists: all from different occupations. Alexander enjoyed that the garden previously had included a youth-group, but they had discontinued their garden a few years ago. Alexander grieved the loss of this group but said that there had been a lot of conflict around their participation. Further, Matthew also talked about the importance of community in the sense that one had the opportunity to hang out with likeminded people.

For Molly, the community aspect was not important. She described that this was not necessarily because she didn't want the community, but rather that the livelihoods of the people involved did not allow for the creation of such a community. She said: "A lot of people are really, really busy and very industrious in what they are doing, and the garden is just something that they fit in. There is not actually too much time that people actually have to do much else". The active lives of the gardeners allowed limited time for the gardening, but not for the communal relationships that other research has claimed.

Community was important for about half of the people interviewed when asked specifically about it. For John, community was everything. For Alexander, it had offered a place to make friends for life, and this had been a part of him staying motivated to continue to garden. For Monica, Marie and Christopher, and Thomas and Karoline, the interactions offered by the garden were positive aspects of the package-value of the garden plot, but not the main focus of their motivation to continue gardening nor joining in the first place. Community was neither a motivation to join, nor something that was a crucial aspect of the community garden. As Molly said; "You do say hi to your neighbour, but that's about it. There's not much outside of that. And that's fine. I don't have an expectation for more". A simple hi at the garden was the mostly the extent of interactions at the garden – and it was also all she desired.

In contrast to the findings by much of the research on community gardening, the community gardens examined did not exhibit the same societal development and empowerment, interaction across socio-economic, cultural, and racial lines, and

radical community improvement (Baker 2012, 9; Draper and Freedman 2010, 483; Mok et al.2013, 24). Research has found that providing a garden, a safe-space, for people of multiple background and socio-economic status to work towards a common, unitary goal strengthens the community (Bhatt and Kongshaug 2005; Shinew, Glover, and Parry 2004). The homogenous group of gardeners did not allow for much interaction across generations, cultures, races, or socio-economic status (*Table 2*). Simultaneously, the unitary goal they were working towards was not a communal one, it revolved around ‘their’ individual garden plots, ‘their’ own produce, and ‘their’ personal additional benefits. Rather, the community aspect was seen as a supplementary gain; they enjoyed the friendships established and the occasional interactions. However, it was not as pivotal, nor as important, as other research has found.

Interestingly, only one garden had residency location specifications in regard to distance to the community garden. Nonetheless, all participants interviewed lived a short walking distance to their respective gardens. Locations were mentioned an overwhelming amount of times as one of the best parts about their gardens. The fact that it was “practical” and “easy” to make time for the garden in their busy schedule, because of its location, was celebrated by everyone. Reiterating Molly’s statement, they were simply too busy to find time to socialize in addition to keeping up with the garden tasks.

Rather than facilitating and promoting community cohesion and empowerment, the community gardens in question were sites of individual gain. Gardeners wanted a space of relaxation; an escape from their busy lives. The additional benefit of social interactions was welcomed, but it was not something they longed for, wanted, nor worked to facilitate beyond precarious, friendly encounters. As the following chapter will conclude, in the same regard as food, *community* is literally the foundation of community gardening. However, in these community gardens, it was invisible. It was regarded by the participants as superfluous, supplementary, and a positive spill-over effect – not essential.

4.1.4 Food

Community gardening has been closely associated with the food security and sustainable food movement in Toronto (Jäggi 2013; Baker 2012; Nasr, MacRae and Kuhns 2010). The main argument for urban agriculture has been the promotion of food production for grappling with issues of food security and sovereignty in the city. For the gardeners interviewed, however, the promises of supplementing groceries and yielding big amounts of food were not important (Baker 2012, 9; Mok et al. 2013, 24; Draper and Freedman 2010, 481). The interviews demonstrated that gardeners mostly see their community garden plots as a leisure activity, and food as a beneficial, not vital, part of the garden.

Although all participants (except Lauren and John) grew only produce, it was not a given that gardeners mentioned food as an important part of the garden experience. Lauren explained that food was not the reason for gardening, it was simply easier to get it at the grocery store. Rather, it was about the delightful hobby of creating something for herself. She said: “To get some tomatoes when I can get tomatoes at the grocery store is not a big deal to me... It is all about what I can get from creating a beautiful space”. Further, the food grown in the gardens were not a main source of nutrition for the participants. There had to be other reasons to continue gardening, as the produce they received was strictly supplementary and a small return for the large amount of work that went into growing it. However, most gardeners did express having a positive relationship with, and a deep love for, food. Although, food was not essential for the gardening experience, their interest and love for food had led them down the path to getting a garden plot. It also continued to be at the heart of it – yet not mentioned by any gardeners unless specifically questioned about it.

For Frank, who had studied food production in his own academic work, was very interested in the food aspect of the garden: “...it is mostly just about having all this great food!” he said. He described an active engagement with experimenting with different growing styles, plants, seeds, and produce. For Karoline, participation revolved mostly around the love of food. She described going in to gardening for

the love of food. But mostly the extension of that: cooking and eating the food she had grown herself.

This was repeated by Monica who described her love for food with strong enthusiasm: “Oh, I love food. Even though I am a skinny person. I think food is very important. I think it is very important to our overall health, both mental and physical, to take an interest in food. I think food is amazing”. She told stories of how relations with produce at an early age had changed her love for food, and also changed her perception of different items. She said:

...eating asparagus. I didn't like them as a child. One of my favourite things now. It was partly because you were sent out there to snip them, somehow if you harvest them yourself, they look a little bit more appealing... I didn't like peas, but it was fun to sit in the garden and crack them open and eat them individually.

She continued by advocating for the importance of involving children in growing food to encourage them to take more interest in it. If you involve children in growing and harvesting, you are at least guaranteed that they will try the produce, she professed. The love for food was very important for Monica, and this had its origins in her farming experience from early childhood.

Continuing on describing her love for food, Monica saw food as the glue that held all the gardeners together despite what she identified as differences between them:

They all have different lives, but then we all come together with the common interest in growing vegetables. As an extension of that: cooking. Everybody is kind of a foodie in some ways. We'd always be trying things, you know, growing things that would challenge us in terms of cooking.

This was evident at the yearly gathering where everyone had brought self-made, self-grown food to share with others. The small talk revolved around the uniqueness of the dishes, and the connection of them to the garden. Dishes of food were used to transform the meeting from a board meeting to a social meeting place. Similarly, food was a way to unify and connect everyone together – despite the ‘differences’ between them.

This statement about the gardeners love of food correlated with survey results seen below (*Figure 1* and *Figure 2*). Results from the online survey show a difference between gardeners and non-gardeners in terms of their relationship to purchasing, preparing, and serving food. Respectively, 64% of gardeners described their relationship to these activities as positive, and 0% described it as negative. In contrast, 33% of non-gardeners described this relationship as neutral, 33% as positive, and 11% as negative. Although the sample is too small to make any claims, the survey results seem to adhere to the interview findings that gardeners do indeed generally have a more positive relationship with food.

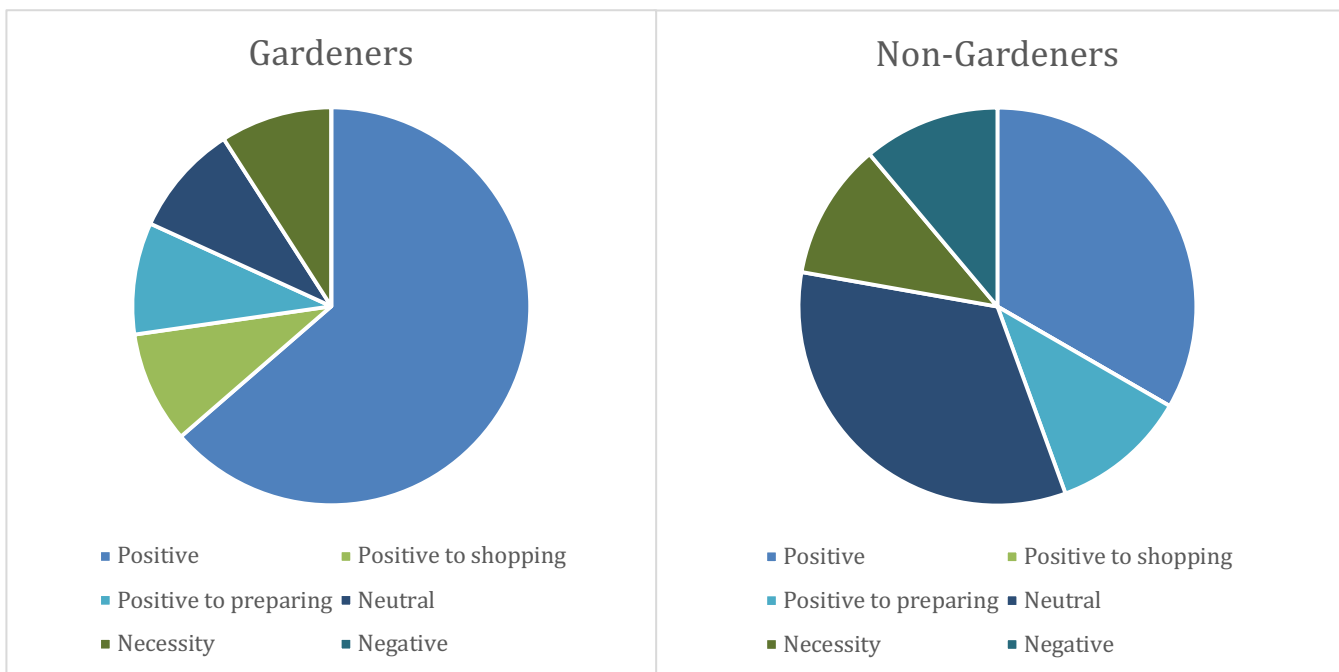


Figure 1 Gardeners relationship with food

Figure 2 Non-Gardeners relationship with food

Molly professed a love and interest for food, as she described it: “I like creating different things with food”. However, she was mostly engaged with the garden because she had a strong opinion for the necessity of knowing how to grow ones’ own food, both for the future sustainability of people, but also for the acknowledgement of food growing itself:

Because I think that we’ve lost touch with where anything comes from. How we handle our food. The kind of reverence that we don’t necessarily have unless

we've been deprived. I think that rather than waiting for the time that we may be deprived, let's start acknowledging now and appreciate the plenty that we do have, and give everybody the experience to grow food. To acknowledge the process of growing food. And the excitement.

Molly argued for the involvement of children in community gardens to teach them about how to sustain yourself. Both to show children the excitement in growing food, and also to teach them valuable lessons on where food comes from.

Matthew said while we were picking off a few, small Brussel sprouts of the large stem while cleaning up the garden for fall: “you have to love it”. The harvest can be so limited that a whole season leaves you with one small container of Brussel sprouts. All participants interviewed said that what they grew was a small supplement to their basic supply.

One would suspect that spending so much time growing produce, it would be an intrinsic part of the garden for most people. When asked whether food was an important part of how Alexander perceived the garden, he said: “Sure. I mean, it is right at the centre of it really and all of the other things are swirling around it”. Frank, Molly, Karoline and Thomas all professed their love of food in relation to the garden. However, they all came to the same conclusion from different origins. They only stated the importance of food in relation to the garden when explicitly questioned. However, for the other 7 people interviewed, it was not mentioned. Food was not the most important part of the garden. It was simply at the *heart* of it, “at the centre of it really”, yet invisible.

4.1.5 “Getting your hands dirty”

The most common quote in all of the interviews revolved around the notion of ‘getting your hands dirty’ and the benefits of that activity. One of the first things John started talking about in the first interview of this study was: “the fact that the human race loves getting their hands dirty”. It was presented as a fact-statement and continued to be mentioned in almost all interviews conducted. Frank’s version was: “...it is nice to just go and stick your hands in the soil and work at it”. For Marie, there was a distinction between dirt that was connected to the earth and dirt that was

transformed into soil. She talked about the importance of connecting with food through the enchanting experience of "...coming in with muddy hands". For her, it was not something that required any explanation or thought, it was simply like Frank put it - a fact: "It's not something that I think that I should be doing. It is just normal to do it. You know?"

Lauren also described the love for "getting dirty" and the love for the soil. She said: "I don't wear gloves usually. I just play in the dirt. I've always loved doing that.... I return to the feeling of me and the earth, we are friends.... Hanging out. Hanging out with that dirt". Monica reflected the same notion around loving the earth. She talked about enjoying having a connection to the ground. When asked about where that came from, she also represented it as a fact, as an inherent part of humans: "I don't know why we like gardening so much, but we do! I think it must be something about being a living being". Even Alexander, who unlike the others did not have any experience gardening when he first started, brought up the importance of 'getting his hands dirty': "I was never a great gardener, but I found it rewarding just to go out and, what can I say, get my hands dirty".

John, Frank, Marie, Monica, Lauren, and Alexander all brought up the notion of 'getting one's hands dirty' as an intrinsic part of their gardening experience. Connected to the notion of an 'escape' from their daily tasks that, in their opinion, disconnected them from the earth. The process of 'putting their hands in the dirt' and 'getting dirty' was presented as an antidote to this. It was presented as a fact: something that is just normal for a human being to want to do. These statements are in line with scholars arguing for re-connection, that an intrinsic part of being human is wanting to connect with the natural world (Wilson 1984; Kellert 2008). The trope of 'getting your hands dirty' became the common denominator for describing such a human-nature interaction. These gardeners were letting themselves be "...aroused, fascinated, stimulated and excited by the nature..." (Pyle 2003, 209) while connecting with their plots. In a similar vein, this engagement with their gardens also presented an opportunity for a solitary escape where they could simply 'switch their brains off' and play like children in the dirt. Letting go of their imposed and learned ways of being human in the city and surrendering to the elements.

4.1.6 Connection to past, family, and childhood

Another commonality for the gardeners was connecting the garden with their past and their upbringing. Often as an explanation for the participation, a description of why they actively sought out the garden, and/or why they continued. This is consistent with the research Brunner et al. which highlighted the relation between growing up with food production and/or home gardening and an inclination to engage in sustainable food practices later in life (2007).

For John, his romantic and consuming relationship with food and nature was explained as being developed through his father's love for food. It was something that had been taught to him and passed on by his father, and that he continued with pride. Marie, as well, explained very early on in her interview that her grandparents were farmers. She said she had grown up fairly close to her grandparents and therefore had gotten experience in farming from an early age. She explained: "... that was the beginning of the relationship to the farming". Similarly, Lauren said that: "I grew up figuring how to get closer to my mom, because it was hard, and the two ways I could get close was doing with garden stuff with her and playing my flute... So, garden, mother, and me are very much the beginning of the whole thing". For these gardeners, the *beginning* of their stories of themselves and their gardens started with their families and their love for gardening and food. As Alexander said: "You know, food, family, and your childhood, it is just stamped on your mind". His grandmother and mother before him had a garden in their backyard where he was forced to do some menial tasks. Even though he did not enjoy it then, the image of a garden and preparing food became stamped in his mind as a natural way of life. Karoline too explained her love for food through telling stories of her family and their love of food:

Growing up, my family is Italian... my grandmother loves food and she loves cooking too. I think some of that has rubbed off a little bit. They've always made their own pasta sauce.... They've always loved making their own food. I've taken that [on]. The garden just helps us do that.

For Karoline, and many of the others, the garden was an extension of their childhood memories and practices that started with their families. Reminiscing about childhood memories of cherry trees, apple trees, and being in the garden with her father, Molly also connected her garden experiences with her upbringing and the “deliciousness” of eating the cherries right of the tree as a beginning for her present garden activities. Monica, who lived on a farm with her “forward thinking parents” for about three years, attributed her intensive farming experience as a reason for wanting to always live somewhere with a garden. Getting access to different kinds of foods she had never seen before, and the freshness of it all, made the prospect of living somewhere without a garden unthinkable.

Thomas family were not “big environmentalists”, as he put it, but his neighbours were. He described their lifestyles of biking and planting their own food in their backyard, coupled with their high education level and fit bodies as a big influence on taking that route himself later in life.

I looked at their lifestyle and I try to mimic it as best as I can. I've noticed, over the years, falling in love with biking, being next to the garden every day, making it a part of my routine, back-country camping as much as I can, being outdoors as much as you can, it has positive effects on your lifestyle and wellbeing.

Thomas' childhood neighbours ended up being role-models on how to live his life. Further, the positive results he received in return for making these lifestyle choices ended up giving him a feedback effect, which in turn continued the cycle.

Most of the people interviewed begun their stories of garden participation with a connection to their families and/or their childhoods as having a large influence on the choice to take a leap and join a community garden. Reiterating Hale et al.'s findings, gardeners often described how they learned their gardening skills from their families (2011, 1868). Further, many continue to garden because of the personal connections and positive memories attached to the activity (ibid). In the interviews conducted, the personal narratives of the garden experience were mostly a network of stories of “me”, “my past”, and “my garden”, joined together.

4.1.7 Challenges

In the previous section, I presented the dazzling and delightful picture of community gardening painted by the gardeners. Through ‘playing with the dirt’ in their little garden plots, these participants enjoyed the taste of their strawberries, the beauty of their gardens, and the rewarding connection to their past. However, the interviews also presented some contrasting perspectives. Firstly, gardeners’ own comments about the romanticized notion of ‘farming’ they engage with encouraged a note on the differences between conventional ‘farming’ and community ‘gardening’. Secondly, the interviews revealed interesting facets of inclusion/exclusion, in keeping with the challenges to community gardening previously presented. A visible line was drawn between gardeners and Others, even without fences and locks.

Romanticized Farming

An abundance of research on urban agriculture and community gardening professes of the endless positive benefits of working with the land and growing one’s own food. However, farming is not always such a rosy love-story between human and nature, and ‘playing in the dirt’. Land cultivation has roots in, and continues to be, a space of exploitation, oppression, and struggle (Tornaghi 2016, 791). As such, for many, exploring the choices made available by the current food system and leaving behind rural backgrounds and land cultivation is “a symbol of freedom” (ibid). For all participants, cultivating the land in their plots was simply a positive experience. The ‘dark side’ of land cultivation and mainstream agriculture was not in their purview. One example of the contrasting relations to agriculture, is the experiences of Molly and her growing partner. Also, Monica and her siblings had very different memories of their time living at their parent’s farm.

Molly discussed the differences in her past experience versus her gardening partner. As the previous section explained, some gardeners had a connection to working with, and watching their families work with, the soil and growing their own food. Molly’s experience with growing food was limited, and she had a positive past

connection to eating and learning about cherry trees with her father. Whereas her gardening partner grew up *having* to farm, as Molly said:

I am doing it with a friend, who actually does have experience. Farming experience. She is not doing it from a farming perspective, but more from a creative perspective. That is what her preference is. She's grown up having to farm, and that wasn't pleasurable for her, so she wanted the occasion to find pleasure.

For Molly's gardening partner, her past impacted community garden participation in the opposite direction. The stories presented in the previous section are of pleasurable and positive gardening experiences. However, for many, gardening and farming, is not. Molly's gardening partner still wanted to join the garden, but she did it to deal with her farming past through working on the land in a good way. Thereby, reclaiming her past and pursuing a more positive relation to food growing.

When Monica talked about her three years of working on her parent's farm, she only described it with joy and fond memories. In contrast, she said, her younger siblings, who spent more time on the farm than her, did not share her fascination with gardening.

They had to go pick rocks and weeds, and all that. So, to them, nothing to do with gardening is interesting. I think it is a phenomenon that city people hanker very much to get their hands dirty and to grow their own food. That concept, out in the country, is like, you know, not as interesting or romantic... Basically, our gardens are kind of like a toy garden.

For her, even though her farming experience left her wanting more and continued to motivate her to grow her own food, she described this as part of a 'city mentality'. Alexander said: "I think that it would be great if we could all have community gardens, but to be honest this doesn't really sustain my food needs, it is more of a hobby. And that is okay. It is not hurting anyone". For Alexander and Monica, rather than growing food out of necessity or to sustain themselves, their garden plots were "little toy gardens" they worked in as their hobby.

This self-imposed separation between pleasurable gardening, that these participants were involved in, and larger, mainstream agriculture, does not come as a surprise. A longstanding separation between conventional agriculture and gardening in urban areas is apparent in these statements (Tornaghi 2014, 558). McClintock uses the lens of metabolic rift to explain some of these nuances. As part of a larger body of environmental sociologists, McClintock draws on Marx' argument of metabolic rift to include the disruption of the social metabolism of humans (2009, 2). The ripple-effects of the alienation of "humans from the natural environment" (ibid) led to deepening the "false dichotomy between city and country, urban and rural, humans and nature, obscuring and effacing the linkages between them" (ibid, 3). This proposed disconnect between human and nature also impacts the dichotomy between urban versus rural, hobby gardening versus agriculture.

It is important to note that similarly to exceeding caution when using the term 're-connection', which supposed a previous state of 'connection' to revert to. In outlining the 'joyful' experiences with gardening that these participants depict, one must take care to not confuse these experiences with a romanticizing mentality of conventional farming. As Alexander and Monica describe, these garden plots are chosen hobbies that they spend their free-time cultivating because of their interest and fascination. Rather than sustaining their food intake, these individual plots are "little toy gardens". First off, there is no possibility of "reversing the fall, getting back to Eden..." (Pyle 2003, 208) and a "...nostalgic return to the days of 'growing (all) one's own food'" (Hallsworth and Wong 2013, 2). Lastly, the joyful experiences represented here in narratives of 'growing one's own food' is in no way a universal truth, nor a reflection of mainstream agricultural experiences.

My Garden

Community life is by its very nature paradoxical (Rappaport 1981, 1). Inherent inclusion and exclusion dynamics within community gardens have been noted by some researchers (Okvat and Zautra 2011). Gardeners interviewed for my study brought up on several occasions struggles they had with the exclusionary nature of their gardens and the exclusionary thoughts that appeared within themselves. Marie, who wanted to be an open and inclusive person, found that the garden brought out a

sense of ownership to her plot and produce that brought up feelings of selfishness that she did not enjoy. In this quote her struggle is evident:

It makes me look bad. But, because there are homeless people who sleep in the laneways and that, and they come and take your stuff out of your garden. You feel really terrible, being upset with them, or catching them at it, and yet these are hungry people and you're not dying... you're growing for your own selfishness in a funny sense. That makes you quite aware of the difference between growing and privilege. So, you are conscious of that... but if I was living in an apartment and I was growing something, it would be my passion for nature would be all within this tiny plot. In my sense it is the opposite of that, I feel guilty for being, growing things that I know people won't steal... and not being homeless. So, in a sense it makes me feel more selfish.

Marie ended up changing her garden habits to purposely grow produce that was less visible and therefore less likely to be taken by homeless people. She said that if you grow large tomatoes, it is 'free food' and it is not going to be there for yourself to pick. So, she changed her tomato plants to smaller tomatoes. Ultimately, Marie changed her garden to consist of "things that people won't take". This made her feel selfish. Additionally, it made her conscious of her own privilege in being able to grow food for enjoyment, not necessity. However, she continued to grow little tomatoes that hid underneath *her* tomato vines in *her* garden.

Lauren also spent a long time talking about the struggles of 'Others' entering their garden space. The garden in question did not have any locks or fences, and therefore it was open to people at all hours of the day. Further, the neighbourhood in which it was located was frequented by homeless people. Areas that were previously covered with grass had been substituted for large boulder rocks as to keep people from sleeping in *their* garden. Similarly, there used to be a circle of chairs for people to sit in at the garden, but these were also removed as "street people" would be "sitting there smoking", Lauren noted. As Lauren said to a person who was throwing stuff around in the garden: "What are you doing? This is not for *you* to destroy!" Because the garden meant so much to her and because she spent so much time "taking care of her rug", she got very emotional and annoyed when people did not appreciate the garden in the same way that she did.

The garden Marie and Lauren were involved with had taken smaller actions to limit ‘intruders’ into their space. In weighing the discriminatory tendencies against the “...considerable efforts of the gardeners and their desire to protect what they have worked so hard for” (Okvat and Zautra 2011, 383), exclusion had mostly won. Although the garden still did not have physical barriers, the garden continued to take measures to make the space as uninviting for ‘unwanted’ people who also called the neighbourhood ‘home’. Contrastingly, the garden also included the inhabitants of the housing project that it bordered. But, again, the participants interviewed also noted grievances with their participation. Both Lauren and Marie wanted the garden to encourage their participation more. However, Lauren talked begrudgingly about the time that one of these individuals decided to grow an evergreen in their plot. Causing the garden committee to have to pull it out of the ground. Similarly, Marie talked about a lady that planted a bunch of produce in the beginning of the spring, but never came back to take care of them. The plot overgrew and ended up being an ugly sight in the garden. This is in tune with the findings by Aptekar that there exist tensions around judgements of beauty, and in these conflicts, solutions often tend to reproduce societal hierarchies that “...privilege place-making of more affluent white urban residents” (Aptekar 2015, 223). Ultimately, the lady of the overgrown garden was asked to leave the garden, and the evergreen ripped from the ground. ‘Order’ restored.

Another garden was secluded, and I struggled to locate it even with a detailed description of where to walk. This was mentioned by many as a reason for joining this particular garden and something they really enjoyed. Thomas said: “I like how it is a little bit segregated. Not very many people know that there is a community garden [here], so it doesn’t really get interfered with by other humans”. Despite this, Alexander also expressed annoyance over perfectly ripe produce being gone by the time he came back to pick it. Monica agreed with this statement, she said: “I looked at other gardens around the city, but I didn’t like how exposed they were to people just walking by. A lot of theft, you know...” Further, Monica expressed the feelings of territoriality that came with the garden: “...I’ve been in this garden for ten years, I do feel somewhat territorial about.... I’ve been in the same [plot] now for about 8 years, so it’s like you start to own it”. Recently, there had been some

discussion of having to relocate the garden. The prospect of having to move the garden in the future made her and her fellow gardeners very upset. Her, and the other members of the board, had decided to not disclose this information to the other gardeners because of the potential emotional toll this would have on them. As she said: “We knew it would be traumatic, because everyone does connect to their box and their soil”. Monica went on to tell a story about a lady that had to sublet her garden for a growing season but refused to give up *her* plot. “...I said: ‘I think we have to put you on the list, and you get a plot when you get back’. And she said, ‘but will I get *my* plot?’ She was crying and says: ‘I don’t want to come back if I can’t have the plot I had before!’” The first garden had taken measures to ensure that this dynamic was avoided. Each year participants rotated which patch of dirt was considered ‘theirs’. That way, the ownership of the garden expanded to the whole area and the gardeners did not grow too attached to their individual plot.

Frank, who belonged to the third garden, also spoke of the need for the garden to be more inclusive. The garden was located within a residential neighbourhood, and Frank noted this is a benefit. However, he also noted that the garden should work on being more inclusive of all people in the neighbourhood. He said: “We have people in social housing in the neighbourhood, we have a new First Nations/Indigenous school which is close by here...I would love for the community garden to be a bit more inclusive of the *whole* community”. The quote alludes to the fact that the garden remained rather exclusionary to the wider community within which it existed. Similarly, John, who was a part of the same garden, talked about the garden participants as rather privileged people. He said: “Most of them, I think, pay 25\$ a year. That’s a third of what the city charges, and they still whine. ‘Why can’t it be free? Its public land’. You don’t get this do you, with your two BMWs out front?!” He described the gardeners as BMW owners who joined the garden when they started having kids as an alternative activity to get them involved in. Instead of “looking at the trains” they could grow some veggies, and “we can get the kids doing something”. Although the garden did not have any fences or locks, and in that sense, it was open for everyone. However, the way the participants described the dynamics of garden and the people involved, exhibited a different picture. This garden was open and inclusive for the people who had time, money, and patience to

continuously work at getting a plot. This also involves remaining in the area for the extensive amount of time it takes to get access to a plot. For many, with rising housing costs and ever-increasing rent, this is not possible (ACTO 2018). Thus, these community gardens in question are conforming to the history of community gardening in North America, and remaining largely white, middle-class (Tornaghi 2014).

For most of the people interviewed, even after a single growing season there was ownership established between the gardeners and their plot. They felt strongly about 'Others' coming in either taking produce they felt were theirs, sleeping in the community gardens that they felt ownership over, and especially disrespecting the community garden itself. Many people brought up the issue of theft without being prompted to do so, and felt very strongly about 'Others' stealing *their* tomatoes from *their* gardens. Similarly, it was the secluded nature of one of the gardens that the gardeners particularly enjoyed and the open nature of the other that invited a lot of grievances and difficulties. Although some participants, such as Frank, wished for the community garden to be more inclusive of the wider community, membership of these gardens remained largely white and middle-class. The present difficulty in getting access to a garden plot, coupled with an affordable housing crisis, may be one explanation of this tendency.

4.1.8 Conclusion

Gardeners frequently mentioned the therapeutic benefits and the individual feelings of reward and gratitude as the most important part of the community garden experience. They often described their plots, and the garden, as a sanctuary and an escape from their hectic, stressful, and demanding day-to-day lives. Mostly, reasoning for continuing to garden was related to the positive experience of being in the garden and working on their little plots. It calmed them and it made them 'feel good'; it was a 'zen space'. They could revert back to what they felt was a 'natural' part of being human: playing in the dirt and taking care of their little plants. This was also attached to further positive emotions of reward and confidence that the garden offered. Taking on the challenge of learning how to grow their own food left

many gardeners with a great sense of accomplishment. They gained great pride from their gardens through overcoming the challenges of, and gaining knowledge about, growing food. Also, pride in simply ‘owning’ such a beautiful garden plot in the city.

As previously described, gardeners often spoke about the unique feeling of ‘getting your hands dirty’. They spoke of the natural inclination of humans to play in the dirt and getting their hands dirty. In a sense, adhering to theories of ‘reconnection’ which posit that humans have an innate connection to nature. Therefore, the feeling of being with the dirt and ‘getting dirty’, felt both as a reverse to childhood and a feeling of letting go. This was further cemented in the gardener’s stories about the gardens and connecting it to their childhood and their families. Most gardeners spoke of their love of food, gardening, and/or nature as being connected to their past and their families. It was presented as a personal explanation as to why they found themselves with this city garden plot. It was described as a learned, but intrinsic and ‘natural’, part of themselves. A web of stories and positive experiences with garden, family, and food.

Although food was always apparent in-between the lines of these stories, surprisingly, food did not take on a leading role in these narratives of garden and ‘me’. As Alexander so eloquently said, “...it is right at the centre of it... and all of the other things are swirling around it”. Yet, not mentioned by gardeners until explicitly asked. Food remained as the stage on which all these stories were enacted, yet never took on a large role in any gardener’s narratives. Similarly, community was also seen as trivial. It may be rooted in the gardener’s busy lives, but only one gardener claimed community as the most important part of their experience. The gardens all had seasonal meetings for everyone to meet, mingle, and discuss issues in relation to the garden. However, most of the gardeners described the social, community aspect as a simple ‘hi’ when seeing each other at the garden. Some had made good friends, some enjoyed the casual chatter, and most enjoyed learning from each other about how to take care of their plants. Yet, community was not mentioned as important, nor essential. The calm, their plants,

and ‘playing in the dirt’: that was the garden experience. People and food were simply at the heart, the centre of it, yet invisible, superfluous, and supplementary.

Additionally, some challenges were identified by the gardeners. Firstly, it was mentioned by two gardeners that the ‘farming’ they were engaged in was a hobby. They were taking care of their ‘toy gardens’ as part of a city-people hankering for reverting to simpler tasks. As Molly and Monica both touched upon, conventional farming is very distant from the gardening they engage in. Secondly, exclusionary dynamics between the gardeners and ‘Outsiders’ were apparent. Gardeners were embarrassed when they reluctantly shared their thoughts around ownership and exclusion. When ‘intruders’ either took their produce or used the garden in ways they deemed not appropriate, participants felt both themselves and their plots had been disrespected. The second garden, which was open to the public, had taken measures to keep ‘order’. Further, the first garden, which was secluded, had been chosen by many participants exactly for that reason. They enjoyed the fact that its boundaries were obvious, its fences locked, and it was hard to locate. Territoriality, ‘ownership’, and a deep connection to their garden’s plots produced unique dynamics of exclusion and inclusion. In the third garden, the two participants interviewed spoke of the need for the garden to become more inclusive of the wider community.

The difficulty in getting a garden plot means there is a need for individual drive and patience. Firstly, to get on the waiting list and subsequently remaining eager for the year(s) it may take to get your own plot. Further, the time, money, and work involved in keeping the plot up to community gardens standards, means this is an opportunity that is not available for everyone. All the gardens involved in this research were some form of public-private or private-private partnerships. Although their mandates stated their inclusivity, there were no separate measures to ensure that people needing assistance got the help they needed. So, learning about how to garden, watering and weeding, and getting funds to purchase plants were all individual responsibilities. Ultimately, these community gardens were made up of *individual* plots. These characteristics all made the process of getting and keeping their garden plots easier for a certain type of individual.

4.2 The Impacts on Perceptions on Food and

Nature

When asked “What is your relationship to nature?” the garden participants took this inquiry in divergent directions. Most seemed to immediately define nature as something existing outside of the city. Rather than seeing nature as everywhere, nature was described as *wilderness* and a *destination*. A few, who had engaged with an intellectual process revolving around the differences in nature, who we are within it, and what nature really is, discussed the dynamics of what nature means.

4.2.1 Nature: Destination Wilderness

Christopher reminisced about his childhood experiences with what he saw as *nature* when asked about his relationship to it: “Well... the summers I spent up on Manitoulin Island... Which is probably *more* nature. You, [Marie], were around farmland mostly. Whereas this was bush”. For Christopher, his experience in what he characterized as bush and wilderness on Manitoulin Island was *more* nature than the farmland his wife had spent her childhood in. His wife also described her love for “...driving into the country...” to connect more with nature. Further, Marie herself brought up what she saw a distinction between real, wild nature and cultivated nature: “I mean, there’s a perception that nature is wild nature as opposed to cultivated nature... You know, *real nature* as opposed to cultivated nature”. Notably, neither Christopher nor Marie saw their garden plot as making them feel closer to nature.

Lauren also conveyed of nature as mostly existing outside of the city. When asked about her relationship to nature, she said: “I love going to friend’s cottages and stuff like that, I love being by the water. So, if I can get a ride...”. She saw nature as a destination only accessed by a vehicle. As she had stopped driving, she said that she did not experience nature as often as she would like to. However, she did describe herself engaging with nature in the city by putting her phone down, listening to the wind, and enjoying the greenery in the city when asked specifically about it. Lauren

also saw the garden as a way of interacting with nature in the city, as she described, she *had to*. Nature was such a big part of her that she had to find a way to connect – whether that meant planting herbs on her balcony, closing her eyes and feeling the wind on her face, or growing flowers in her garden plot – she found a way.

Karoline and Thomas had similar notions of nature. Thomas went on to say: “We bought our canoe the other year, or last year, because I am trying to get Karoline more into back country camping. So, we went one-time last year”. For him, nature was a car ride away, where he could enjoy the ‘back-country’ and the pristine wilderness (Cronon 1996). Karoline had a more open response, she said: “I like nature. Nature is a part of us. We try and respect it as much as we can living in the city. We don’t get a lot of it here. Concrete everywhere. So, I think having the garden brings us a little bit closer, or at least makes us feel closer to nature...”. Hesitant to fully describe the garden as *nature*, she did open up the possibility of *experiencing* nature in the garden and therefore also within the city.

Frank, who had engaged with these questions on an intellectual basis and thought that more should be done to further people’s education on the subject, had a lot of thoughts about nature. He said:

I have come to appreciate the need for us as a society to probably think more about the fact that we humans are a part of nature and not separate from it. We are not here to dominate nature or manage it. We talk about natural resources and things like that. Food is a big part of that, we are working with non-human nature to produce something that is satisfying our needs, so that we can actually survive, right? There’s so much of thinking of nature as separate, so I kind of find it funny when people think that they need to leave the city to experience nature.

In Frank’s opinion, the wooden table we sat at was *nature*. Everything around him is *nature*. But he distinguished the intellectual thought of having to push to see the table as nature, rather than the more free-flowing process of *feeling* nature in more organic subjects, such as trees or soil.

Monica also engaged in a line of thoughts and questions about nature. She had a difficulty defining nature but continued to make a distinction between the table we were sitting at as non-nature and nature that was ‘untouched’. When asked what nature was to her, she said:

How the world is if we don't interfere with it. It is sort of hard to nail down. I suppose that would be a whole discussion, the definition. Where nature starts and stops. Human beings tend to feel like we are working outside of it, but I think that no matter what nature is always in some ways hard at work. Doing its thing. I suppose we define nature as somewhat the world outside humans and our messing around with things... The natural food industry has always used the word nature to indicate something that is not so humanly designed, made or built. This is not nature (knocks on table)... I suppose most people will assume where it's not... where humans hadn't had much to do with it... So yeah, nature is a very hard term to define, but we are so far from it.

Monica had a hard time grappling with the very idea of what nature was but ended up distinguishing nature as something outside of human touch. In her opinion, despite humans and nature working together, they were still separate, and nature was ‘far from us’.

Christopher, Marie, Lauren and Thomas all seemed to define nature in line with Cronon (1996) and Church (2018) critiques of nature as pristine wilderness that exist separate from human touch and located a car-ride away. Despite their engagement with their gardens, *nature* was still distinct from the nature that existed within their gardens. Perpetuating the dualism that “...sees that tree in the garden as artificial – completely fallen and unnatural – and the tree in the wilderness as natural – completely pristine and wild” (Cronon 1996, 88). Karoline was able to see nature both outside and within the city. Nevertheless, she did not completely let go of the dualism, and did not fully accept the garden as nature. Rather, it was a small representation of nature allowing her to feel closer to the *real* nature, that she still saw as existing away from her home. Lauren had been forced to *feel* nature within the city as she no longer drove. Therefore, she had found a way to close her eyes and experience nature even within the city. Yet, *real* nature, as first described, was sitting on a dock somewhere a drive away.

Frank and Monica had a harder time grappling with the question itself, and therefore was more in tune with Cronon and Church's line of thought: to see nature as both out there and also in here (Cronon 1996, 89). Frank distinguished this intellectual argument from the feeling of being in nature: which he indeed could experience in the city as well, but it was more challenging with human-made pieces of nature. Monica, who engaged with the same ideas, arrived at a different conclusion. For her, nature was wild, without human touch, repeating the narrative of pristine wilderness. However, engagement with the garden made her realize the importance of seeing nature and humans as working together. Therefore, also limiting the power of the dualism she spoke of before.

Like Frank said, grappling with greater questions of 'what is nature?' and 'who am I in connection to nature?' is part of a different level of education and thought. Most people involved in community gardening may not wrestle with such questions.

...I assume that most people don't start working with, if you're involved in community gardening... you're probably going to be appreciating where your food comes from more, but I would assume that people aren't going to automatically going to make a switch and start thinking that they are part of nature more so than they used to be. That is a different kind of level of political education...

The dichotomy between human and nature, and the notion that as humans we "...stand 'above' and independent of nature, rather than 'within' and interdependent with it, has deep cultural and historical roots..." (Leiserowitz and Fernandez 2007, 62). In contrast with what Neves argues, that ecological, aesthetics experiences can contribute to learning about our place as humans *within* ecological processes: "...human selves become aware that their actions and existence are not separate from those of the non-humans with whom they engage and interact" (2009,150-151). These roots did not seem to be confronted by simply engaging with the earth in these urban community gardens. Rather, the gardens seemed to exist as small pockets of dirt that functioned as a temporary replacement for *real* nature that exist outside of the concrete jungle. It made them *feel good* and it gave them a sense of *connection* to the dirt. But, as Frank said, to have an impact on this long-standing

dichotomy between human and nature, one might require a level of political education that garden participation simply did not offer.

As Karoline alluded to though, although the dualism was continued in wording. Did participation in the gardens give them a sense of connection to nature? Was the garden seen as separate or intertwined with nature?

4.2.2 Garden and Nature: Separate or Together?

When asked if the garden made them feel closer to nature, the responses were highly mixed. Marie and Christopher did not see their garden as nature and did not feel closer to nature by being in the garden. John responded with a flat “no”. However, most of the other gardeners saw a connection between the two but described these in diverse ways.

Molly equated nature with the garden from the beginning. When asked about her relationship with nature, she explained that she was still learning. Learning *about* the plants *from* the plants.

I am learning from the actual plants themselves. Because, for instance, one think that it is obvious, but not necessarily to anyone who doesn't know it. One doesn't pick from the top of something... You pick from the bottom. And you take everything from the bottom... I think that once you tune in, it is very straightforward. I think that the answers are there, and I think that the plants are even giving you the answers by their own presence.

The community garden *was* nature for Molly. Therefore, the questions whether the garden made her feel closer to nature was a given. For her, “... the real world is about... things growing” and, therefore, the garden, nature, and her all occupied the same space: *the real world*.

For both Alexander and Monica, not only were the plants in the garden something that made them feel closer to nature, but also the other living things that were in the garden with them. When Monica was asked whether the garden made her feel closer to nature, she said: “Oh yeah! Definitely. Even to sit there and watch the bees

working, doing their work. To kind of understand how we are a part of something really big”. Alexander also connected the bees to the garden and wider nature:

Coming here has been tremendous to be connected with nature. I would say that it is probably more beneficial than the food in a strange way, because you show up and you know you're just surrounded by birds and bees and worms and snakes and coyotes. I wouldn't have much exposure to that if I didn't have this garden.... [The garden] [a]bsolutely [makes me feel closer to nature]. Hundred percent. Especially with the beehives.

Both Monica and Alexander connected the garden to nature, and not only plants, but also the other living things that surrounded them while being in the garden.

Frank, who previously had taken a very pragmatic and analytical approach to the definition of nature, seemed to find some variation between the analytical version of experiencing nature and the embodied experience.

It is nice because it is different to actually, the trope of having your hands in the soil and working with tomato plants. There are things that you are experiencing there that are different, right? The smell of the tomato plants as you are working with them, breaking off the extra little suckers that grow on them and things like that, I love that stuff. It is not like I think about my house as being outside nature. But even for me, there is a divide, this is more of like a produced nature. Sitting at a table or at a computer. It is really nice to work the soil and plant seeds.

Even though academically, Frank was in tune with the idea that there was no separation between him and nature, and no separation between ‘created’ nature and ‘organic’ nature, he still found it to be a different experience to sit at his table at home and to be in the garden. The embodied experience, involving an active mind *and* body, engaging with his tomato plants made him *feel* nature in a particular way (Martin, Clift and Christie 2016, 11).

Molly, Alexander, Monica, Thomas and Karoline all felt closer to nature by being in the garden. The plants, the bees, and the coyotes all made the garden a beautiful site to connect with nature. All these participants came from the same garden, which was located within a large green space and secluded from typical ‘city’

scenery. It resembled their ideas of ‘real’ nature. An important distinction was made by most participants. The embodied experience of *feeling* closer to nature in the garden was definitely there, for most though, this did not translate into seeing the garden *as* nature. Lauren, Thomas and Karoline felt closer to nature in some ways being in the garden. In keeping with their mental separation between their ideas of nature as *destination wilderness* however, neither of them alluded to this connection before being encouraged to. The garden made them *feel* closer to nature, but it *was not* nature.

4.2.3 Conclusion

Most gardeners perceived nature in line with Cronon’s (1996) and Church’s (2018) terms of nature as ‘pristine wilderness’ and a destination. In line with how nature has been presented throughout history, participants described their relationship to nature in form of backcountry camping, driving to cottage-country, and being in ‘wild’ nature. The dichotomy between human and nature, city and wilderness remained intact despite garden participation. Frank, who had engaged with these questions in his PhD research, was the only one who questioned this. Even for him, however, the embodied feeling of being outside and interacting with organic subjects such as trees, soil, or his tomato plant was different than man-made nature such as a wooden table. To disrupt the nature-human dichotomy, further education and deeper questioning is needed.

The gardeners who were most closely in line with seeing nature as ‘destination wilderness’ also described not feeling closer to nature by being in the community garden. Further, the participants from the community garden that resembled ‘wild nature’ the most were more likely to feel closer to nature when in the garden. Additionally, it was not only the plants that were a part of this nature, but also other living things such as bees, coyotes, and worms. Importantly, all gardeners, no matter how much the garden made them *feel* closer to nature, there was a distinct separation between *real* nature and the garden. The garden was mimicked nature: an ‘escape’ and ‘sanctuary’ within the city. *Real* nature was still located a drive away.

4.3 Waste

Aschemann-Witzel state that, across the board, people are united in perceiving food waste as unethical (2016, 409). In line with this, 85% of respondents in the online survey said that wasting food is fairly negative or extremely negative (2016, 409). Both the survey and the interviews seemed to reiterate Ganglbauer, Fitzpatrick, and Comber’s assertion that food waste is not the result of a simple path, “...nor is it something taken lightly or planned for by the participants” (2013, 18). Rather, it is a result of a complex interaction between habits, motivation, behaviour, and emotion that results in food being discarded.

Interestingly, there were no large discrepancies between gardeners and non-gardeners in the survey in relation to self-reported levels of food waste (*Figure 3*). No one reported wasting quite a lot of food, and no one did so light-heartedly. Most reported to have a “small amount” or “hardly any” food waste (*Figure 3*).

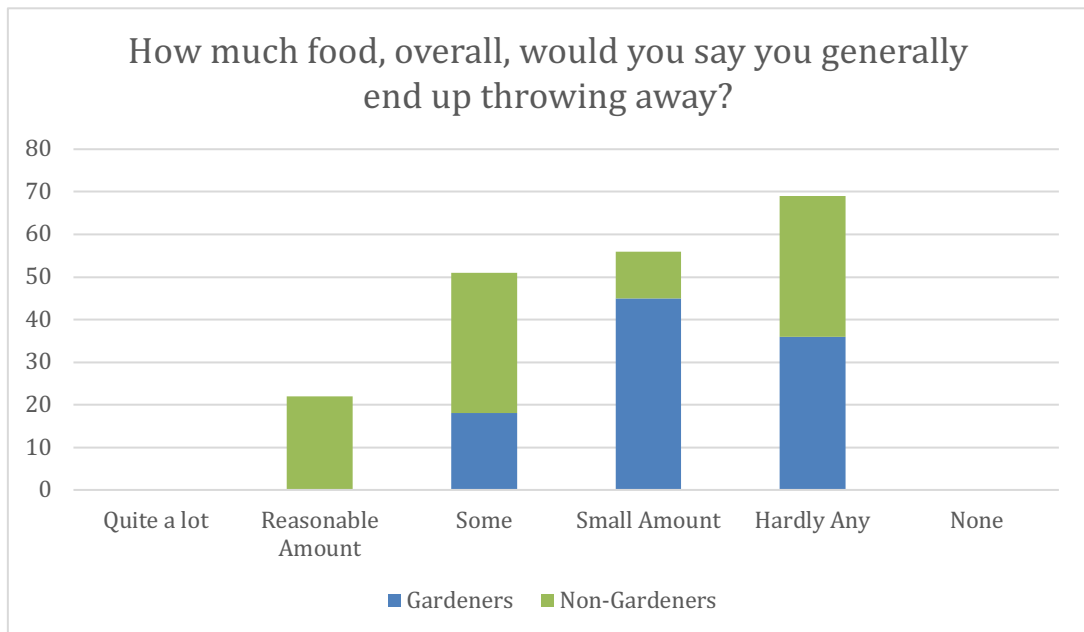


Figure 3 Graph of self-reported food waste

Therefore, in contrast to what Parizeau, Massow and Martin (2015) found, all gardeners did not transfer their greater consciousness around food and eating habits attained from gardening to their waste habits. However, in line with Ganglbauer, Fitzpatrick and Comber (2013) gardeners *did* think differently about the produce they had grown themselves, as this chapter will show.

Gardeners had different experiences, motivations, emotions, and behaviours around waste. For some, the process of growing their own food had encouraged a new perspective on the value of the produce itself. Seeing the time, work, and resources that went into growing food was transferred to thinking more about the food they discarded. In particular, the food they had grown themselves. Others could not distinguish a difference based on gardening participation: between who they were before gardening and who they were at the time of the interview. They felt as if they always had a sensibility when it came to discarding food, and therefore continued to limit it as much as they could.

Further, a small group of people rejected their responsibility in regard to food waste issues. They felt like the question itself imposed a sense of guilt and responsibility that they did not feel was appropriate. Research has attempted to tackle this dilemma of individual burden: how much responsibility is individual and how much should be attributed to larger structures? The issue of motivating or stifling guilt will be further addressed in distinguishing between two groups of gardeners in section 4.4.

Finally, garden participation had for many people shifted their perspective on food waste. Rather than seeing organic waste as *waste*, it was reshaped into a resource. Most often in the form of compost for the garden. A couple of participants did argue that seeing the waste cycle itself, waste to compost, was an important part of this perspective. Marie noted that the issues with Toronto's green-bin system is that the waste disappears, and the cycle is not completed in the purview of the people. However, despite most people using the municipal green-bin system, the participation in growing food had decidedly had an impact on the visibility of the waste-cycle.

4.3.1 Work and Value

I mean, you go to the store and buy food and then you forget about it and you have to throw it out. That's annoying at home. But you're thinking 'oh, I'm throwing out 5\$'. You don't think the poor broccoli is yellow now, right? But,

*when it is your own garden, it's like your baby. It becomes more precious. If something gets eaten or disappears or just fails. There's more of a feeling about it. It it's in your fridge then it is kind of just your grocery bill, right? Its garbage... But [now], when I look at the broccoli at the bottom of my fridge and I go 'f***, another broccoli goes bad'. Because I know, because I garden now, that thing grew, and some guy picked it, and wow, how far did it travel so I could throw it out?*

In this quote, Alexander works through the change in perception that happened as he started gardening. As he has experienced growing his own broccoli, the broccoli at the bottom of the fridge takes on a longer trajectory and a deeper meaning than simply the trip from the grocery store to Alexander's fridge. The garden participation has filled in the blanks the precludes the first interaction with the broccoli. He says, "it becomes more precious" and the produce itself takes on more value that it previously had. Rather than its value reflected in a five-dollar bill, the broccoli now has value in and of itself. It has value because of the people who grew it, the person who picked it, the journey it travelled, and the resources that went into bringing that now yellow broccoli to the bottom of Alexander's fridge. Growing produce himself allowed Alexander to become aware of this often-invisible backstory.

Frank contributes to Alexander's thought process. As he says: "You don't want to throw something out that you spent a lot of work growing". So, you owe it to yourself to not waste the produce you worked so hard to grow. Further, Frank connects this to produce that he had received from farmers he had met and connected with:

...visiting farms [and] connecting with other farmers, and you bring home food that is from a farmer that you know. You know that their labour went into it, and that connection is even more, even closer than it normally is, even though you're not growing the food yourself. You're like 'oh, I don't want to waste Jennifer's carrots, let's make sure we use these before they get all slimy and gross'.

Respecting, and keeping in mind, the amount of work that went into the carrots by a farmer he connected with he worked hard to not waste them. Frank concluded this thought by saying: "...the more we break down those barriers between where our

food comes from and how it gets on our plates or in the grocery store and so on, the more we're going to be inclined to think about food waste and reduce our food waste". The more we make the food system visible and expose all the processes and steps connected to bringing produce to the grocery store, the more likely we are to reduce our food waste and think about it in a different way. Growing one's own produce can be a part of breaking down some of these barriers between us and the food we purchase, eat, and/or discard.

In line with this, the online survey results showed that in general, gardeners were more concerned with the greenhouse gases, energy, and water resources behind the food that would potentially be discarded. Correspondingly, in relation to limiting the amount of food discarded, the survey showed that gardeners cared more about the prospect of making a difference through their actions (*Figure 4*).

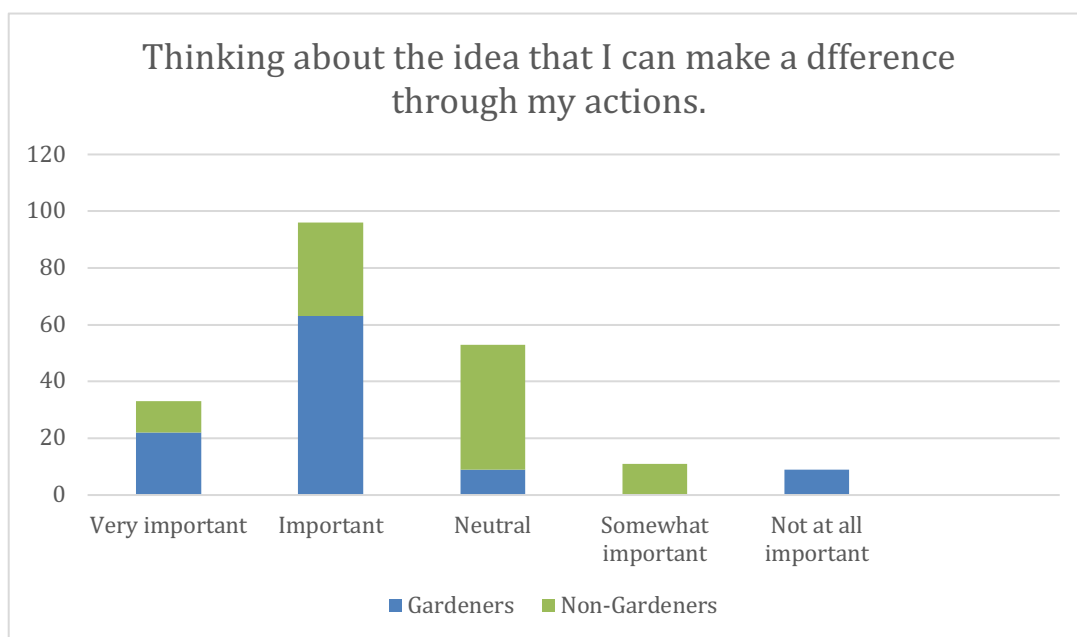


Figure 4 Graph of motivation to limit waste: "thinking about the idea that I can make a difference through my actions"

This is conforming to the research by Halling (1995) and McCarty and Schrum (2001) who postulate that "...people engage in environmental behaviour as a result of their desire to solve environmental problems, to become role models and a belief that they can help to preserve the environment" (cited in Gan et al. 2008, 93). As Buerke et al. found, "...consumers behave more responsibly when they are aware

of their behaviour's consequences... [while also] belie[ving] in their ability to contribute effectively to environmental or social problems" (Buerke et al. 2017, 979). Making the journey of the broccoli visible had an impact on some gardener's assessment of their food waste. Mostly the consequences: the resources, time, and effort that is being discarded simultaneously as the broccoli.

Monica's line of thought was similar to Alexander and Frank's statements. She said:

I am really aware that food is precious. Especially when you grow it yourself! All the work you put into it, all the weeding and everything. No, you're not wasting nothing! I've become aware, when I've grown something, and it sits where and goes bad I feel really sad because I put all that effort... I suppose on an individual basis; I would say that anybody who grows their own food is far more careful about its consumption.

Frank's academic background has inclined him to draw a connection between not only himself and his own produce, but between food itself and 'where it comes from'. For Monica, both her farming background and her continuation of this as an adult, had important implications for her perception of food waste. Food was *precious*, and therefore one did not waste it. She made sure that she was "incorporating what's ready to eat, use it, and force [her] family to eat it". She depicted her guilt and struggle in throwing out something that she had grown herself and tried her best to limit her food waste.

Finally, Karoline and Thomas had contrasting views on this topic. Karoline entertained the idea that the garden had made her more conscious and cautious, and it had encouraged thoughts around interactions with food in grocery stores.

I definitely think we are more cautious because of the garden. Or especially the food that we're growing. I don't like to waste that stuff... And I definitely think having the garden probably encourages those thoughts a bit more, because you go to the grocery store that is massive, and you know that you're growing your own strawberries and it is small and sweet and really red, whereas the ones from the grocery store aren't the same... So, I think the garden opens your eyes to what food should look like and what they are probably doing to make them look like that.

Growing food had shown her the contrast between the produce she grew and the produce in the grocery store, both in terms of taste and look. This had inspired her to be more suspicious of food she previously saw as normal. Further, she worked hard to not waste any of the produce that they grew themselves. Thomas, however, said that it had not changed for him as he had always tried not to waste food.

When asked about his thoughts around food waste, Thomas explained that in his view personal food waste was not an issue and that most people “do a good job not wasting food”, rather research should focus on the bigger, bad guys.

Corporate food waste. Now, personal food waste, all due respect, not a big deal. It is a small piece of the pie. I've read articles. The amount that corporations waste in food, because it costs too much to, say, deliver it to a home or a shelter or a soup kitchen, or people that want or need the produce. I've heard of horrible stories, like Loblaws, they have a whole bunch of produce left-over, but it is about to go bad, so they can't sell it, and they don't want to transfer it, so they just literally throw it out. And that happens every day. Grocery stores all over the place. That bothers me. I like to think people do a good job about, or at least the people that I know, do a good job with not wasting food, saving left-overs, using their green-bin.

Thomas did not want to discuss food waste. Rather, he wanted to talk about his positive, fun, and enjoyable garden experience. When questions about food waste and waste habits were brought up, Thomas began questioning what *he* understood as the underlying question of this research project. He was not the *problem* and he was doing the best he could, and simply being asked the question about his thoughts about food waste made him visibly agitated about the prospect that I postulated that he was somehow personally responsible. This reaction will be further discussed in grappling with the issue of individual burden.

Molly, Marie and Christopher had contrasting views about waste. Marie and Christopher, who had lived on a smaller budget their whole lives, their frugality had forced them to live almost without waste. Their habits of purchasing ‘dollar baskets’ of wonky vegetables and eating every part of the animal had been a part of their lifestyle choice. It was not a question of environmental habits or the value of

food, it was simply a matter of frugality. Molly genuinely asked me if people really wasted food and was even discouraged when she saw a few tomatoes rot on the vines in the garden. She explained that growing up in England she had been taught how to live on small amounts of food and continuously utilize every part of the produce she purchased. She continued these practices and did not see any other way to live. Molly, Marie and Christopher's thoughts about food waste reflects their backgrounds. Research has shown that people over 65 years old generally waste less food, and this is rooted in different attitudes about food and frugality (Schanes, Dobernig and Gözet 2017, 985). This was certainly the case in the food waste behaviours of Molly, Marie and Christopher.

For Alexander, Frank, Monica, and Karoline the garden had encouraged thoughts around the look, value, and journey of the produce they purchased in the grocery store. This was mostly ushered on by getting familiar with the time, effort, and work put into a single piece of produce. Thereby, seeing the consequences of discarding such produce. Ultimately, their experiences with growing their own had promoted thoughts of preservation, caution and consciousness in regard to food and food waste. For Molly, Marie and Christopher, who grew up in a different time, these thoughts of frugality, use, and waste had been previously imprinted on them.

4.3.2 Waste Cycle

We've gotten into the pattern now where it's like 'okay, the compost waste goes into the compost, the green-bin stuff is going to be napkins and everything else, but don't be wasting my future soil, right?! Because I am thinking about it in the terms that the fact that those coffee grounds and everything else is going to be [soil].

Gardening, and his academic work, made Frank not only think more about wasting less, but also about the value of organic waste. As he described in the quote above, the waste he and his partner produced was perceived as 'future soil'. In this sense, organic waste was never *waste*, it was simply one step away from being a resource and fertility for his garden. Thomas also agreed with this waste cycle, although he depended on the city green-bin system rather than composting himself.

That is the great thing about things that are sustainable, like produce, it is never wasteful. It just regenerates, it bio-degenerates, turns into soil, and then you can use that soil to grow something else. It just keeps going around and around and around... If it doesn't get eaten, it just gets ground down and we can use it for next year.

The garden itself was fertilized by rotten tomatoes that fell off the vine, or the produce that they could not eat was put in the green-bin and seen as future soil. When asked if seeing that circle of waste has had any impact on him, he responded that it had an effect on his happiness: "It makes me happier". Monica also described it in this way, rather happiness was phrased as 'not feeling so bad': "I am glad that we now have the ability to compost, so that the city takes the organics from our building. So, I don't feel so bad". Her guilt, exacerbated by problem narratives about wasting food, was mitigated by perceiving the green-bin as a step in the waste cycle, rather than an end destination.

Marie also talked about the waste cycle and the importance of the waste itself. Only she saw a distinguishable difference between composting yourself and discarding of the food in the green-bin. For her, seeing the full process and never losing sight of her 'waste' was an important part of really understanding the waste and the 'relationship' between the waste, compost, soil, and produce.

For everything you're growing and put into a pile, if manure or a pile of compost, so therefore every bit of it is important. The relationship between living in an apartment building and deciding which one of these buckets... People say: 'I don't know where it is going, I have no relationship to this'... You don't make a relationship between growing and waste and the necessity of recycling in order to make a better earth.

She even disagreed with the current practice in the garden, where the bags of leaves were taken away and compost was returned. She said: "It goes away, and it is not psychologically... it is not coming back to the earth in your garden that you're involved with". The waste cycle was not kept visible for the gardeners, and therefore, in Marie's opinion, lost some of its importance.

Marie's statement about the visibility/invisibility of the waste itself resonates with the argument made by De Coverly et al. (2008). Their argument is that the invisibility of waste, which is perpetuated by garbage removal, helps support consumption by reducing our interaction with our own waste (2008, 296). In this way, waste is not something we are confronted with in our everyday lives, thereby "...illustrating the power of this pervasive blindness" (2008, 297). De Coverly et al. research found that their informants saw "...the bin as a place where the life of their rubbish ends, while at the same time it is transported elsewhere, moving to an afterlife. To the informants... the bin operated as a gateway between visible consumption and the silent, invisible centralised waste mountain..." (2008, 301). Contrasting Evans, and others, argument to avoid blaming the consumer (2011). They argue that the attitude 'out of sight, out of mind' towards individual waste is precarious: "...it absolves us of personal responsibility, shifting blame onto a nebulous group of mythical 'bad guys'" (2008, 297). This was apparent in the ways in which some participants refused their own waste, but instead focused on the 'big, bad guys', such as grocery stores and large companies, as the 'real problem'. Marie enjoyed seeing the waste cycle itself. She continuously voiced her concern about garbage chutes in residential buildings where the waste was so easily and quickly disposed of, thereby maintaining a cycle of 'out of sight, out of mind'.

Frank, Marie and Thomas saw the 'waste' as a resource. This is consistent with findings by Ganglbauer, Fitzpatrick and Comber (2013), in which one garden participant described the impact that food growing had on her relationship to waste. She fed her leftovers to her animals, and therefore it was not 'waste', it was recycled naturally. For Frank, Marie, and Thomas organic waste was compost or soil in an earlier stage of the cycle. In this sense, organic waste from the garden and other produce wasted was transformed from a process of 'guilt' and 'waste', to 'happiness' and 'soil'. Monica also saw this waste cycle in terms of her green-bin practices, but rather than 'happiness' it lessened the 'bad feelings' associated with discarding organic waste. Marie emphasized the importance of seeing the waste cycle itself and was concerned with the invisibility of garbage and the garbage chute's role in maintaining this 'out of sight, out of mind' mentality. As Ganglbauer, Fitzpatrick and Comber writes: "...negative connotations associated

with ‘waste’ are not so much a function of not being eaten, but of what happens to it after not being eaten” (2013, 14). This is also consistent with the definition proposed by Bellemare et al., food should not be considered ‘wasted’ until it is rotting at the landfill, as long as it is in movement it should not be defined as food waste (2017).

Interestingly, the online survey also produced results that were in line with this notion of the ‘value of waste’. As seen in the graph below (*Figure 5*), when asked where they disposed of their food waste, major discrepancies between gardeners and non-gardeners were apparent.

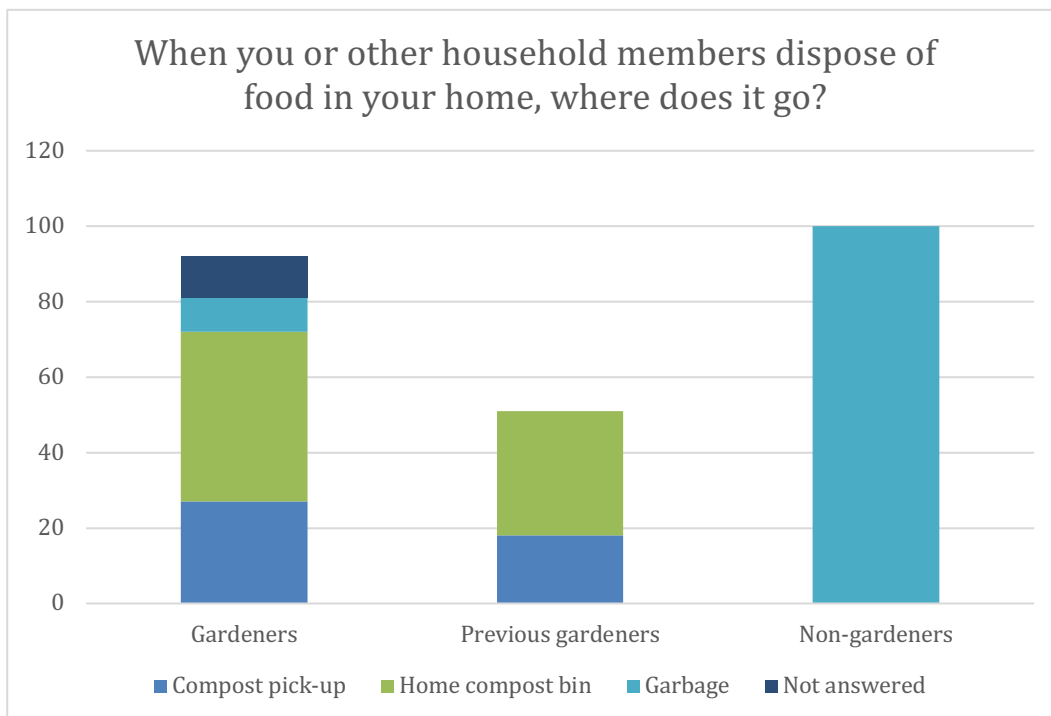


Figure 5 Graph of food disposal location

Out of the 9 non-gardeners, 3 had previously been involved in urban community gardening, hence the category “previous gardeners”. All these 3 reportedly disposed of their food waste in a home compost bin or a compost pick-up. The remaining 6 individuals, who had never been involved in community gardening, all disposed of their food waste in the garbage. Out of the 11 gardeners, 9 people responded either home compost bin or compost pick-up.

Of the other two, one person responded to the survey before this question was added and the last one reportedly disposed of their food waste in the garbage. This individual claimed to only have “animal bones/parts of animals not normally eaten” as food waste in their household. Although the sample for this survey is too small to reach any conclusions, results do correspond with the findings from the interviews. Gardening impacted most participants’ perceptions of waste. In the cycle of waste, organic food is not waste – it is simply on-route to becoming a future resource: soil and garden fertility.

4.3.3 The Individual vs. The Collective

Individual responsibility is a tricky tightrope to navigate: what responsibility do we bear as individuals? It is not this thesis’ intention, nor my own, to subjugate the individual with the responsibility for the issue of food waste. The perceived individual guilt and responsibility that corresponds with Thomas’ rejection of the question of food waste will be analysed here.

In attempting to encourage changes for a sustainable future, the individual is inevitably a part of the equation. Ultimately, in regard to food waste for example, it is the individual that discards the cucumber forgotten at the bottom of the fridge. Research has long focused on factors such as motivation, values, beliefs, and emotions, and other internal factors that may influence food waste behaviours (Rohm et al. 2014, 2; Aschemann-Witzel 2016, 409; Siegrist, Visscher and Hartmann 2015; Russel et al. 2017, 107). However, individuals are also navigating a web of cultural, systemic, and societal factors that impact behaviours. Therefore, as Tornaghi writes, to encourage positive steps in the right direction “...is not just a matter of individual’s will – it requires much more systemic education across the board, and particularly within the policy sector” (2014, 789). This was also the opinion voiced by Frank in his interview, he felt that although urban garden participation had contributed to him making more sustainable choices in relation to his food waste and other behaviours, his education and ontological switch had mostly come from his education. Therefore, he claimed that although individual

level action is important, to encourage change on a societal level a different level of education and political action is required.

Collective action in form of political action, government incentives, carbon pricing, and clean energy development is needed to deal with the environmental crisis (Leiserowitz and Fernandez 2007, 65). Therefore, focusing solely on individual environmental acts such as ‘green purchasing’, eating sustainably, lowering energy consumption, and turning down the thermostat is inherently problematic and might cause more harm than good (ibid). For Frank, responsibility and behaviour was both individual and collective. For Thomas, the questions of food waste and sustainable behaviour was irrelevant, as he saw collective action as the sole solution to these issues.

In relation to Thomas’s rejection of individual guilt and responsibility, the focus on individual level behaviour has been a potential pitfall for a great deal of research. As Parizeau, Massow, and Martin writes: “A research focus on the household unit and individual consumer behavior has the potential to devolve into ‘blaming the consumer’...” (2015, 210). Correspondingly, responsibility for affecting change is individualized (Evans 2011, 429). In such, campaigns that focus on individuals performing sustainable ‘food choices’ ignores the complex ways in which food consumption is enacting social identities and relations, emotions and motivations, and situated within a structural and societal context in which those individuals juggle their food ‘choices’ (Evans 2011, 430). Although food waste on the individual level is an authentic concern, as Evans writes: “...it is overly simplistic to blame consumers for these problems or individualize responsibilities for solving them” (2011, 437). Evans analysis, as many others, concluded with the statement that “...food waste arises as a consequence of households negotiating the contingencies of everyday life...” (ibid, 438). According to Parizeau, Massow, Martin (2015) and Evans (2011), and a myriad of other researchers, food waste behaviour is a result of a complex system of everyday negotiating, therefore one must be careful to individualize both the waste itself and its solutions. Frank reiterated this message:

That is part of the complexity of my relationship with food is that I don't only look at it as I have to make all these decision myself and I have to either be patting myself on the back just for consuming food responsibly or beating myself up if I order a pizza and I don't know where the cheese came from, right? I think that we need to have collective decisions made and collective feelings of responsibility....

Frank both grappled with what he *could* do, while also limiting his responsibility and guilt. In that way, he lived as sustainable as he felt was possible and focused on how he could be a part of more collective, organized instances pushing for change.

Molly also argued for an increased focus on the bigger picture. She also touched on the limiting or crippling effects that negative emotions, such as anger and guilt, can have on behaviour.

I think that it is easy to make people feel guilty and look at the situation in as far as their own personal lives are concerned. One should always look at how one is interacting of course. But there is a bigger picture. The bigger picture is hard to pick apart because there are so many invisible, to us, pieces. Invisible because, you know, it is set up to be that way, so we don't understand why it is how it is. Then we would be too angry and maybe we would do something. Until we are prepared to look deeply into this question, we won't have any of the answers. We'll just be glumly stomping along in pseudo-anger about our own handling of the situation and not all of it is actually individual... But I think people are too busy and too preoccupied to actually look at the root.

For Molly, individuals do bear some responsibility. But the responsibility, in her opinion, is mainly to organize so people have the strength and time to take down the bigger forces that are controlling the world we live in. Instead, in Molly's opinion, people are too preoccupied to deal with the invisible 'big, bad guys', who are the 'real' problem.

Parizeau, Massow and Martin (2015) and Evans (2011) are in line with social-practice theory, which allows research to step beyond individual psychological factors such as "attitudes, behavior, and choice" (Schanes, Dobernig, and Gözet 2017, 981). Reiterating Evans' argument, social-practice theorists "...acknowledge that the individual is embedded in wider social, economic, and cultural facets of

everyday life” (Schanes, Dobernig, and Gözet 2017, 981). Many of the efforts that surmount to a holistic and comprehensive approach to limiting food waste, such as packaging sizes and date labels, are outside the scope of individual action (ibid, 989). Further, as previously noted, a large sense of guilt attached to food waste may actually have a reverse effect and contribute to more waste. For Thomas, food waste was not an individual responsibility and he instantaneously rejected the responsibility that he saw imbued in the question itself. The question itself triggered a response, which may simply stem from a rejection of continued individual responsibility perpetuated in public narratives and waste campaigns in the past.

This research project is focused on how gardening may impact a positive connection between human and nature, and the potential for spillover effects to limiting food waste on the individual level. However, it is important to stress that the individual does not bear the brunt of the responsibility for food waste itself. Reiterating previous research: food waste is a complex issue that requires a holistic response. Nevertheless, the scope of this research only allows for an individual focus on waste behaviours. Further, the aim of this research is to offer some insight into the holistic, broad-encompassing changes needed for the “large-scale dietary changes on the consumption side” (Benis and Ferrao 201, 784). Food waste is a part of this second research objective.

4.3.4 Conclusion

Both survey results and interviews reiterated the statement that people do not want to waste food. Yet, we do in large quantities. Participants had a unique perspective on produce and waste, which often derived mostly from their gardening experience. Predominantly, gardeners had gained a deeper appreciation for the work that goes into producing and growing food. Learning about the time, effort, work, and resources that it took to grow their own produce was transferred to the produce in the grocery store. Therefore, making visible the journey that preludes buying and eating the produce. This also impacted the value carried by the produce itself, as it now embodied the whole journey of the broccoli made visible to the gardeners.

Like the food they grew themselves, which was described by Alexander as “[his] baby”, other food also took on a new meaning. Similarly, gardening was a constant reminder of this, and encouraged caution and consciousness around food habits and behavior.

Interestingly, gardeners also depicted a change in their perception of waste. As growing their own food had filled in the blanks of the journey that precluded the broccoli ending up on the produce shelf. Similarly, the remaining life of the broccoli had also been informed by their experiences. The survey results showed that everyone involved in community gardening, or had previously been involved, either composted or used the municipal green-bin system. Organic waste was not simply waste, it could potentially be future soil and future food. Therefore, gardening had made visible and apparent the whole waste cycle. Waste to soil, soil to produce, produce to consumption, consumption to waste – and so on.

4.4 Guilt: Overwhelming or Rejection

To change behaviour, it is crucial to link cause and consequence (Mahadevan 2014, 552). In facilitating behavioural change, the consumers must be convinced that the behaviour in question will have an impact (ibid). When consumers are aware of the consequences of their behaviours and “...believe in their ability to contribute effectively to environmental or social problems” (ibid, 979), they generally tend to behave more responsibly. Hence, to motivate people to behave in a sustainable manner, one must ensure that the problem saliency is low: “...consumers need to be convinced that behavioural changes can have positive environmental effects” (Siegrist, Visscher, and Hartman 2015, 34). In other words, they must believe in their ability to impact change, as well as being attuned to the consequences of their actions. Two different groups were found to exhibit contrasting relations to food waste and individual behaviour.

To begin, the first group gave an account of their experience as a deliberate choice to “tend their own garden”. The guilt imposed by being attuned to the consequences of their actions, and the internalization of the ‘doomsday narrative’, ultimately led

to Lauren and Molly consciously focusing in on issues they felt like “they could do something about”. Food waste, or larger issues tied to the current food system, was not something they believed in their ability to change. They fit the analysis by Russel et al. (2017) and Parizeau, Massow and Martin (2015), which found that a considerable amount of guilt, coupled with a lack of motivation and ideas about what to do, ultimately led to no action. Thomas and Monica felt that the garden ultimately made them ‘feel better’ about these large, overwhelming issues. For Thomas, he felt like he already did enough, and therefore argued that the garden did not have an impact on his behaviour. He rejected both the narrative of individual responsibility and the guilt attached. Monica’s interaction with food waste exhibited an overlap between the two groups. She carried a large sense of guilt, but the garden encouraged a positive grappling with this guilt, which ultimately led to action.

Lastly, the larger second group, acknowledged that gardening had influenced positive change. Except for Monica and Matthew, guilt was never brought up as something these gardeners imposed on themselves. Notably, the guilt took the form of ‘hurt’ or ‘sadness’, which informed their waste behaviour. Because of the lack of guilt apparent in these narratives, the results cannot attest to a motivational aspect of guilt. Rather, guilt was consciously or unconsciously pushed out of these stories of garden, food, and ‘me’. For the second group, participation in a community garden had encouraged *positive* interactions with food and the ‘nature’ of their garden plots, which had led to a breaking down of some barriers. Mostly in relation to continued reflection, questioning, and thinking about issues of food production more generally. Similarly, some gardeners mentioned that participation had impacted how they perceived food in general, which was also tied to a recognition of the value of food. Finally, garden participation had encouraged an interesting relationship to waste and the visibility of the waste-cycle: the *journey of the broccoli*.

4.4.1 Group One: “Tend Your Own Garden”

Research on food waste has addressed the issue of negative emotions. Russel et al. and Parizeau, Massow and Martin found that negative emotions ultimately stifled

the individual in a tension between a large sense of guilt and a general lack of ideas of what to do (2017, 112; 2015, 215). The easier option then, when confronted with such negative emotions and a lack of solutions, was to simply ignore and not think about it. Lauren and Molly were two people that fit this analysis.

Tend your own garden, in a way. That's what Oliver used to say when I would get so upset with the craziness that is going on right now. He would say, "you know what, head down, and tend your own garden". Don't be in denial of it, but the best thing is to live the best you can, for others and for yourself.

As soon as questions about the environment, waste, and food production were brought up, Lauren had difficulties responding in other ways than in a deeply emotional matter. On the other hand, talking about the garden was a story of a delightful symbiosis between her and the earth, creating something beautiful and how fortunate she was to have such a serene space in the middle of the city. When asked about her thoughts of the food system, Lauren talked about her necessity of censoring and focusing on her own little world.

Basically, in some ways I have to censor. There's some way I have to filter or censor out. Even what we are eating and how it is being done and how animals are treated. I am very aware of it, but if I let myself get too upset about it, because I think it is so much bigger than anything I can actually affect... I can't fathom it any more than I can fathom the number of stars... I can't quite handle to get too involved. I'll do what I can.

Lauren continued to talk about her knowledge and awareness of what was going on around her, which she saw in a very negative light. She talked about how she felt it was horrible that a climate change denier was the President of the United States, that climate change had come to an irreversible point, and that she was astounded every single day of the amount of plastic she produced alone. Simultaneously, almost to a default, she followed up such a statement with "I can't handle it" or "you have to survive". She did not allow herself to get too emotionally involved in issues that she saw no solution too and no potential impact of her actions. She remained focused on 'the little things':

As you're telling, I am not allowing myself to get too anxious about it. I am more pissed off about the neighbours that are letting their dogs pee on the grass than I am... I am taking it small. Mostly that is because I can't handle it.

Lauren chose to keep her garden as her sanctuary and a place where she could visit and take care of the 'nature' that she loved so much. In contrast, questions of food waste, recycling, and food systems were too large and too imbued with negative emotions for her to 'deal with'. She compared it to being part of a war and knowing that something horrible is going to happen, whether it be a bomb dropping on your house or a loved one going to jail, you have to continue to survive. That was what Lauren was doing, she was surviving and "tending her garden".

Similarly, when Molly was asked about what her thoughts were around food waste, she responded by saying that she did not focus on it. The question and the issue itself made her angry. The amount of stupidity involved in wasting food itself, she said, resulted in her ignoring the topic altogether. However, she did what she could, and Molly was one of the people who claimed to waste close to nothing. When asked about food waste in general, on the other hand, Molly read this as thoughts about food waste on a general level. Therefore, she said that "food waste is just too large of a topic to even respond to". Rather, Molly chose to focus on things that she could do something about: "I have to focus on what I can deal with, and not what I can't deal with. Where I can implement some change... I don't focus on anything that I don't attempt to do something about". Molly saw the garden as a space where she could engage with and do something for issues she saw as important and she felt she could *do something about*. She had a passion for teaching children about growing their own food and sharing the produce she grew. As she had just completed her first growing season, she was disappointed that she could not feed more people. Similarly, she was also disappointed by the waste she saw in the garden and the lack of motivation to share produce with others who were not as fortunate.

To change behaviour, it is crucial to link cause and consequence (Mahadevan 2014, 552). In facilitating behavioural change, the consumers must be convinced that the

behaviour in question will have an impact (ibid). For Lauren and Molly, they could not see how their behaviours could have an impact on issues such as climate change or food waste, and thus did not take the time to either think about it or address their behaviours.

Molly remained focused on her garden and the issues that she felt she could do something about. She did not waste her time on larger issues steeped with stupidity that she had no power over. Joining the garden with a partner, she had become surprised by the lack of sharing of produce in the garden and was expecting a larger focus on food security. But remained focused on being able to learn more about gardening and thereby feed more people, which was her goal to begin with. Lauren tended her own garden, as surmounting negative emotions around larger issues left her paralyzed. She focused on her garden as an earth-sanctuary and her little church in the middle of the city.

Thomas talked about the garden as being a part of a set of behaviours that made him feel more sustainable. Interestingly, he connected the garden to environmental behaviour that he deemed more sustainable. However, saw no change in his own behaviour and rather, this environmental behaviour was connected to making him feel good about being a sustainable person. He said:

...growing your own out of the garden means going one less trip to the grocery store and bag that food in plastic wrap and bring it home. Or, the gas consumption to transport that food from point A to your dinner plate is now eliminated... I think having a garden makes us feel good about not having a big impact on the environment.

The garden was a positive experience for Thomas, and his responses always came back to keeping the garden as that. Any connection to wider questions of food waste or behaviour was met with an insistent no. The garden made him *feel good*: waste did not. He felt like he *did good* and *did enough*: questions of change or a previous state of not doing this behaviour was dismissed.

Monica talked about getting overwhelmed with questions about the future of our food production, mounting waste, and growing concern of the environment. She talked about how the garden appeased the guilt associated with the worry and concern of how the world was going: “We feel like we are doing our little bit. In some small way”. In the same way that Lauren found it difficult to think about these things because of all the negative emotions that were attached to these questions, and the same way Molly talked about doing ‘little things’ to make oneself feel better, Monica reiterated this.

Not that I would ever want to go backwards, I kind of do appreciate my Netflix on my big screen tv, but it is hard... I find it very difficult to be aware of how we got ourselves to this very destructive spot. So, I suppose in some ways, the guilt is appeased by having a little garden.... There are ways that we can do, in small ways, which I think is very meaningful.

Lauren, Molly, and Monica all approached the garden from very different perspectives. Lauren joined a small garden when she moved into a condo because, as she described it, working with nature was a part of her being. She grew flowers that she depicted as a collage and carpet of beauty. Connecting to the earth, “playing in the dirt”, and planting flowers that reminded her of her mother and her childhood were the main reasons why she both joined and stayed so long in the community garden. She loved food but did not grow it, as going to the grocery store was easier. She cared deeply about the earth and the environment, but did not engage with issues of climate change, food waste, or questions of the food system. She was herself as being aware but could not bear to get too involved. Instead, she remained in a state of “tending her own garden”; as the tension between the negative emotions and the lack of solution and viable action was too big.

Molly had just completed her first growing season in the community garden that she had joined with her friend. Her motivation for joining was her political affiliations and strong opinions of the need for countries to be self-sustainable and children to connect with food growing. She wanted to grow enough to be able to share the produce and wanted to use the garden as an opportunity to feed people who were struggling. It seemed like there was a stark contrast between popular narratives of

food sovereignty in relation to urban agriculture and the nature of the urban garden she joined. She had not been able to grow as much as she wanted. She was disappointed with the amount of waste that occurred at the garden, and also the lack of enthusiasm around sharing the produce with others. Molly enjoyed discussing the politically themed questions about food production but did not see individuals as bearing responsibility of its current or future form. She rejected the guilt and negative emotions around these larger issues, and rather tried to focus on the little things she could do something about.

In Lauren and Molly's case, the problem focus adopted in relation to environmental issues and food waste had an effect in line with Obermiller's (1995) findings. The problem salience was too high:

...a problem focus is useful if the salience of a problem is low. If the problem salience is high, placing the emphasis on the accomplishments achieved or achievable by consumers may be more effective because it activates consumers who feel that they are actually in a position to change something (Buerke et al. 2017, 981).

When consumers are aware of the consequences of their behaviours and "...believe in their ability to contribute effectively to environmental or social problems" (ibid, 979), they generally tend to behave more responsibly. Hence, to motivate people to behave in a sustainable manner, one must ensure that the problem saliency is low: "consumers need to be convinced that behavioural changes can have positive environmental effects" (Siegrist, Visscher, and Hartman 2015, 34). This was not the case for Lauren and Molly; community gardening participation had not impacted this perception.

Monica, who had spent four years on a farm when she was a teenager, had continued to garden throughout her entire life. It was an innate part of her, she said. It was this love for gardening that had gotten her involved in the first place, and why she remained so active to this day. She talked about her romanticized perspective of agriculture, and that she just loved every aspect of it. In talking to her, her deep love for planting, spending time in the garden, and using the produce

grown became apparent. For Monica, in contrast to the other three, gardening had encouraged her to grapple with these larger questions, made her more aware of the produce she was growing, and its value and its importance. Rather, what her statement above shows, her negative emotions, her guilt, was appeased by gardening. It was a positive action that simultaneously encouraged her thoughts around food and food waste, while also encouraging further sustainable behaviours in other aspects of her life.

4.4.2 Group Two: Breaking Down Barriers

Most gardeners acknowledged that their gardening had influenced positive change. First off, this was mostly related to their participation encouraging thoughts and questions around food, agriculture, and food production. Further, some mentioned that garden participation had impacted the ways in which they perceived food in general. Moreover, it had also impacted the perceived value of food. Lastly, and most consistently, garden participation had encouraged interesting perceptions around waste.

Monica saw the importance of being involved in growing your own food, both for the control she was then allowed to have over the production of food for her own consumption and bringing about a connection. She said that "...so many, I think, of the big issues around food and providing food for people is that we are distanced from its production and we are distanced from the control over how food is grown". One of most important reason for garden participation was being able to control growing *good food*: "You control what you grow and how you grow it". She could pick out what types of produce she wanted to grow and grow it in an organic way for her own enjoyment. Moreover, limiting the distance between production and consumption through growing your own was important: "If you don't have no connection, you have no appreciation of the value and the importance of our food. How it is grown, how it gets to us....". An interest in food is important she said, and this interest and awareness of the value of food had grown since joining the garden. Another aspect that had been impacted, Monica said, was the political awareness. Gardening had encouraged her to raise questions and thoughts about food in general

and had encouraged some political action. As part of the board, she had encouraged inviting municipal politicians to yearly meetings and encouraged political action within the garden itself. Also, she said that being a part of the garden itself felt political: "...when you are working outside the box you are making a statement". For Monica, all three aspects had been brought up by gardening participation. A newfound awareness: an increased interest in questions and thoughts around food production, heightened perception of food value: more appreciation of value and importance of food in general, and lastly waste: food is precious and wasting it is hurtful.

In contrast to Lauren, Molly and Thomas, whose negative emotions in form of, or in relation to, guilt ultimately stifled behaviour changes. Monica and Matthew's negative emotions had alternate effects. Instead of internalizing a sense of personal guilt or rejection of guilt and responsibility, Matthew and Monica's negative emotion took the form of hurt and/or pain from seeing produce being discarded. It was personal, small, and something that was perceived as manageable. As previously mentioned, Monica described wasting as "hurtful" because of the value of the food. She said: "I am really aware that food is precious. Especially when you grow it yourself! All the work you put into it, all the weeding and everything, no, no you're not wasting nothing! It really hurts if you can't eat all those cucumbers". The pain attached to wasting the produce she had worked so hard for, made her in turn work hard to not waste it. Similarly, Matthew talked about the pain with seeing tomatoes on the ground going to waste and insisted that this definitely had an impact on his food waste behaviour. Rather than thinking about food systems, Matthew and Monica talked about their personal cucumbers and tomatoes; those they could actively limit the waste of.

Frank fully acknowledged that gardening, combined with his research on farming in Ontario, Canada had impacted his perception of food. He said: "...growing your own food is a great way to sort of understand a little bit more and breaking down some of those barriers between us and the food that we eat". Working with the soil, experimenting with different plants, and learning by doing in his garden plot, Frank

could acknowledge that all these activities were a part of breaking down *some* barriers that come along with the current food system.

Further, Frank said, in regard to garden participation, that: "...we start to prompt people into asking questions around these things". Christopher said in a similar manner that: "...being involved in it, you become aware of agriculture in a sense. The potentiality of that. You start asking why aren't there more of this and bigger plots... So yeah, it brings up all kinds of issues. You become aware of those things from being involved in it". Christopher and Marie had always been interested in gardening, and always been very conscious of their waste. Their choice to live as artist, they said, had come with the realization that they had to live a low consumption lifestyle. Being low-waste became an extension of that. Gardening participation, therefore, had not had an impact on food behaviour or waste behaviour. Rather, it had continuously encouraged awareness and thoughts about food production and agriculture more generally.

Alexander wanted everyone to get the experience of 'seeing gardening'. He said that not only gardening yourself, but just visiting a garden and *seeing* it "...makes you value food". Having no gardening experience before he joined the community garden, Alexander had a strong learning curve. He continued to grow easy and low maintenance plots, he said, but still saw an impact from garden participation. He said: "...I didn't understand gardening, so now food waste is on my mind. I feel like I've learned something, and I know other people have learned something".

Gardening had impacted how he valued food and had encouraged more thoughts and awareness around food waste. It had also made issues of food waste and food production a tangible, visible thing; it was something he could deal with in his garden. Through *learning* and *seeing*, Alexander also argued that this could be a valuable and impactful experience for others.

Karoline was open to the fact that garden participation had an impact on her thoughts. Firstly, gardening had opened up her eyes to the difference in what the produce looked like. She talked about the difference between the strawberries they had grown compared to the ones in the grocery store. This prompted thoughts and

questions about how these strawberries were produced. She said that “I think that having the garden probably encourages those thoughts a little bit more... I think the garden opens your eyes to what food should look like and what they are probably doing to make them look like that”. She had gotten more suspicious of how the food that she had previously seen as ‘normal’ had been produced. Secondly, although she said that she had always been encouraged not to waste food in her family, and therefore had always been low-waste, gardening participation had some impact: “I try not to waste food. That was always a big thing too. You have to finish what is on your plate... It is the same thing with the garden, you have to make the most of it, what we’re growing”. The overproduction of jalapenos one year had led her to freeze them all. She said, gardening “...does encourage those thoughts. Okay, we helped this grow, I don’t want it to go to waste. Let’s not be wasteful...” Similarly, as other gardeners, the knowledge of one’s own time and effort infused in that produce encouraged them to not waste this particular produce.

When Thomas insisted that “I’ve always tried not to waste food, so it hasn’t really changed much for me”. Karoline followed up by saying that even though their behaviour had always been there, the involvement of the garden continued to encourage specific thoughts of sustainability and low-waste. She said: “It is like a vehicle for those thoughts and for that mentality. It definitely helps and encourages the behaviours that everybody already has”. For Karoline then, the relation between the garden and ‘sustainable’ behaviour was not readily apparent. However, garden participation continued to keep her motivated to keep up her low-waste habits. Moreover, the garden had brought attention and awareness to food production and had encouraged her to raise important questions about how the produce in the grocery stores were grown.

The positive changes were varying in both degrees and nature. Monica saw an impact on her food waste behaviour, her political awareness and activism, and her perceptions of food value. Alexander said that gardening had a big impact on both how he valued food and encouraging behavioural change in relation to food waste. For Frank it was difficult to distinguish between the causation of his research or garden participation on positive changes. He did acknowledge, however, that

gardening had an impact. He also saw the potential of gardening to break down barriers between food and production, and also encourage questions around these issues. Similarly, Karoline also found it difficult to distinguish between cause and effect and said that gardening definitely had an impact on bringing about new concerns over food production and raising important questions about how the strawberries in the store ended up looking so different.

Firstly, gardeners opened their eyes to the ‘behind the scenes’ of food production, thereby placing a larger value on the food produced. This especially impacted the produce they grew themselves, and they all worked hard to not waste what they had invested so much time, money, and effort to grow. This further impacted the ways in which they thought about, questioned, and interacted with food in the grocery store. They formed meaningful food experiences through growing produce, and thus limiting the separation of the ‘natural’ processes of food production inherent in our current food system. Conforming to the statement by Haas then, they “[gained] a greater appreciation for where our food comes from” (2017, vii). Or at least suspicion.

Secondly, in line with Ganglbauer, Fitzpatrick, and Comber’s (2013) assertion, their relationship to what would previously have been deemed ‘waste’ changed. As Frank said, his gardening experience had encouraged a new perception of food waste. It was no longer simply ‘waste’, as it became a resource and future soil. Cities are often constructed in such a way that the natural processes that sustain us are rendered invisible (Church 2018, 878). For many, the garden functioned as an antidote to this. The garden was “...in contrast to other contexts where the physical engagement with food for the participants was from the supermarket shelf where it ‘just is’, to either being consumed as food or not consumed and put into the bin. What happens on either side of the shelf and the bin remained largely invisible and certainly not engaged with” (Ganglbauer, Fitzpatrick, and Comber 2013, 18). It promoted a continuous engagement with produce, from beginning to end, and thus also to the potential value of organic waste. The garden made the invisible visible.

Importantly, this group had a different relation to notions of guilt. Monica and Matthew did exhibit some strong negative emotions in relation to questions of waste, but this was presented as individual ‘hurt’ rather than a large sense of responsibility and guilt. Their hurt was in relation to their individual cucumber or tomato, not the conventional ‘doomsday’ narrative. The positive experiences in the garden limited the guilt and lowered the problem saliency. Others did not talk about guilt at all. Rather, when talking about changes in perception of food behaviour and waste, it was more an acknowledgement of the ways in which food growing had broken down some barriers. These gardeners exhibited a larger sense of control and awareness of the positive effects their behaviour may have, which in turn impacted their actions (Russel et al. 2017, 107). Both knowing the limits of their individual impact, but doing what they could. Although these findings cannot attest to a motivational aspect of guilt, it is apparent that for Monica and Matthew some relation to negative emotions had an impact on food waste behaviour. However, the more common theme in these narratives is of positive relations to growing food encouraging breaking down of *some* barriers between consumption and production: a suspicion of conventional agriculture and newfound relations to produce, its value and its journey.

5 Conclusion: Simply a ‘Feel-Good’ Activity?

In this thesis I have focused on examining the impacts of community gardening on participants. Moreover, the effects on perceptions of food, nature, and possible spill-over effects to food waste behaviours. Three themes, found in empirical data collected in interviews and an online survey, have been analysed: community gardening, reconnection to food and nature, and food waste.

Firstly, the research findings on the impacts of community gardening on participants point to some accuracy in Tornaghi (2014), Rosol (2010), and Pudup’s (2008) critical examinations of urban agriculture. In many ways, the interviews main storyline was of the ‘feel-good’ dimensions of community gardening. However, as McClintock dispute, despite these characteristics, community gardens may still be a part of a holistic solution to the complex challenges we are currently facing.

Secondly, most participants upheld the human-nature, urban-rural dualism and depicted ‘real nature’ as *destination wilderness* (Cronon 1996; Church 2018). Nonetheless, most gardeners did acknowledge a connection between the garden and *feeling* nature. This embodied experience of growing food in the garden did have some impact on perceptions. For most, it made visible the *journey of the broccoli*. Rather than seeing it only as appearing at the grocery store and ending its life through consumption or waste, the journey of the broccoli turned into a circle. Almost every gardener spoke of the value of the produce itself, whether this was based in seeing the whole journey of the produce to the shelf or the rewarding experience of picking something off the vine, or both, is ambiguous. However, this value was often presented in forms of smell, taste, or feeling.

Lastly, the visibility of the *journey of the broccoli* was not only isolated to the story of where it came from. Additionally, the remaining part of the waste cycle was also made visible to most gardeners through active participation in growing food. An

intriguing result from the survey showed that all gardeners, except one, engaged in some form of composting. Contrastingly, no non-gardeners composted. Despite this similarity, however, there were two main groups of thought in relation to impacts on food waste behaviours. First, the “tend your own garden” group and second, the group that acknowledged the “breaking down of some barriers”.

A ‘Feel-Good’ Activity

Toronto continues to struggle with issues of poverty, food insecurity, and increasing inequalities between newcomers and long-standing citizens (Statistics Canada 2017; City of Toronto 2018; Food Insecurity in Toronto 2017, 5; Tarasuk, Mitchell and Dachner 2016, 1). Although the city has continuously promoted solutions to tackle these concerns, they continue to persist. One of the methods promoted is the establishment of urban gardens. This research focused on three community gardens located within the city of Toronto. The participants were mostly white, comfortable financially, and none were recent immigrants to the city (*Table 2 Interview subjects*). In contrast to previous research on urban agriculture’s ability to tackle these issues, to the gardeners interviewed, participation was not about food sovereignty, food security, or community building.

In line with Tornaghi’s judgement of the AFM movement as involving a ‘moral’ or ‘feel-good’ dimension, such were the dynamics of the gardens examined in this study (Tornaghi 2014). For almost all gardeners in my study, gardening was not explicitly political. At best, the issue of food sovereignty and security occupied a limited space in the gardening participation of some gardeners. Echoing findings by Baker (2010), reasons were multifaceted and often not related to political or environmental issues. For the gardeners interviewed here it was a mixture between therapeutic benefits, an escape from the city, a rewarding hobby tied to nostalgic childhood memories, getting tasty food, and the ‘feel-good activity’ of getting one’s hands dirty. Reiterating Pudup’s argument, these gardens were “...communities of self-interest...” (2008, 1231) where individuals came together because of their interest in the cultivatable urban land. Most gardeners presented narratives in line with the benefits ironically presented by Pudup, such as “...[the] reali[zation of] a deeply felt human need for connection with the earth...” (2008, 1228). However, it

did not realize that same “deeply felt human need for connection with...other people” (ibid). The gardens were not spaces of community resilience building and community cohesion across racial, socio-economic, and cultural lines. Again, they were not spaces promoting food sovereignty or security. Rather, they were personal sanctuaries, a space of relief and peace, and mostly a fun, ‘feel-good’ hobby for the participants.

Further, the gardens were spaces that felt like an escape from the city for many participants. Narratives of personal contact with nature as a ‘self-help’ technique against the ‘struggles of modern day’ were reverberated by participants (Pudup 2008, 1228). What Pudup sees as a front for “...unexamined or unappreciated physical labor...” (1228) gardeners fully described, in line with what the titles of the garden suggested. For most of the participants, the garden did “...heal the spirit, expand the mind, mend the broken body, and realize the deeply felt human need for connection with the earth...” (ibid). Described as a self-help replacement for neoliberal restructuring by Rosol (2010) and Pudup (2008), gardeners described it as their therapeutic sanctuary, their rewarding and confidence building hobby, and a grounding escape from the tolls of day-to-day life. Whether the gardeners were simply conforming to popular narratives of self-improvement or not, they represented them proudly. The gardens in question were indeed spaces in line with critiques of community gardens as a “...feel-good activity for the bourgeoisie” (Mok et al. 2013, 38).

The common characteristics of the gardens examined cannot be generalizable to other community gardens. As the chameleon urban agriculture is, the stories examined in this research are a result of the distinct history, scale, nature, and participants involved (*Table 1 Community gardens studied*). The community gardens and the participants examined in this thesis have particular characteristics that indeed impacted the findings (*Table 1* and *Table 2*). Firstly, all the community gardens were public-private or private-private partnerships, which means that they were initiated with a particular mandate. Most of community gardens in Toronto are either completely operated by the municipality or by an institution. There has been research of Toronto community gardens that have contrasting findings to this thesis

(Baker 2004; Irvine, Johnson and Peters 1999; Wakefield et al. 2007). Notably, gardens and gardeners attesting to increased community cohesion and strength building, which were not found in this thesis. Similarly, all 11 interviewees and 18 of 20 online survey respondents identified as white. Of the 11 interviewees, almost all identified as “having enough and some to spare”. Also, they were all long-standing residents of Toronto. All these characteristics are in contrast to the general population of Toronto (City of Toronto 2019; Toronto 2017, 4; Tarasuk, Mitchell and Dachner 2016, 1). This definitely had important implications for findings on the impacts of gardening, nature, and waste. Additionally, it limits the generalizability of the results in this thesis to other community gardens in Toronto.

Human-Nature Reconnection?

As McClintock poses, however, can urban gardening still be a part of “...one of many means to an end...”? May community gardens like these, despite their individual ‘feel-good’ characteristic, still be a part of a holistic solution for a sustainable future?

Most people interviewed in this study thought of, and saw nature, in line with Cronon’s (1996) analysis of nature as ‘destination wilderness’. What the gardeners described as *real nature* was somehow located outside the city. The back country where they were planning on going canoeing, at the dock of some friend’s cottage, or untouched, wild forest. The dichotomy between human and nature was not questioned simply by engaging in gardening. Despite this, some interesting instances of connection were found.

Gardeners spoke of the valuable experience of ‘getting their hands dirty’ and the joy of growing their own food. They formed emotional and spatial connections to their garden plots. Further, a large percentage spoke of the invaluable experience of tasting a fresh tomato picked right off the vine. The garden was a strong contrast to the concrete, pavement, and traditional cityscape. Nearly all gardeners connected the garden to nature when asked. However, for most people, this is where the connection stopped: it was simply between them and the garden in question. But although the garden did not disrupt dichotomies or make them see the wooden table

in front of them as nature; it made them *feel* nature. The embodied experience of being in the garden, eating fresh tomatoes, and getting their hands dirty was a joyful, unique, and organic adventure. To encourage further reconciliation and reconnection, a deeper disruption of the ‘false’ dichotomy between urban and rural, city and country, human and nature is needed. As nature was already established as Other, outside of themselves and their cities, gardening did not have the capacity to change this deep seeded ‘*truth*’. Just as ‘the joy of getting one’s hands dirty’ was presented and remained as a fact statement, so did ‘nature as Other’ persist.

Food Waste

This embodied experience and *feeling* still had some spillover effects to how food was perceived. For most, it gave them an insight into all the work that goes into the production food. Making visible the *journey of the broccoli*, the produce in the grocery store also took on a new meaning and a longer storyline. It encouraged questions around how grocery store produce is grown as the differences in taste and look were so striking. However, for most, putting time, effort and love into growing the produce then translated into love and value of the produce itself. This was often presented in terms of smell, taste, or feeling: how much better their tomatoes and strawberries tasted.

To motivate people to behave in a sustainable manner, one must ensure that the problem saliency is low: “consumers need to be convinced that behavioural changes can have positive environmental effects” (Siegrist, Visscher, and Hartman 2015, 34). Additionally, consumers must be aware of the consequences their behaviour (Mahadevan 2014, 552). Gardeners were split in two groups in relation to their engagement with issues of food waste. The first group, who were caught in a double-bind of individual guilt and a lack of actions that could viably contribute to a solution, ultimately ended up “tending to their own gardens”. The second group, who did acknowledge some barriers broken down between themselves and the food system. Community gardening had encouraged thoughts, questions, awareness, and critique of the agricultural system in place. Further, it promoted a continuous engagement with produce, from beginning to end, and thus also to the potential value of organic waste. Completing the waste cycle.

An impending issue may be that:

...future generations of young people may lack the experience of gardening and a deeper understanding of our food system, ecological knowledge and a holistic appreciation of food and nutrition. This is especially crucial as many of the gardeners describe how they learned their gardening skills from relatives and many expressed that they continue to garden because of personal connections to memories and tradition (Hale et al. 2011, 1868).

Almost all gardeners interviewed connected their gardening experience with some introduction to gardening in their earlier years. Whether it was a fruit tree or healthy neighbours with a backyard garden, grandparents or parents, it all influenced them to seek out gardening later on in their lives. What then will become of a generation dislocated entirely from food growing?

This thesis has brought nuance to the polarizing narratives of UA. First off, the findings in this thesis point to further scepticism of the ‘saviour’ narrative of urban agriculture continuously promoted. Generalization of the particular experiences of these gardens and its participants is problematic. However, it corresponds with findings by Tornaghi (2014), Rosol (2010), and Pudup (2008) that some community gardens may simply be a ‘feel-good’ activity for the individual. Nonetheless, the complexities of issues apparent in the Anthropocene may require a wide range of approaches to sketch out a new narrative and new human-nature relations. In this regard, community gardens offer rare opportunities for urbanites to engage in embodied experiences with food growing and connection to nature. Yet, to fully seize the value of community gardens, exclusionary dynamics both within gardens, as well as between gardeners and people deemed ‘Other’ must be dealt with. Further, to utilize the benefits offered by interaction with food growing on food waste behaviours, individualized guilt must be lessened, broad encompassing education provided, and viable, sustainable actions must be promoted.

In searching for a new narrative in dealing with climate change in the Anthropocene, community gardening involvement may offer one way to interact with nature and food in a positive way. The minimal impact found in these garden participants’ experiences was a positive, individual relation to the earth by “getting

their hands dirty”. At its best, it was found to make apparent one’s intrinsic connection to nature and increased acknowledgement of the value of food. Also, encouragement to remain vigilant about issues related to the current food system and a questioning of the status quo. Further, limiting food waste and/or attention to composting through making the journey of the broccoli visible.

References

- ACTO (Advocacy Centre for Tenants Ontario). 2018. "Where Will We Live? Ontario's Affordable Rental Housing Crisis". Retrieved from https://www.acto.ca/production/wp-content/uploads/2018/05/WhereWillWeLive_May2018_ACTO_Report.pdf
- Albrecht, Cayla and John Smithers. 2017. "Reconnecting Through Local Food Initiatives? Purpose, Practice, and Conceptions of 'Value'". *Agricultural and Human Values* 35: 67-81.
- Alex, Lena and Anne Hammarström. 2007. "Shift in power during an interview situation: methodological reflections inspired by Foucault and Bourdieu". *Nursing Inquiry* 15 (2): 169-176.
- Aptekar, Sofya. 2015. "Visions of Public Space: Reproducing and Resisting Social Hierarchies in a Community Garden". *Sociological Forum* 30 (1): 209-227.
- Aschemann-Witzel, Jessica, Illona de Hooze and Anne Normann. 2016. "Consumer-Related Food Waste: Role of Food Marketing and Retailers and Potential for Action". *Journal of International Food & Agribusiness Marketing*. 28 (3): 271-286.
- Aschemann-Witzel, Jessica. 2016. "Waste Not, Want Not, Emit Less". *Science* 352 (62):408-409.
- Baker, Lauren. 2012. "GrowTO Urban Agriculture Action Plan Launched!". Toronto Food Policy Council. <http://tfpc.to/news/growto-action-plan>.
- Baker, Lauren. 2004. «Tending Cultural Landscapes and Food Citizenship in Toronto's Community Gardens». *Geographical Review* 94 (3): 305-325.
- Bellemare, Marc F. Metin Cakir, Hikaru Hanawa Peterson, Lindsey Novak and Jeta Rudi. 2017. "On the measurement of food waste". *American Journal of Agricultural Economics* 99 (5): 1148-1158.
- Bendt, Pim, Stephan Barthel and Johan Colding. 2013. "Civic greening and environmental learning in public-access community gardens in Berlin". *Landscape and Urban Planning* 109: 18-30.
- Benis, Khadija and Paulo Ferrao. 2016. "Potential Mitigation of the Environmental Impacts of Food Systems Through Urban and Peri-Urban Agriculture (UPA) – a life cycle assessment approach". *Journal of Cleaner Production* 140 (2017): 784-795.
- Bhatt, Vikram and Rune Kongshaug. 2005. *ELI Making the Edible Landscape: A*

- Study of Urban Agriculture in Montreal*. Minimum Cost Housing Group.
- Blay-Palmer, Alison. 2009. "The Canadian Pioneer: The Genesis of Urban Food Policy in Toronto" *International Planning Studies* 14 (4): 401-416.
- Brown, KH and A. Carter. 2003. "Urban Agriculture and Community Food Security in the United States: Farming from the City Center to the Urban Fringe". *Community Food Security Coalition, North American Urban Agriculture Committee*.
- Brown, KH and A. Jameton. 2000. "Public Health Implications of Urban Agriculture". *Journal of Public Health* 21: 20-39.
- Bryman, Alan. 2012. *Social Research Methods*. 4 ed. Oxford: Oxford University Press.
- Buerke, Anja, Tammo Straatmann, Nick Lin-Hi and Karsten Muller. 2017. "Consumer awareness and sustainability-focused value orientation as motivating factors of responsible consumer behavior". *Review of Managerial Science* 11 (4): 959-991.
- Cairns, Kate and Josee Johnston. 2018. "On (not) knowing where your food comes from: meat, mothering and ethical eating". *Agriculture and Human Values* 35: 569-580.
- Carlsson-Kanyama, Annika. 1998. "Climate Change and Dietary Choices – how can emissions of greenhouse gases from food consumption be reduced?" *Food Policy* 23 (3/4): 277-293.
- Church, Sarah P. 2018. "From Street Trees to Natural Areas: Retrofitting Cities for Human Connectedness to Nature". *Journal of Environmental Planning and Management* 61 (6): 878-903.
- Colding, J., and S. Barthel. 2013. "The Potential of 'Urban Green Commons' in the Resilience Building of Cities". *Ecological Economics* 86: 156-166.
- Coley, David, Michael Winter and Mark Howard. 2014. "National and International Food Distribution: Do Food Miles Really Matter?" In *Sustainable Food Processing*, edited by Birjesh K. Tiawri, Tomas Norton and Nicholas M. Holding, 497-520.
- Cooley, Corinne, and Isaac Emery. 2016. "Ecosystem Services from Urban Agriculture in the City of the Future". In *Sowing Seeds in the City*, edited by Sally Brown, Kristen McIvor, and Elizabeth Hodged Snyder. 1-24. New York: Springer.
- Corrigan, Michelle P. 2011. "Growing what you eat: Developing community gardens in Baltimore, Maryland". *Applied Geography* 31: 1232-1241.

- Cosgrove, Sean. 1994. "Une Histoire de Deux Villes: Comparing Canadian Community Gardening Programs in Montreal and Toronto". *Cities Feeding People Series report no. 11*. Toronto Food Policy Council.
- De Coverly, McDonagh, O'Malley and Patterson. 2008. "Hidden Mountain: The Social Avoidance of Waste" *Journal of Macromarketing* 28 (3): 289-303.
- Drake, Luke and Laura J. Lawson. 2015. "Results of a US and Canada community garden survey: shared challenges in garden management amid diverse geographical and organizational contexts". *Agriculture and Human Values* 32: 241-254.
- Draper, Carrier and Darcy Freedman. 2010. "Review and Analysis of the Benefits, Purposes and Motivations Associated with Community Gardening in the United States. *Journal of Community Practice* 18 (4): 458-492.
- Dowler, Elizabeth, Moya Kneafsey, Rosie Cox and Lewis Holoway. 2010. "'Doing Food Differently': Reconnecting Biological and Social Relationships Through Care for Food". *The Sociological Review* 57 (2): 200-221.
- Dubbeling, Marielle, Henk de Zeeuw and Rene van Veenhuizen. 2010. *Cities, Poverty and Food: Multi-Stakeholder Policy and Planning in Urban Agriculture*. Ottawa: RUAF Foundation.
- Edwards, Liz, Graham Dean, Louise Mullagh, and Gordon Blair. 2013. "Collective Spaces and Collected Action: Towards Reconnecting Food, Consumers and Nature". *Green Food Technology: Ubicomp Opportunities for Reducing the Environmental Impacts of Food*, Zurich Switzerland.
- Eppel, Sara, Veronica Sharp, and Lee Davis. 2013. "A Review of Defra's Approach to Building an Evidence Base for Influencing Sustainable Behavior". *Resources, Conservation & Recycling* 79: 30-42.
- Evans, David. 2011. "Blaming the consumer – once again: the social and material contexts of everyday food waste practices in some English households". *Critical Public Health* 21 (4): 429-440.
- Gan, Christopher, Han Yen Wee, Luzie Ozanne, and Tzu-Hui Kao. 2008. "Consumers' purchasing behavior towards green products in New Zealand". *Innovative Marketing* 4 (1): 93-102.
- Ganglbauer, Eva, Geraldine Fitzpatrick and Rob Comber. 2013. "Negotiating Food Waste: Using a Practical Lens to Inform Design". *ACM Transactions on Computer-Human Interaction* 20 (2), Article 11: 1-25.
- Godfray, H. Charles J., John R. Bedington, Ian R. Crute, Lawrence Haddad, David Lawrence, James F. Muir, Jules Pretty, Sherman Robinson, Sandy M. Thomas, and Camilly Toulmin. "Food Security: The Challenge of Feeding 9 Billion People". *Science* 327 (5967): 812-818.

- Goldstein, Benjamin, Michael Hauschild, John Fernandez and Morten Kirkved. 2016. "Testing the Environmental Performance of Urban Agriculture as a Food Supply in Northern Climates". *Journal of Cleaner Production* 135: 984-994.
- Guitart, Daniela, Catherine Pickering and Jason Byrne. 2012. "Past Results and Future Directions in Urban Community Gardens Research". *Urban Forestry & Urban Greening* 11: 364-373.
- Gustavsson, Jenny, Christel Cederberg, Ulf Sonesson, Robert van Otterdijk, and Alexandre Meybeck. 2011. "Global Food Losses and Food Waste: extent, causes and prevention". Study conducted for the International Congress "Save Food!" at Interpack 2011 Dusseldorf, Germany. *Food and Agriculture Organization of the United Nations (FAO)*.
- Haas, Tigran. 2017. "Preface". In *Rooftop Urban Agriculture*, edited by Francescho Orsni, Marielle Dubbeling, Henk de Zeeuw, and Giorgio Guanquinto, v-viii. Cham: Springer International Publishing.
- Hale, James, Corrine Knapp, Lisa Berdwell, Michael Nuchenau, Julie Marshall, Fahriya Sncar, and Jill S. Litt. 2011. "Connecting Food Environments and Health Through the Relational Nature of Aesthetics: Gaining insight through the community gardening experience". *Social Science and Medicine* 72 (11): 1853-1863.
- Hallsworth, Alan and Alfred Wong. 2013. "Urban Gardening: A Valuable Activity, But..." *Journal of Agriculture, Food Systems, and Community Development* 3 (2): 11-14.
- Hartig, Terry, Florian G. Kaiser, and Peter A. Bowler. 2001. "Psychological Restoration in Nature as a Positive Motivation for Ecological Behavior". *Environment and Behaviour* 33 (4): 590-607.
- Henderson, Bethany Rubin and Kimberly Hartsfield. 2009. "Is Getting into the Community Garden Business a Good Way to Engage Citizens in Local Government?" *National Civic Review* 12-17.
- HLPE. 2014. "Food losses and waste in the context of sustainable food systems". A report by the High Level Panel of Experts on Food Security and Nutrition of the Committee on World Food Security, Rome 2014. Accessed at <http://www.fao.org/3/a-i3901e.pdf>.
- Holland, L. 2004. "Diversity and Connections in Community Gardens: A Contribution to Local Sustainability. *Local Environment* 9:285-305.
- Holstein, van Ellen. 2017. "Relating to nature, food and community in community gardens". *The International Journal of Justice and Sustainability* 22 (10): 1159-1173.

- Irvine, Seana, Lorraine Johnson and Kim Peters. 1999. "Community Gardens and Sustainable Land Use Planning: A Case-Study of the Alex Wilson Community Garden". *The International Journal of Justice and Sustainability* 4 (1): 33-46.
- Ives, Christopher D., David J. Abson, Henrik von Wehrden, Christian Dorninger, Kathleen Klaniecki, and Joern Fischer. 2017. "Reconnecting with Nature for Sustainability". *Sustainability Science* 13: 1389-1397.
- Jäggi, Monika. 2013. "A Peek Over the Fence: Urban Agriculture as an Instrument of Social and Environmental Policy". In *Environmental Policy is Social Policy – Social Policy is Environmental Policy: Toward Sustainability Policy*, edited by Isidor Wallimann. New York: Springer.
- Jermé, Erika S. and Sarah Wakefield. 2013. "Growing a just garden: environmental justice and the development of a community garden policy for Hamilton, Ontario". *Planning Theory & Practice* 14 (3): 295-314.
- Kaufman, Jerry and Martin Bailkey. 2000. "Farming Inside Cities: Entrepreneurial Urban Agriculture in the United States". Lincoln Institute of Land Policy Working Paper. Retrieved from <http://www.urbantilth.org/wp-content/uploads/2008/10/farminginsidecities.pdf>.
- Kellert, S. R. 2008. "Biophilia". *Human Ecology*: 462-466.
- Kurtz, Hilda. 2001. "Differentiating multiple meanings of garden and community". *Urban Geography* 22 (7): 656-670.
- Leiserowitz, Anthony A. and Lisa O. Fernandez. 2007. "Toward a New Consciousness: Values to Sustain Human and Natural Communities". *Environment* 50 (5): 62- 69.
- Leopold, Aldo. 1949. *A Sand County almanac: And sketches here and there*. New York:Oxford University Press.
- Leshner, Charlie W. 2006. "Urban Agriculture: A Literature Review – Urban Agriculture: Differing Phenomana in Differing Regions of the World". United State Department of Agriculture, Alternative Farming Systems Information Center. Beltsville: National Agricultural Library.
- Liu, Pingyang, Paul Gilchrist, Becky Taylr and Neil Ravenscroft. 2016. "The Spaces and Times of Community Farming". *Agriculture and Human Values* 34: 363-375.
- MacRae, Rod, Eric Gallant, Sima Patel, Marc Michalak, Martin Bunch and Stephanie Schaffner. 2010. "Could Toronto Provide 10% of its Fresh

- Vegetable Requirements from Within its Own Boundaries? Matching Consumption Requirements with Growing Spaces”. *Journal of Agriculture, Food Systems and Community Development*, 1 (2): 105-127.
- Mahadevan, Kritika. 2014. “Sustainable Food Consumption”. In *Sustainable Food Processing*, edited by Brijesh K. Tiwari, Tomas Norton, and Nicholas M. Holden. Oxford: Wiley Blackwell.
- Maloney, Stephanie A. 2013. “Putting Paradise in a Parking Lot: Using Zoning to Promote Urban Agriculture”. *Notre Dame Law Review* 88 (5): 1-47.
- Martin, George, Roland Clift and Ian Christie. 2016. “Urban Cultivation and Its Contributions to Sustainability: Nibbles of Food but Oodles of Social Capital”. *Sustainability* 8 (409): 1-18.
- Mayer, Stephan F. and Cynthia McPherson Frantz. 2004. “The connectedness to nature scale: A measure of individuals’ feeling of community with nature”. *Journal of Environmental Psychology* 24: 508-515.
- McClintock, Nathan. 2014. “Radical, reformist, and garden-variety neoliberal: coming to terms with urban agriculture’s contradictions”. *The International Journal of Justice and Sustainability* 19 (2): 147-171.
- McClintock, Nathan. 2009. “Why Farm the City? Theorizing urban agriculture through a lens of metabolic rift” *Cambridge Journal of Regions, Economy and Society* 3: 191-207.
- Mok, Hoi Fei, Virginia G. Williamson, James R. Grove, Kristal Burry, S. Fiona Barker, and Andrew J. Hamilton. 2014. “Strawberry Fields Forever? Urban Agriculture in Developed Countries: A Review”. *Agronomy for Sustainable Development* 34 (1): 21-43.
- Mougeot, LJA. 2000. “Urban Agriculture: Definition, Presence, Potentials and Risks”. In *Growing Cities, Growing Food, Urban Agriculture on the Policy Agenda*, edited by N. Bakke, M. Dubbeling, S. Guengel, U. SAbel Koschella, and H. de Zeeuw. 1-42. Feldafing: Germany.
- Nasr, Joseph, Rod MacRae and James Kuhns. 2010. “Scaling up Urban Agriculture in Toronto: Building the Infrastructure”. *Metcalf Foundation*.
- Obermiller, Carl. 1995. “The baby is sick/the baby is well: a test of environmental communication appeals”. *Journal of Advertising* 34 (3): 55-70.
- Okvat, HA and AJ Zautra. 2011. “Community Gardening: A Parsimonious Path to Individual, Community, and Environmental Resilience”. *American Journal of Community Psychology* 47: 374-387.
- Neves, Katja. 2009. “Urban botanical gardens and the aesthetics of ecological

- learning: A theoretical discussion and preliminary insights from Montreal's botanical garden". *Anthropologica* 51: 145-157.
- Nisbet, Elisabeth K. and John M. Zelenski. 2011. "Underestimating Nearby Nature: Affective Forecasting Errors Obscure the Happy Path to Sustainability". *Psychological Science* 22 (9): 1101-1106.
- Pagliocchini, Kayla Bryanne Colbert. 2014. "Urban agriculture: Carving a Space for Agriculture in an Urbanized World" Master's Thesis, McGill University. Retrieved from http://digitool.library.mcgill.ca/webclient/StreamGate?folder_id=0&dvs=1554318478688~110.
- Parizeau, Kate, Mike von Massow and Ralph Martin. 2015. "Household-level dynamics of food waste production and related beliefs, attitudes, and behaviours in Guelph, Ontario". *Waste Management* 35: 207-217.
- Quested, T. E., E. Marsh, D. Stunell, and A. D. Parry. 2013. "Spaghetti Soup: The Complex World of Food Waste Behaviours". *Resources, Conservation and Recycling* 79: 43-51.
- Pudup, Mary Beth. 2007. "It Takes a Garden: Cultivating Citizen-Subjects in Organized Garden Projects". *Geoforum* 39: 1228-1240.
- Pyle, Robert Michael. 2003. "Nature matrix: reconnecting people and nature" *ORYX* 37 (2):206-214.
- Rappaport, J. 1981. "In Praise of Paradox: A Social Policy of Empowerment over Prevention". *American journal of Community Psychology* 9: 1-25.
- Rohm, H., M. Oostindjer, J. Aschemann-Witzel, C. Symmank, V. L. Almlil, IE de Hooge, A. Normann, and K. Karantininis. 2017. "Consumers in a Sustainable Food Supply Chain (COSUS): Understanding Consumer Behavior to Encourage Food Waste Reduction" *Foods* (6) 12: 1-21.
- Rosol, Marit. 2010. "Public Participation in Post-Fordist Urban Green Space Governance: The Case of Community Gardens in Berlin". *International Journal of Urban and Regional Research* 34: 548-563.
- Rossi, Jairus, James E. Allen IV, Timothy A. Woods, and Alison F. Davis. 2017. "CSA shareholder food lifestyle behaviors: a comparison across consumer groups". *Agriculture and Human Values* 34: 855-869.
- Russell, Sally V., C. Willian Young, Kerrie L. Unsworth, and Cheryl Robinson. 2017. "Bringing Habits and Emotions into Food Waste Behaviour". *Resources, Conservation & Recycling* 125: 107-114.
- Samways, Michael J. 2007. "Rescuing the extinction of experience". *Biodiversity and Conservation* 16 (7): 1995-1997.

Santo, Rachel, Anne Palmer and Brent Kim. 2016. "Vacant Lots to Vibrant Plots". *John Hopkins: Center for a Livable Future*.

Sanye-Mengual, Esther, Joan Rieradevall, and Juan Ignacio Montero. 2017. "Resource Efficiency and Waste Avoidance". In *Rooftop Urban Agriculture*, edited by Francescho Orsni, Marielle Dubbeling, Henk de Zeeuw, and Giorgio Guanquinto, 263-276. Cham: Springer International Publishing.

Schanes, Karin, Karin Dobernig, and Burcu Gözet. "Food waste matters – A systematic review of household food waste practices and their policy implications". *Journal of Cleaner Production* 182: 978-991.

Schram-Bijkerk, Dieneke, Piet Otte, Liesbet Dirven and Anton M. Breure. 2018. "Indicators to Support Healthy Urban Gardening in Urban Management". *Science of the Total Environment* 621:863-871.

Scheromm, Pascale. 2015. "Motivations and practices of gardeners in urban collective gardens: The case of Montpellier". *Urban Forestry and Urban Greening* 14: 735-742.

Schosler, Hanna, Joop de Boer, and Jan J. Boersema. 2013. "Fostering More Sustainable Food Choices: Can Self-Determination Theory Help?" *Food Quality and Preference* 35: 59-69.

Schultz, P. Wesley. 2001. "The Structure of Environmental Concern: Concern for Self, Other People, and the Biosphere". *Journal of Environmental Psychology* 21 (4): 327-339.

Shinew, Kiberly, D. Glover and Diana Parry. 2004. "Leisure Spaces as Potential Sites for Interracial Interaction: Community Gardens in a Segregated Urban Area". *Journal of Leisure Research* 36 (3): 336-355.

Siegrist, Michael, Vivianne H. M. Visscher, and Christina Hartmann. 2015. "Factors Influencing Changes in Sustainability Perception of Various Food Behaviors: Results of A Longitudinal Study". *Food Quality and Preference* 46: 33-39.

Slocum, Rachel. 2007. "Whiteness, Space and Alternative Food Practices". *Geoforum* 38: 520-533.

Specht, Kathrin, Kristin Reynolds, and Esther Sanye-Mengual. 2017. "Community and Social Justice Aspects of Rooftop Agriculture". In *Rooftop Urban Agriculture*, edited by Francescho Orsni, Marielle Dubbeling, Henk de Zeeuw, and Giorgio Guanquinto, 277-290. Cham: Springer International Publishing.

Spence, Gordon B. 2012. "Coaching and cross disciplinary collaboration: more

- complexity and chaos?” *International Coaching Psychology Review* 7 (1): 122-136.
- Stancu, Violeta, Pernille Haugaard and Lisa Lahteenmaki. 2015. “Determinants of consumer food waste behaviour: two routes to food waste”. *Appetite* 96: 7-17.
- Statistics Canada. “Annual Demographic Estimates: Subprovincial Areas, July 1, 2017. Section 1: Census Metropolitan Areas”. Last modified February 13, 2018. Accessed December 12th 2018
<https://www150.statcan.gc.ca/n1/pub/91-214-x/2018000/section01-eng.htm>.
- Tarasuk, Valeria, Andy Mitchell and Naomi Dachner. 2012. “Household Food Insecurity in Canada”. *PROOF Research to identify Policy Options to Reduce Food Insecurity* 1-30. <http://nutritionalsciences.lamp.utoronto.ca/>
- Tarrant, Seaton Patrick and Leslie Paul Thiele. 2017. «Enhancing and promoting interdisciplinarity in higher education». *Journal of Environmental Studies and Sciences* 7: 355-360.
- Teitel-Payne, Rhonda, James Kuhns and Joe Nasr. 2016. «Indicators for urban Agriculture in Toronto: A Scoping» Analysis. *Toronto Urban Growers*.
- Tobler, Christina, Vivianne H. M. Visschers and Michael Siegrist. 2011. «Eating Green. Consumers’ willingness to adopt ecological food consumption behaviors» *Appetite* 57: 674-682.
- Tornaghi, Chiara. 2017. “Urban Agriculture in the Food-Disability City: (Re)defining Urban Food Justice, Reimagining a Politics of Empowerment” *Antipode* 49 (3): 781-801.
- Tornaghi, Chiara. 2014. “Critical Geography of Urban Agriculture”. *Progress in Human Geography* 38 (4): 551-567.
- Toronto. Department of Public Health. 2001. “Toronto’s Food Charter”. Accessed at www.foodsecuritynews.com/presentations/Toronto_Food_Charter.pdf.
- Toronto. Medical Officer of Health. 2017. “Food Insecurity in Toronto”. Report for Action HL22.4. Accessed at <https://www.toronto.ca/wpcontent/uploads/2017/11/9112-tph-backgroundfile-107929.pdf>
- Toronto. 2007. “Climate Change, Clean Air and Sustainable Energy Action Plan: Moving from Framework to Action”. Staff report. Accessed at <https://www.toronto.ca/legdocs/mmis/2007/pe/bgrd/backgroundfile-4982.pdf>.
- Toronto. “Toronto at a Glance”. Last modified March 27th 2019. Accessed

April 1st 2019 <https://www.toronto.ca/city-government/data-research-maps/toronto-at-a-glance/>.

Toronto Urban Growers. (n.d.) Toronto Urban Growers. Accessed at <http://torontourbangrowers.org/>.

Turner, Bethaney. 2011. "Embodied connections: sustainability, food systems and community gardens". *The International Journal of Justice and Sustainability* 16 (6): 509-522.

UNFPA. 2007. "Unleashing the Potential of Urban Growth". Accessed at https://www.unfpa.org/sites/default/files/pub-pdf/695_filename_sowp2007_eng.pdf.

Van Veenhuizen, Rene. 2006. «Cities Farming for the Future: Urban Agriculture for Green and Productive Cities». *Ottawa: International Development and Research Centre*.

Vedeld, Paul O. 1994. "The environment and interdisciplinarity: Ecological and neoclassical economical approaches to the use of natural resources". *Ecological Economics* 10: 1-13.

Wakefield, Sarah, Fiona Yeudall, Carolin Taron, Jennifer Reynolds, and Ana Skinner. 2007. "Growing urban health: Community gardening in South-East Toronto". *Health Promotion International* 22 (2): 92-101.

Whittinghill, Leigh and Olyssa Starry. 2016. "Ecosystem Services from Urban Agriculture in the City of the Future". In *Sowing Seeds in the City*, edited by Sally Brown, Kristen McIvor, and Elizabeth Hodged Snyder. 325-338 . New York: Springer.

Wilhite, Harold, Hidetoshi Nakagami, Takashi Masuda, and Yukiko Yamaga. 1996. "A cross-cultural analysis of household energy use behaviour in Japan and Norway". *Energy Policy* 24 (9): 795-803.

Wilson, Alex. 1991. *The Culture of Nature: North American Landscape from Disney to the Exxon Valdez*. Toronto: Between the Lines.

Wilson, Edward O. 1984. *Biophilia*. Cambridge: Harvard University Press.

Appendix: Semi-Structured Interview Guide

Time:

Place:

Interviewee:

(Name, age, background, language)

INFORMATION ABOUT THE RESEARCH PROJECT AND CONSENT FORM.

Introduction questions

Tell me a little bit about yourself.

- Do you work or study, or other?
- Did you grow up in the city?
 - o Where did you grow up?
- How would you describe yourself?

Background of the community garden.

- Where are we? What is the history
- How is the garden organized?
- What is your role in the garden?
- Is there a set of value/belief system or common goals for the community garden?

What would a typical day/afternoon here at the community garden look like for you?

What does your garden look like?

- What do you grow?

How long have you been involved?

What was your motivation to join?

- What made you decide to join this particular one?
- What about it suited your needs or desires?
- What about it makes you 'stick around'?

Where did the interest in community gardening first begin?
What is your relationship with the other people in the garden?
How much time do you usually spend here?
What is the most important part of the community garden for you?

Food and Nature

When I say 'food', what first comes to mind?

What do you think about the current 'food system'?

- Based on previous answers and background for joining.

How would you describe the meaning of food to you in relation to the community garden?

- Is food an important part of how you perceive the community garden?

How would you describe your relationship with nature?

- When did this relationship start?
- Follow up questions.

Does being and working in the community garden make you feel closer to nature?

- Do you perceive or think of the garden as nature even though it is in an urban landscape?

Change

What has changed since joining the garden?

Has there been any unexpected effects from joining the garden?

- Any expected effects that did not happen?

(Since joining, have you noticed a change in your perception/emotions/value/beliefs around food and/or nature? If so, how? And what do you think spurred this change? If so, how would you describe your previous perception, etc. to food and/or nature?)

Food Waste

How do you deal with food waste/organic waste here at the garden?

What do you think about when hearing food waste?

(Any emotional reactions? Ethical considerations?)

Do you think the issue of food waste is important or not?

- If so, how and why?

In your home, how do you deal with food waste?

- How does the municipality deal with the food waste here? Do you think they do a good/bad job? Anything they could do differently?

Do you do anything actively to lessen/minimize your food waste?

- If so, what?
- Has this behavior changed throughout your life?

Change

Have you thought about food waste more/less/the same since joining the garden?

- Why do you think that is?

Has your perception of food waste in general changed since joining the garden?

Do you see/feel any connection between urban agriculture and food waste?

- If so, what?