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"I Grow Every Day, like Plants." An Evaluation of a Gardening Program for Women in a Residential Community Corrections Setting

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ABSTRACT

Therapeutic gardening in corrections is a positive and rehabilitative intervention, yet research on its effects on well-being is lagging. We present findings from a pilot gardening program in a residential community corrections facility for women based on analyses of data including anonymously written reflections of participants, interviews with community partners, and ethnographic observations of the program. Data demonstrate that along with acquiring technical skills, women reported mental and physical benefits, such as therapeutic and de-stressing effects for better mental health, increased exercise, and improved understanding of the role of nutritious food in overall health. We also identified interactional effects that aid in building team culture, promoting client-staff interaction, and developing positive relationships and stronger social skills among participating women. We argue that gardening provides low-cost programming that contributes to better health outcomes, empowerment and holds the potential to create a space of agency; centering women's voices while creating an additional source of nutritional food in correctional facilities.

KEYWORDS

Clinical sociology; community corrections; food insecurity; gardening; qualitative methods; women

INTRODUCTION

Therapeutic gardens have long been employed in penal settings, yet the relationship between the penal complex and the natural environment is intricate and challenging. Correctional institutions such as prisons, jails, and community corrections facilities in the U.S. are traditionally places of poor mental health (Bartlett & Hollins, 2018), environmental injustice (Fritz, 2022; White & Graham, 2015), and malnutrition (Camplin, 2017; Soble et al., 2020). Food in and around incarcerated settings can be a powerful tool for restoring health, cultivating self-esteem, and nurturing people's potential, particularly when utilizing gardens (Soble et al., 2020). This paper is based on a clinical sociological intervention that provided an educational gardening program to women housed in a community corrections facility in the U.S. Midwest. We approached this pilot study with a feminist grounded theory methodology. We sought to answer the research question, "How can an educational horticultural program in a community corrections setting benefit female clients?"

This pilot program evaluation aimed to explore the program's potential to enhance incarcerated women's mental and physical well-being and improve food access within the facility. We build upon literature centered on "green prison" programs that involve gardening, landscaping, and other nature-related work (National Institute of Corrections, 2011; White & Graham, 2015;

van der Linden, 2015; Toews et al., 2020; for most recent examples, see the recordings of the Conference on Social and Ecological Infrastructure for Recidivism Reduction, 2021) and on urban food justice projects addressing issues of food access for formerly incarcerated individuals (Sbicca, 2018). We extend the prison garden literature by focusing on an educational garden program for women in a residential community corrections setting.

Horticultural interventions such as gardening in incarcerated settings have been shown to improve mental health, physical health, and prison culture while providing nutritional food (Jiler, 2006; Lindemuth, 2007; Moeller et al., 2018).

Gardening has also been shown to reduce recidivism, offer valuable job and reentry skills, and aid in rehabilitation if connected to meaningful educational programming (van der Linden, 2015; White & Graham, 2015). However, little is known about gardening in community corrections, and even fewer studies address horticultural programs with the fastest-growing demographic behind bars: women. Given that gender is a powerful axis of inequality in society and incarcerated settings, exploring the potential and benefits of horticultural opportunities is essential.

Our intervention emerged from female residents' feedback entered in standard exit evaluations assessing the correctional programming assigned to them. In these anonymous survey instruments, used by the agency across all residential programs, women shared that they were most dissatisfied with the highest frequency the low quality of the food supplied by the facility, and the extensive "downtime" between treatment classes. We developed an educational gardening program involving community partners for these women and administered a formative qualitative evaluation of the new program. By applying a feminist criminological theoretical framework (Chesney-Lind, 2006, 2020; Kruttschnitt & Bittencourt Otto, 2021, McCorkel, 2013), we find that gardening provides correctional programming for women that contributes to better health outcomes and fosters female empowerment.^{1,2}

Our sociological intervention was an educational garden project. We want to clearly delineate from coercive and racialized labor practices in agriculture utilizing incarcerated individuals. The relationship between slavery and mass imprisonment has long been studied (Gilmore, 2000), revealing that both male and female Black prisoners had been forced to work on prison farms and other hard labor projects in the South (Lichtenstein, 1993). We embrace Snyder's (2017) differentiation of correctional agricultural industries, prison farms, and prison gardens. Snyder suggests that *correctional industries* exploit low-paid inmate labor to produce and sell food through farming operations or by contracting with private companies. Departments of Corrections on state-level may run larger scale *prison farms* to alleviate incarceration costs by supplementing foods in prisons or selling to other departments within the state or to local communities. Our research here focuses on *therapeutic gardening in a community corrections setting*. These are typically organized by individual facilities, utilize small tracts of land to grow food to be used within the facility or to be donated. These gardens often utilize outside volunteers and agencies, and

¹It is important to clarify some of the language and definitions we are using in this paper at the very start. You will notice that in this chapter we will not refer to our participants as "inmates" or "offenders." We choose to use person-first language, introduced by the disabilities rights movement, to avoid turning the conviction of a crime into an all-encompassing label. We do this in an effort to humanize language in the field of corrections research and to convey that we work with women who have been technically incarcerated, but have many social identities as well as numerous talents and skills. The term "women" in this paper describes all participants we worked with for this project that were residents of a community corrections facility which admits individuals based on the assigned and documented sex category of "female." We are aware that some of the participants' gender identity may be beyond the notion of "woman," yet other gender identities did not emerge as a theme during our data collection, even though we signaled discussion space for this topic in field interactions (e.g. by asking for preferred pronouns).

²No transgender resident was present in the facility during our fieldwork. Standard 115.42(c) of the Prison Rape Elimination Act (effective since 2012 in all correctional facilities in the U.S.) provides for the possibility to decide on transgender clients' housing on a case by case basis and allows for housing of a client assigned male at birth to be housed in a facility for females.

serve rehabilitative, educational, and therapeutic purposes while also contributing to food justice more generally.

LITERATURE REVIEW

We are approaching this work utilizing a feminist criminological theoretical framework that strives to center women's voices which are marginalized in criminology to this day (Chesney-Lind, 2020). We are building on feminist criminological work that has shown that women and girls have gendered pathways to crime (Brennan et al., 2012; Chesney-Lind, 1997; Covington & Bloom, 2007) and face gender biases and discrimination based on gender stereotypes within corrections (Chesney-Lind, 1997; Gaub & Holtfreter, 2015; McCorkel, 2013). Correctional environments usually are androcentric in design and lack gender-responsive programming (Barberet & Jackson, 2017; Covington & Bloom, 2007). It is crucial to center women's voices and develop programming specifically for women, especially given that women's incarceration has grown twice the rate of men's incarceration in recent decades. The female incarcerated population today is nine times higher than in 1980 (Sawyer, 2018).

The Intersection of Gender, Race, and Food in the Criminal Justice System

Research on gendered inequality has found that women are at increased risk of food insecurity during pregnancy (Testa & Jackson, 2020) and that food insecurity is highest in households with children (Cox & Wallace, 2016). The unpaid labor of women to provide food for their families and communities has long been recognized as characteristic of gendered inequality and a primary deterrent to food justice (Cadieux & Slocum, 2015). Burke et al. (2018) link individual and structural racism to food by examining the relationship between lifetime racial discrimination and food insecurity in a sample of food-insecure Black households. Their results indicate that for every 1-unit increase in the frequency of lifetime racial discrimination, there was a 5% increase in the odds of having very low food security. Phojanakong et al. (2019) add to this line of research, finding that the odds of household food insecurity are more than twofold for mothers of young children who experienced racial, sexual, and gender discrimination from police or in courts.

Currently, there are 1.3 million women in the criminal justice system, most of them under community supervision (Kajstura, 2019). At our research site, more than 30% of clients in community corrections are female. Criminal justice-involved women face economic marginalization and poverty and are often financially responsible for dependents (Rose & LeBel, 2017). The majority are mothers (80% mothers among women in U.S. jails according to Sawyer & Bertram, 2018; 60% mothers in federal prisons according to The Sentencing Project, 2020) and are frequently the primary caretakers of their children and families.

Women in the penal system often come from long histories of trauma and gendered pathways to incarceration (Brennan et al., 2012; Chesney-Lind, 1997; Umamaheswar, 2018). A "gender-responsive" treatment approach for women in corrections has been developed to address these issues (Covington & Bloom, 2007; Kruttschnitt et al., 2019; Wright et al., 2012); however, critiques of this approach have begun to emerge, arguing that it centers primarily on the histories of women's trauma and mental health problems, rendering immediate contexts such as of criminalized substance use, unemployment, and financial difficulties less critical. Pollack (2020) contends that these gender-responsive discourses have been co-opted by correctional policy and distract from the "racialized and colonial carceral spaces, and neoliberal strategies" (p. 345) that aim to control poor and marginalized communities.

Women's incarceration takes place in the context of structural gender inequality, class inequality, and systemic racial bias in the U.S. criminal justice system, leaving Black and brown women at higher risk to be caught in the "Revolving Door of the Criminal Justice System" (Kruttschnitt

& Bittencourt Otto, 2021). Accordingly, Black women in the U.S. are affected by the carceral state disproportionately (Richie, 2012), with the imprisonment rate for African American women being over 1.7 times higher (83 per 100,000) than for white women (48 per 100,000). Confirming existing structural gender, racial, and class inequality, women and Black respondents (Testa & Jackson, 2019) reported having the highest rates of food insecurity in a large sample of formerly incarcerated individuals (Testa & Jackson, 2019). Correctional settings can be labeled as “out-of-sight food deserts” (Soble et al., 2020, p. 15), substantiating ill-health among marginalized populations that already experience profound inequalities and food insecurity in their home communities.

The food in correctional settings impacts mental and physical health profoundly and negatively, not only for individuals who need special diets (e.g., diabetics) that are usually unattainable in incarcerated environments but for the entire incarcerated population (Soble et al., 2020). Soble et al. (2020, p. 17) use the term “food desert,” yet “food apartheid” is preferred by many food justice advocates. Food desert implies a more static notion of a “natural” phenomenon, while “food apartheid” centers the man-made nature of food injustice rooted in systemic racism. The term “food apartheid” was introduced by the community activist Karen Washington, who uses it as a lens that “looks at the whole food system, along with race, geography, faith, and economics” (Washington quoted in Brones, 2018). It opens the space for an analysis of the structural causes of inequality and the effect of a racialized system of mass incarceration in the U.S. that exacerbates barriers to education, employment, food, housing, and political participation of working-class and communities of color (Sbicca, 2018). As a mode of spatial and social control, the carceral system is also gendered. Therefore, food justice is crucial, as the Food Industrial Complex and Prison Industrial Complex act as interlocking systems of oppression for incarcerated women and their children (Watkins, 2017).

We must turn our attention to the needs of incarcerated women in ways that seek to empower them and holistically address their specific situations shaped by powerful patterns of gender inequality in larger society. A feminist research approach is needed that challenges dominant/androcentric knowledge and correctional regimes and places the lives and needs of women and other marginalized groups at the center of analyses. We need programming that centers women’s empowerment in ways that do not erase their voices or obfuscate structural inequalities in their treatment approaches. Particularly drug treatment in carceral settings has been shown to discursively insist on women fixing their allegedly damaged identities on an individual level (McCorkel, 2013). In this project, we have “heard” the voices of women who complained about the dire food situation within their carceral environment. As research practitioners, we sought to develop alternatives that would supplement the food supply within the facility and have the potential to help women navigate food insecurity post-incarceration. Focusing on food at the intersection of gender, race, and reentry is thus a vital opening on the path to social justice within criminal justice.

Benefits of Gardening in Incarcerated Settings

Since the 1990s, prisons around the United States have witnessed the growth of so-called green prison programs: also known as “eco-therapy for prisoners” (van der Linden, 2015). According to the National Institute of Corrections (2011), about one-third of prisons are already integrating green education and job training programs. Studies show that residents enjoy the new skills they are learning, increasing their work ethic, as well as their hope to gain meaningful employment upon release (Farrier et al., 2019; Moore et al., 2015, Christie et al., 2016).

Besides being an opportunity for job training and a valuable source of fresh fruit and vegetables, nature-based interventions and therapy are very effective in institutional mental health settings (Annerstedt & Währborg, 2011, Moeller et al., 2018, Grinde & Patil, 2009). A recent review of literature on the impact of gardens and gardening on health and well-being evaluated 77

studies and found positive impacts of gardening on over 35 validated health, well-being, and functional biometric outcome measures; concluding that gardening can improve the health and well-being encompassing a range of health and social needs (Howarth et al., 2020).

Gardening has been shown to substantially improve the mental health of incarcerated individuals (Lindemuth, 2007; van der Linden, 2015). For example, garden programs often promote feelings of purpose, self-efficacy, and self-worth among prisoners who feel less depressed, less aggressive, and more relaxed (Benham, 2014; Waitkus, 2004). In addition, randomized trials with inmates show that nature therapy was significantly better for improving psychosocial functioning, reducing risk-taking, and lowering criminalized substance use and depression (Rice et al., 1998; Richards & Kafami, 1999).

There is also evidence of the effectiveness of gardening for mental health from outside the United States. Farrier et al. (2019) evaluate the Greener on the Outside of Prisons (GOOP) project established in 2008 in the United Kingdom, which operates in 12 public sector prisons. Quantitative data reveal progress on the mental health indicators (i.e., people feeling more confident to manage their everyday lives, people experiencing increased opportunities for social interaction, participants reporting new skills or knowledge gained). Complementary narrative-based case studies elicited multiple layers of mental health and wellbeing—related to relationships, nature connectedness, preparation for employment, and personal development. As of 2019, GOOP has been “mainstreamed” and is now operational in all public sector prisons in the North West of England and Wales. Lee et al. (2021) observed positive changes in the prisoners’ health conditions measured before and after participating in a horticultural program in South Korea. Participants showed decreased depression and increased self-esteem, and life satisfaction.

Gardening provides access to healthy physical activity, which increases physical health and wellbeing. Mere access to views of the garden has been shown to reduce depression, anxiety, blood pressure, and even aggressive behavior (Wener, 2007). James Jiler (2006), who initiated and ran the most established prison garden program to date on Rikers Island, demonstrates that gardening has significant benefits for inmates of correctional facilities by assisting in channeling aggression: learning to address issues related to anger, trauma, criminalized substance use, and depression. Other studies reveal that gardening improves mood and mental health while significantly reducing stress (Christie et al., 2016; Jiler, 2006; Rice et al., 1998; Van Den Berg & Custers, 2011; van der Linden, 2015). Studies have also found that the ability to tend to the growing process and see results increase self-esteem (Aldridge & Sempik, 2005; Richards & Kafami, 1999; Sempik et al., 2014), as well as self-efficacy and feelings of success and hope through the learning of new skills (Ascencio, 2018).

Horticultural interventions have also been found to reduce the recidivism of their graduates. Self-published recidivism rates of graduates of green prison and community service programs are exceptionally low, ranging between 4% and 24% (e.g., Growing Gardens, 2018; Holmes & Waliczek, 2019); however, depending on the specific program and data are often from internal evaluations and not accessible. van der Linden (2015) analyzes data from the Green House and Green Time project in NYC and compared one year and 3-year conviction rates with the rates for N.Y. as a whole and finds significantly lower recidivism rates (he locates 1-year recidivism at – 8.92% compared to 23% for the general population; 3-year recidivism at 10.17% instead of 42% for NY and 45.20 percent for U.S. total). Benham (2014) finds that between 2004 and 2010, out of the 117 Insight Garden program participants in California, only 10% returned to prison within three years, compared to the average recidivism rate (64%) over the same time period.

Few studies address horticultural interventions with incarcerated women. Toews et al. (2018) evaluated a one-time nature-based intervention (planting party) with women incarcerated in a mental health unit. They reported being happier, calmer, and more peaceful after the intervention. In a different study, Toews et al. (2020, 2018) found a visitor garden in a women’s prison improved prison visits, provided a home-like visiting environment, and proved to be more

child-friendly, facilitating better affective experiences and better parent-child interactions. Lindemuth (2007) found the same effect for a children's garden at the Bedford Hills Correctional Facility for Women. Watkins (2017) emphasizes the meaning of food in women's prisons as a site of resistance and autonomy and a site of care for oneself and each other. Based on ten interviews with formerly incarcerated women in a nonprofit residential transitional facility, her data confirm that food in incarcerated settings is commodified and used as a punishment tool and a means to deprive inmates of power and agency. However, Watkins (2017) also describes how incarcerated women take agency back by harvesting wild greens and vegetables from the prison yard.

Incarcerated women form a community around cooking and food and create spaces of agency. Our project builds on this analysis as we strived to create an intentional community within and around a garden and food space for women that can foster women's resilience and agency beyond structural and institutional oppression. The current study addresses the paucity of research on incarcerated women and gardening. It is unique as it is set in a residential Community-Based Correctional Facility (CBCF) setting and is grounded in needs that the women of this facility have formulated.

METHODS

Our project is an exploratory evaluation of a pilot garden program in a CBCF for women using qualitative methods including ethnographic observations, two focus groups (one with housed women, one with all community partners and agency management, clients' written anonymous reflections, and in-depth interviews with community partners. We are guided by the open research question, "How can an educational horticultural program benefit female clients in a community correction setting?" Answering this question allows us to develop more effective programs to improve facility culture, mental health (Howarth et al., 2018; Moeller et al., 2018), and physical health (Jiler, 2006), as well as build positive relationships among clients (van der Linden, 2015). In addition, the program is designed with and for women to counteract male bias in the correctional system (Chesney-Lind, 2006, Chesney-Lind, 2020).

Research Site

The first author initiated and developed the pilot project as a comparative research site for a clinical, sociological prison garden in Alabama (Jauk & Everhardt, 2018). The research site is a CBCF for women in a city of 200,000 in the U.S. Midwest. The goal of the residential facility is to divert clients from prison, reduce recidivism, and facilitate the reentry of clients into the community. While "community corrections" is often used synonymously with probation and parole, a CBCF resembles a carceral setting. All-female clients are incarcerated full-time for the first 30 days of their sentence; they gradually receive access to the community through mandatory community service hours they are sentenced to, treatment classes, as well as recovery meetings.

The facility had an average of 215 intakes/year from 2015 to 2018, with a 76% completion rate. The length of stay depends on progress toward treatment goals and compliance in the program and averages approximately 4.5 months. The clients have a median age range of 26–35, and 40% do not have a high school degree. In terms of race, about 75% of clients identify as white, and about 12% identify as African American, according to facility records for the residents. The racial identity of the remaining 13% is undetermined. Within this general population, about 20% of women are enrolled in Medication Assisted Therapy addressing their opioid use disorder; a good quarter of these had a co-occurring amphetamine-type substance stimulant use disorder.

The significance of feminist clinical sociological praxis is that it privileges the epistemic vantage point of those who are incarcerated. In this tradition, the garden intervention emerged

directly as a response to women's needs: In her prior position as Research Specialist for the agency, the first author analyzed client exit evaluations and found two recurring themes: (1) women stated that they have too much downtime between treatment units, and (2) women consistently complained about food quality. Food was provided by the largest carceral food supplier for the entire agency, with a profit of \$1.6 billion annually from its correctional business in addition to revenue from servicing nursing homes, college campuses, and the entertainment industry (Worth Rises, 2020).

The Intervention: The Serenity in the Garden Program

The project was designed using a feminist clinical sociology framework (Fritz & Rheaume, 2014) to center women's experiences and build self-awareness, confidence, and trust (Mancini Billson & Disch, 1990). An educational garden program seemed to be an appropriate intervention to address the problem of downtime, improve nutritional awareness, and equip women with skills that can prove helpful in the reentry process.

In place of external funding, we utilized existing urban gardening structures through local community partners who helped set up the garden and donated resources, including instruction through guest lectures and consulting throughout the project. A garden of approximately 400 square feet was built in May 2019 by the team of *Sunflower Gardens* (name de-identified), who established a "lasagna garden" with donated materials. *Sunflower Gardens* is a volunteer-based local nonprofit food justice organization that creates and supports community gardens in neighborhoods that have been unfairly limited in accessing fresh food. .

A portion of the individual treatment plan for women in this CBCF are community service hours they serve in nonprofits outside the facility in later phases of their sentence. Community service is not labor-centered but life-centered and is used to aid the reentry process by helping build social capital, foster community support, and learn new life skills. At the facility, women are given a list of nonprofits (including *Sunflower Gardens*), to choose from to complete their community service requirements. Choices are based on employment goals and personal interests. *Sunflower Gardens* has accepted women community service volunteers from our research site since 2013 and was familiar with the correctional agency. Community service hours at *Sunflower Gardens* are spent learning valuable life skills including urban gardening techniques, greenhouse horticulture, and the canning process for preserving fresh fruits and vegetables at home.

We developed a horticultural curriculum in collaboration with the *local Extension Office of the U.S. Department of Agriculture* in three seasonal phases. It was delivered to clients weekly from May to November 2019. The spring pilot curriculum was 6-weeks in length, with classes held twice per week. Lesson topics included: lasagna gardening, seed starting, the benefits of gardening, botany, soil and composting, pollination, the life cycle of plants, growing vegetables and herbs, pests and other insects, harvesting, and eating the rainbow for nutrition. Recipes and tastings and reflection writing assignments about their gardening experiences helped bolster clients' learning. In the project's design phase, the women could choose what vegetables they wanted to plant to establish the garden as a space of self-determination and agency beyond institutional and structural oppression in line with feminist praxis.

Once we established the program's framework, women were given autonomy to decide what they wanted to plant and where. A collaborative garden design plan was developed and adapted throughout the summer with female client volunteers, expert gardeners from *Sunflower Gardens*, and a master gardener from the cooperative extension. Guest speakers from the local university lectured on topics such as natural pest control methods and hand-pollination techniques. At the end of the 6-week session, women who had attended four or more classes were able to participate in a field trip to a local community garden to enjoy the outdoor setting, enjoy a picnic made

from vegetables harvested from the garden, and collect seeds to plant back at the correctional facility.

A graduation ceremony that included an invitation to clients' families and friends, a certificate, and a take-home grow kit rounded out the program for women who attended a minimum of 8 out of 12 lessons. The first cohort gardening in the newly established garden beds gave the program its name: *Serenity in the Garden*. The pilot program proved to be very popular among the clients, with an average of 15 women participating in the garden lessons every week, totaling 116 women in 2019. In 2019, 63 women participated in at least three gardening lessons. A total of 12 women participated in four gardening lessons in August 2020 when the garden operated for only one month due to the impact of COVID-19 and the related lockdown of the facility for most of the 2020 year. In addition, the garden space was doubled in Fall 2019 to 800 square feet.

Although the curriculum centered on gardening, the reasoning we used to garner support for it in the correctional agency also touched on what the literature and corrections employees frequently call "criminogenic needs" (Gearhart & Tucker, 2020; Wooditch et al., 2014); these "needs" are perceived as relevant in community corrections programming and are core correctional practices curriculum for community corrections staff. The language of criminogenic needs is based on the widely used paradigm of criminogenic risk of an individual, and in particular, how to assess, manage, and reduce it. Within this correctional risk paradigm, women's responses to victimization are interpreted as their "riskiness" and not as coping and survival strategies (Pollack, 2020). The risk and needs discourse individualizes structural gendered and racialized oppression and as feminist researchers, we continue to struggle with our problematic compliance with this language. However, we used the language as a strategic key to open up possibilities of sustainable programming for women and to make our idea intelligible for the correctional agency. In particular, we used the language of correctional rehabilitation and posited that gardening is a "prosocial leisure and outside activity," helps build positive relationships, and could potentially present various horticultural job skills in the future. Walking a tight line between carceral logic and feminist ideals we hope to eventually create a channel through which we can communicate ideas of feminist criminology and sociology through the research process that accompanied the garden program to which we now turn.

Data Collection and Analysis

The qualitative research design for evaluating the *Serenity in the Garden* pilot program includes multiple qualitative methods to gain a deeper understanding of client experiences in the tradition of constructive grounded theory (Charmaz, 2006) and feminist theory (Chesney-Lind, 1997, 2006). The methods are also appropriate to protect incarcerated women who are under scrutiny and surveillance and always more vulnerable when engaging in research than we as outside researchers (Fine & Torre, 2006). For example, women reported feeling concerned to complain about the food quality, a concern we were able to bring up without fear of censure or repercussion.

Data collection included participant observation of gardening lessons; a focus group with clients discussing food and facility experiences and expectations of the garden program ($n = 4$, February 2020); a focus group with all stakeholders, including facility management and community partners ($n = 7$, March 2020). Participant observation in our case meant that we were actively participating in the garden, working alongside the women, and engaging in various tasks of the day. We were so able to engage in deep and natural field conversation and observed interaction closely.

The first author audiotaped field observations right after each gardening lesson and expanded to full and extended written fieldnotes typically within 24 hours. The data set also includes interviews with community partners ($n = 5$) involved in the garden program and two (2) staff

interviews. These expert interviews were semi-structured and 1-hour long on average. The data also include written reflection narratives collected from women after gardening lessons held during Spring 2019. We gave reflection questions after each gardening lesson for a total of 16 lessons, and the women answered in written form voluntarily. Since these reflections are anonymous, we cannot provide demographic data or the exact number of women who submitted them. Reflection sheets that were empty or not legible were excluded ($n=7$). There are a total of 120 transcribed reflections in the data set.

All interviews and audiotaped fieldnotes, reflection questions by participants, and recordings from the focus group and implementation workshop have been transcribed verbatim and coded using NVivo12. In addition, images from the gardening lessons were added and coded in NVivo12. The photographs were also shown and printed for the clients who used them for collages and decorated a wall in the dining hall with them. The analytic strategy was based on Grounded Theory (Bryant & Charmaz, 2007; Glaser & Strauss, 1967), taking a processual rather than structural approach (Timmermans & Tavory, 2007). We first elicited emerging themes through open coding and axial coding of the material. Then, theoretical memos provided ways to compare data and explore ideas about broader categories of codes and data re-coding.

As such, we present below a theory grounded in women's voices that is guided by coding for action and processes as suggested by the constructivist grounded theory paradigm (Charmaz, 2006).

The analytical strategy of grounded theory building lies not in quantifying qualitative accounts (e.g., by providing the number of participants who mentioned a specific code/theme) but a theory-building process based on iterative coding and memoing across the data. The categories that emerged in this iterative process of coding and memoing (effects and benefits on physical well-being, mental well-being, and social interaction) structure the narrative of our analysis. All participants have been given a pseudonym of their choice, suggested by Burgess-Proctor (2015), as a feminist strategy to increase agency in the research process. Identifying information has been changed to protect confidentiality. We make explicit whenever we reference an anonymous reflection account and do not assign a fictitious name (Figure 1).

FINDINGS

Effects on Mental Well-Being

"It is Kind of like Therapy" – Gardening as a Coping Skill for Stress

The participants' reflections clarified how the garden became a motivating factor and a positive aspect of life in the residential correctional setting. The experiential learning process in the garden provided a space for the women's agency in an otherwise highly regulated and restrictive environment. All reflection accounts and field notes from observations of women mirror the relaxing benefits of gardening. "It helps me get my mind off whatever is bothering me," says Anna, a white woman in her early twenties, while inspecting a beet plant that had sprouted in a growing container towering between two sets of four raised beds. The beds are scattered with tiny plants and several larger tomato plants that have "volunteered." The garden beds are situated in the back end of the facility's backyard, close to the barbed-wire fence and a large gate secured by a thick chain and a large key lock. The *Serenity in the Garden* program had just started up again in the first week of August 2020 after a forced break due to the COVID-19 outbreak. Six women in masks have gathered outside on this hot Thursday afternoon for their third gardening lesson.

"It's kind of like therapy," says another client later that day. A word count analysis of the anonymously written reflections shows that the two most frequently used qualifying terms for the gardening program were "relaxing" and "stress-relieving." Gardening as a "great stress reliever"



Figure 1. The garden emerges, May 2019, image: first author.

provided the space to “have time to myself that is peaceful.” Women shared how “gardening helps me cope” and “helps me become more centered.” The perceived effects of gardening extend beyond the time in the facility, as one client described in her final reflection of the gardening pilot program in May 2019: “I can use gardening as a coping skill to help soothe me, and to make my home beautiful, plus having nutritional foods.”

This finding corroborates the existing literature on the positive effects of gardening on the mental health of incarcerated individuals (Lindemuth, 2007; van der Linden, 2015). Garden programs often promote feelings of purpose, self-efficacy, and self-worth among incarcerated individuals who feel less depressed, less aggressive, and more relaxed (Waitkus, 2004; Benham, 2014; Jiler, 2006). In addition, nature therapy in prison effectively improved psychosocial functioning, reduced risk-taking, and lowered criminalized substance use and depression (Rice et al., 1998; Richards & Kafami, 1999). Our data confirm existing research in correctional settings showing that gardening improves mood and mental health while significantly reducing stress (Christie et al., 2016; Van Den Berg & Custers, 2011; van der Linden, 2015).

"I Can Do It" – The Garden as Space for Empowerment

Studies have found that the ability to tend to the growing process and increases self-esteem (Aldridge & Sempik, 2005; Richards & Kafami, 1999; Sempik et al., 2014), as well as self-efficacy and feelings of success and hope through the learning of new skills (Ascencio, 2018). These findings are mirrored in our data. On the last day of the pilot program, we had asked women to “freely write us an anonymous and confidential letter... everything we should have asked, but never did.” One participant wrote, exemplary for other anonymous answers:

I want to thank you for having a gardening program. I truly appreciate learning new skills and watching the garden grow. I had a lot of fun with other participants and helping in the garden. I will grow my own garden now that I have the skills.

"I can do it," wrote several women in their reflections, which demonstrates their belief in their ability to create the desired outcome, or as Bandura (1995) defined self-efficacy, “the belief in one’s capabilities to organize and execute the courses of action require to manage prospective situations” (p.2).

Women felt personally empowered by the garden program. One account reads, “... you helped me grow like a flower... you showed me teamwork, love, and acceptance... you made me feel like family... this program is the best.” Women expressed that they embraced the garden program as a space where they felt respected, unlike in the more extensive hierarchy system, rules, and literal “correction” of behaviors, speech, and mannerisms. Especially in criminalized substance use treatment settings, women are encouraged to accept a view of themselves as inherently damaged (McCorkel, 2013), and the garden became an alternative space of acceptance that encouraged women to “nourish oneself with better food and thoughts about myself.” A participant used the garden as a metaphor of resistance against narratives that seek to reduce women to their histories of criminalized substance use and involvement with the criminal justice system in a local T.V. interview. She stated that: “Just because we made a mistake does not mean we are a mistake. We are a creation just like these are creations, and we deserve that chance” (Blair, 2019).

Families and children are central in the women’s narratives (see also Toews et al., 2020). Women still carry the brunt of care work in U.S. society, and most incarcerated women are mothers. “I never knew how much fun it was to garden, and now I can do it! I can’t wait to share with my family!” writes a participant, demonstrating how the mastery experience of growing sets the course for the intention of family involvement. The new skills that are learned and practiced may also translate into symbolic capital within family structures, as this participant explains:

And their family member that’s been in jail and all that stuff is in a different role where they are like proud of doing some kind of work or doing something, would kinda help to change the family’s vision of that person. (Focus Group participant, February 2020)

Gardening is not only relevant as a new practice that can be integrated into family life but also is a “looking glass” (Cooley, 1902) through which women gain a more positive and empowering self-image.

Effects on Physical Well-Being

"I Got to Play in the Dirt" – Physical Activity and More Outside Time

In line with existing literature, the program provided access to healthy physical activity, which increases perceptions of physical health and well-being (Jiler, 2006; Toews et al., 2020; van der Linden, 2015). Mere access to nature views in carceral environments has been found to reduce depression, anxiety, blood pressure, and even aggressive behavior (Wener, 2007). The benefits of direct exposure to nature in the project were evident. Several women stated that they found much satisfaction in getting “down and dirty” and planting using their bare hands. Even though garden gloves were provided, most women chose to use their bare hands for gardening activities.

The garden program also meant additional “rec time” (recreational time in the facility’s backyard). Regular recreation time varies based on staff availability. Due to chronic understaffing, rec time is kept to a strict time limit or does not occur during some weeks.

Additional exposure to fresh air and sun in the garden was one of the main reasons many women joined the garden program, even if their initial interest in gardening was not high. Women reported feeling tired but satisfied after gardening. Excessive fatigue after physical exertion can indicate health problems such as stress, poor sleep, and poor nutrition. However, exercise can also produce endorphines—natural hormones that boost mood and create a feeling of well-being. In contrast to the structured correctional environment, women had more autonomy over rest time in gardening lessons and during community service. Thus, they could control their own pace and level of exertion. Based on her experience facilitating clients’ community service hours in neighborhood gardens, the director of *Sunflower Gardens* organizes the community work around women’s needs rather than in a disciplinary way:

We try to pay attention to the physicality of what we’re asking them. We also realize that with the gardening that’s heavy work and being incarcerated, they may not be in as good a shape as they were before. We noticed they would tire easily, and we made sure to give them plenty of water and let them rest whenever they felt tired.

She was familiar with the detrimental health effects of incarceration as mirrored in women’s “shape” and encouraged women to exert self-care through rest and continuous hydration. The community service also provides more flexibility to tend to women’s physical needs beyond strict programming schedules in the facility that regulate rest times.

“There Was a Lot of Snacking Going On” – Access to Nutritious Food in the Facility

The garden improved the sub-standard food supply characterized by processed foods of the industrial food supplier and vending machines within the facility. Lily, a white woman in her 20s, described that, “[the facility food] ... is not only not good enough for humans ... [we] would get more expensive food for our dogs than what they give us. It’s like a form of punishment in itself - it is part of the punishment or something” (focus group participant, February 2020). This statement vividly corroborates recent research on the substandard food conditions in correctional settings (Soble et al., 2020). In addition, the garden has created access to fresh food for the participants. The CBCF women embraced the opportunity to snack on fresh vegetables directly from the plants. Early in the season, we would bring in fresh vegetables and snacks for women to share.

Later, when the garden yielded produce, we integrated communal “cooking” of simple recipes (e.g., herbed butter with fresh herbs from the garden and salads) into the garden lessons. During the gardening lessons, many women shared how they came to the gardening lessons because it was the only opportunity to get some fresh snacks and started to enjoy the gardening itself. The shared meals also have an educational aspect, as a community partner shared:

Many of them have never tasted a lot of these things. Many do not know where they come from. I’ll never forget somebody looking at a cabbage in the ground and going, “Oh, my goodness. That’s where cabbage comes from? I didn’t know that. I only ever saw it in the grocery store”... access to food is one thing, access to knowledge is another thing.

The nexus between gardening and knowledge about healthy foods have been well described in the literature (Hardin-Fanning et al., 2018; Isaacs, 2017; Soble et al., 2020) and comes to life also as a “hidden nutrition lesson,” especially for women recovering from addiction as a partner described:

[In the community service work] We always lay out a huge lunch, all fresh foods, canned foods we made, things from the garden, all fresh, and they would pile their plates and eat what they grow and see what they could make out of it. Many people do not know where their food comes from. Another point I wanted to

make is, when you are drinking or using, your health is the last thing you are worried about. You weren't so much worried about food. You were worried about where you were gonna get your next drink or your next drug.

Gardening activities in the facility proved to be the first actual exposure to certain kinds of vegetables and knowledge about their health effects. This aspect of the gardening lessons and the related community service may lead to an increased agency for increasing food security and health competency more generally. While true that substance use can make access to food a lower priority (as stated by the community partner), systemic oppression and poverty as racialized and gendered phenomena in contemporary U.S. society place women and Black populations at greater risk for food insecurity and related knowledge and access gaps in the first place. Since marginalized populations disproportionately land in correctional facilities, these institutions have a responsibility to address the problems around food insecurity they currently help perpetuate. In an iteration of the garden program, we plan to better coordinate the Extension Office Nutrition Program and the educational offerings in the garden class.

"You Will Eat It When You Grow It" – Increasing Food Security and Health Competency

"When you grow it, you will eat it. You will eat it when you grow it!" says Nora, a veteran volunteer, and laughs, "...and even if you do not love it, they are a hundred times more likely to try it again anyway!" Women in the geographic area of this pilot project are generally more affected by poverty and food insecurity. The city has a poverty rate of about 14%. Females 18–24 are most prone to poverty, with roughly 23% of white women and 32% of minority women living below the poverty line in the county. Women ages 25–34 closely follow (Larrick 2019, Census Bureau, 2019). These age groups are the primary demographic of CBCF clients. Combining the inside garden program and community service in urban community gardens addresses poverty and health competency hands-on.

Approximately a third of reflection accounts contain indicators that the women planned on having a garden after graduation from the facility. Statements like "I will eat a variety of fruits and vegetables" or "I will feed myself and my spirit with good thoughts and better food" are common throughout the written accounts and were also apparent in the ethnographic observation data. Even though Ohio has a shorter growing season than many Southern states, the curriculum focused on urban gardening strategies that can be implemented with low or no cost. We collected no specific data on our participant's socio-economic barriers to accessing garden space post-release but we were aware of their economic marginalization as documented by poverty data of the region. We therefore purposely explored low or no cost small space gardening techniques like planting in old tires, vertical planting in old pallets, or vertical indoor planting in shoe organizers from the Dollar Store in the curriculum. We focused on providing small and fast-growing planting options, and one community partner observed:

Most of them seem connected to it in some way if they weren't already and want to continue it on. I feel like it's a life skill for everyone. If you start small and with ease, some things grow very easily here in [name of state], and you can be successful pretty quickly.

In this pilot project we were not able to track the impact of the gardening program on women post-release; however, the director of *Sunflower Gardens* shared that several women have continued to volunteer with the group over the years of their involvement with the facility. In these cases, a genuine connection was established to a new form of leisure time and social activities that support life in recovery and a shift away from criminalized behaviors. This outcome points to the social capital and social skills acquired in the garden (Aldridge & Sempik, 2005; Richards & Kafami, 1999; Sempik et al., 2014), besides the urban gardening skills participants could take away. Beyond individual mental health and physical benefits data revealed positive effects on interactions to which we now turn (Figure 2).



Figure 2. First harvest, August 2019, image: first author.

Effects on Social Interactions

"You Showed Me Teamwork" – Client-Client Interactions

Participants welcomed gardening as a positive activity: "Learning gardening skills is important because it allows you to care for something keeping it alive," wrote a woman who had not indicated any prior experience with gardening. "I am learning a lot here and it is awesome that we are working together to do something positive," says another participant during a gardening lesson (fieldnote August 20, 2021). In addition, a garden may soften the harshness of an otherwise hostile prison setting (Hill, 2020; Watkins, 2017) and may also be a visual site of resistance and resilience in an otherwise regulated and orderly environment. Brown (2014) conceptualizes the wilderness of gardens behind bars as revolutionary, overgrowing old structures and delivering "perfect resistance" and "inadvertent environmental justice at the failed site of social justice that will ultimately dismantle and reinvent the prison." (p.72). While it remains important not to romanticize prison gardens that may also be based on coerced labor (as in correctional industries

and large scale prison farms, Snyder 2017), we found our therapeutic garden project opened a space where individuals could meet each other on a new footing and “learn teamwork,” as many participants stated in their reflection. The following quotes from anonymous reflection accounts are only a few of the many that refer to the aspect of teamwork and collaboration the women enjoyed during gardening lessons:

[There is] strength in numbers; it took a lot of us and hard work with instructions to complete the pallet. It’s hard work, but with help, we were able to complete the task at hand.

In today’s lesson, I enjoyed most that we worked together and took turns. We did something new and shared what we knew with each other.

With teamwork, there also comes the necessity of following instructions and exerting patience with team members with different speeds and work approaches. Social skills like communication, active listening, and respectful questioning are applied naturally in a relaxed atmosphere in the garden. As a result, women felt empowered to help and realized that “I can teach others!” as one participant said proudly in a lesson. In an iteration of the garden program, we planned on inviting garden program graduates to act as mentors for future cohorts to deepen the program’s collaborative nature.

“A Lot of Fun” – Client-Staff Interactions

When initially introduced to the staff, the garden program was not met with much enthusiasm by staff members. The first author promoted the garden program in an internal staff meeting and noted the “atmosphere was like molasses” (fieldnote from February 14th, 2020). However, most staff perceived the garden program as “one more thing to do” (field note March 20th, 2020), and—with one notable exception—none of the staff working at that time were hobby gardeners in their leisure time. The missing larger “staff buy-in” remained a problem throughout the entire span of the intervention, as the garden went unwatered on several occasions because staff had “no time” to take women into the garden.

Facility administrators blamed the lack of time due to chronic understaffing of the facility for their inability to adequately support the garden project. However, we did observe it as a space for positive staff-client interaction. We had envisioned the garden as a third space where women could meet staff in a less scripted way and improve rapport. Gardening has been shown to help build and substantiate the rapport between staff and clients essential for evidence-based correctional practices. These evidence-based correctional practices are required and monitored and audited by the agency’s Continuous Quality Improvement (CQI) team. The first author records in a fieldnote from August 6, 2020:

A new thing that happened today and that was also really impressive is that a staff member is now assigned to the garden. She is a Black older lady (calling her “Miss M.”), and I know her as a senior staff member. That made a huge difference. She was hands-on gardening, and the clients took charge of watering the plants unasked; they laughed, collaborating on building a composting bin, which proved to be quite a challenge and took almost an hour. I have captured that in photographs taken at the end of the gardening lesson. Miss M. also initiated and established some accountability. She assigned someone to water. She was not going to work the next two days. She made sure Dorothy volunteered to water and stated twice that she would ask the facility manager to permit Dorothy to go out the next two days to water.

The *Serenity in the Garden* project became a place where women could forge connections amongst themselves, build rapport with (a few) staff members who chose to be involved in the garden and form inroads into the community through guest speakers and community service. Women also appreciated the garden space as a space “away from staff” and a “space of their own” (focus group, February 2020). It was a place to relax or be energized, be quiet or be loud, and to appreciate the company of others or enjoy their own solitude.

"Getting to Meet the Neighbors" – Building Supportive Social Networks

The involvement of community partners and speakers from regional campuses and garden clubs was significant for the program to bring the community into the facility. We deliberately designed the garden program as an open space for clients to meet new people and as a tool to build social networks and social capital beyond the facility. We were reminded that some women come into the criminal justice system with resources and expertise they can share as peer mentors. For example, Stella, a Black community gardener, landed in the facility for an unpaid traffic fine and was excited to see the garden. She is running a community garden in the context of *Sunflower Gardens* and "started playing in the dirt immediately," as she explained proudly in the first gardening lesson during the pandemic in August 2020. Stella took the lead in guiding others, and we incorporated her expertise in the gardening process. A few other women had connections to existing gardening collectives in the region or came in with general garden experience. Typically, these narratives were connected to gardening with elders in their families of origin, especially their grandmothers.

The connection of the inside garden to the outside community service in urban community gardens is vital to building new networks and social capital. "The girls really get introduced to all kinds of good people in the process, you know ..." says a community garden volunteer, "... they find out how easy it is to be part of a community. It gets them out of themselves. Now, hey, there is something out there besides the next use or the next drink." They point to the importance of new acquaintances and new leisure time activities, especially for women recovering from drug and alcohol use.

The involvement of *Sunflower Gardens* as community partner certainly opened up opportunities to participate and benefit from existing community gardens and their communities. At least two CBCF clients had continued to volunteer and forged friendships within the community garden organization after their release from CBCF in the past. Even if women discontinue involvement beyond their community service hours in the CBCF, our data points to connections made between inside/outside through community gardening. An important catalyst in this process was Nora, the veteran volunteer with *Sunflower Gardens* who is deliberately open about her own recovery from alcohol use and models the process of de-stigmatization of addiction for clients and involved neighbors. She shares:

To see when I shared that I was in recovery with them, how they were able to start relaxing... [] ... And then they felt part of because they heard me speaking in front of the rest of the people. So then they lost their inhibitions to be able to relate to the people and and became so much comfortable in the garden and became friends. You know, it gave them the ability to become friends with everyone we were working with, and a lot of times with each other... [] ... And now they've been there with community service and people. They find out how easy it is to be part of a community.

Nora in the same interview segment also shared how a male judge was part of a community garden they serviced, so the community garden space might be truly transgressive in terms of access to social capital for the women in some distinct cases. In order to better understand de-stigmatization processes beyond the facility, we were planning on observing community service hours in the community gardens directly, but this avenue of data collection subsided due to COVID-19.

In summary, we contend that the combination of guest speakers within the facility and social contacts outside the facility in gardening lessons and gardening community service is very effective for clients to expand their social networks and their repertoire of leisure activities. *Sunflower Gardens* also emphasizes that women are always invited to come to block parties and events beyond their community service hours and were often granted these opportunities by the facility management in the past. However, a limitation of our garden intervention is that community partners and social contacts are usually geographically bound. That means if women come from



Figure 3. Pandemic gardening, August 2021, image: first author.

out of town or do not live in the region of the CBCF, additional measures such as resource briefs or selected guest speakers from relevant areas need to be integrated into the program (Figure 3).

DISCUSSION

In this project, we empirically expanded on research on the positive mental health effects of gardening in correctional settings (Ascencio, 2018; Christie et al., 2016; Jiler, 2006; Van Den Berg & Custers, 2011; van der Linden, 2015, 2015) within the context of limited gender-responsive programming (Covington & Bloom, 2007; Kruttschnitt & Bittencourt Otto, 2021) and food insecurity of women within correctional facilities (Camplin, 2017; Soble et al., 2020). We add to this literature by examining the effects of gardening on mental and physical health with an all-female sample in a research setting of residential community corrections (for an earlier visual presentation see also Jauk & Blackwood, 2021).

We centered women's lived experiences and sought to address their complaints with a clinical, sociological intervention of an educational garden program ("Serenity in the Garden") for female residents in a community correction setting. We approached the garden project with the lens of feminist criminology (McCorkel, 2013; Kruttschnitt et al., 2019; Watkins, 2017). Through gardening, we provided opportunities for women in recovery to engage in community and meaningful education. We offered an exploratory evaluation of the program guided by the methodological principles of grounded theory. This clinical sociological intervention is unique. It deliberately engaged external community partners who helped shape the project and constitute social capital, which participants could draw on after release from the facility.

The evaluation of the program based on multiple qualitative methods (ethnographic observations, anonymous reflection accounts, focus groups, interviews) employed with clients and staff

and community partners involved in the garden showed multiple benefits. We find that a low-cost educational gardening program has shown mental, physical, and interactional improvements among the participants. We were able to offer educational gardening for 63 women for six months with \$500 seed money from the agency, drawing upon community partners for soil and seed donations, as well as volunteer guest speakers. Our findings show that women not only gained hands-on technical skills of urban gardening, but they also reported direct mental and physical benefits from the gardening program. Additionally, we identify several effects of the gardening program on the interactional level that improve facility culture and client-staff interactions and provide social skills for the reentry process.

Overall, the participants expressed overwhelming gratitude for the garden program. The mere fact that a program had been developed and staffed by external volunteers was reassuring for the participants and gave them the feeling that they were appreciated and seen by an invisible outside. The garden evolved as a literal and metaphorical space for women that became a launchpad for new skills, empowerment, and collaborative culture in a carceral environment that otherwise leaves them little space for agency and playfulness. The garden created a positive atmosphere and a counter-space to the uniformity and “gray beigeness” of the institution:

Today we put down some landscaping fabric and mulched the middle pathway, and the women were sowing carrots and beans. It was a chuckle moment when they were supposed to sow salad seeds, and Misty started digging thick holes. Samara [Note: guest speaker of *Sunflower Gardens*, name altered] then explained how to make a little row and pointed out how tiny these salad seeds are. There was much laughter generally, especially towards the end of the garden session. Three of the five women gardeners started playing with the hose and jumping through the DIY sprinkler. It is a very different atmosphere in the garden than the “gray beigeness” inside the facility. I noticed that every single time I walk through the hallways to get to the garden, someone is always yelling, and someone is constantly mopping. In the garden, it seems someone is always laughing. (Fieldnote August 6, 2020).

Our data demonstrate that the garden is perceived as a space for empowerment and relaxation for women, bringing them home to themselves and closer together — even in a carceral environment. While Watkins (2017) discovers food practices as a source of autonomy and resistance through the narratives of formerly incarcerated women, our research intervention substantiates this finding with women on the inside of the fence, as we created a space of empowerment together *within* the institutional setting.

The garden had positive effects on social interaction on the client-to-client level (teamwork), the client-to-staff level (rapport), and through building social capital and support outside the facility through guest speakers and community service that remained resources for social connection with upon reentry. The garden also contributed to the stigma reduction of food insecurity and mental health issues among participants as these topics were addressed as structural issues and not individual problems. Joint therapeutic gardening allowed participants, community partners, and researchers alike to experience the benefits of therapeutic gardening with all senses and verbalize knowledge gains, benefits, and further questions openly.

On the level of physical health, gardening provides a meaningful physical activity that offers more outside recreation time and access to more nutritious food in the facility as women get to snack on the vegetables and herbs they are producing. Carceral institutions are “out of sight food deserts” (Soble et al., 2020), deeply rooted in structural inequalities and as such an extension and function of racialized and gendered food apartheid. Participants in this facility loudly voiced their displeasure with the low-quality industrial food provided, the project directly impacted and improved their immediate food situation and centered women’s voices and their needs.

Finally, the garden program was beneficial not only for the facility’s clients but also for the community partners. The partner from the extension office said that “actually that’s one of my favorite projects that I’ve been involved with. It was a successful partnership. I appreciate the opportunity to work with the participants. And it was just a really meaningful program for me.” The “successful partnership” the extension officer is referring to also speaks to the improvement

of public image and de-stigmatization of correctional facilities in general that can be achieved through collaborative projects like the garden program. In addition, agencies can improve impact and connection to the community if some of the garden products are donated to the neighborhood community or local food banks.

LIMITATIONS AND FUTURE RESEARCH

Our study has several limitations that we take as stimuli for further research. One apparent limitation of this pilot study is that the outbreak of COVID-19 truncated data collection. The original research question was the benefits of gardening within the facility and how women might utilize their new skills and their new social contacts post-release. Thus, in the original research design, we planned on follow-up interviews with women who graduated from the garden program after 6–8 months to see if and how they implemented gardening into their leisure time activities and how this might address potential food insecurity in reentry.

In addition, we were planning on actively involving program graduates as guest speakers to help develop an improved reiteration. Several women found this to be an exciting opportunity and indicated their interest. However, with the onset of the COVID-19 pandemic in early Spring 2020, the facility garden program was shut down, and the fieldsite was on complete lockdown. The garden was operating for only four weeks in August 2020 before again shutting down, as the governor of the Midwestern state halted all in-person research (see also Jauk et al., 2022). The first author is in discussion with the facility to reopen the garden program in 2022 but could not collect any follow-up interviews.

Another limitation is that the narrative accounts of the women we analyze have self-selection bias as they come from women who have successfully participated in the gardening program. However, given that the average intake of the facility is 215 individuals a year and we reached 116 women total, of which 63 participated in more than three gardening lessons, we can consider the voluntary garden program to be very popular and successful. In further evaluations, we plan to include a control group of women who are not gardening at all.

A further limitation is that our current data are not appropriate for an intersectional analysis. The intention behind the possibility to submit reflections anonymously was to reduce power differential in the research dynamic and allow the participants a genuinely open space to voice their feelings and impressions. Unfortunately, a substantial part of our current database consists of anonymously written reflections that do not give insight into their author's race, sexual identity, ability, or educational background to name just a few relevant variables. In a subsequent iteration of data collection, we plan to develop a mixed-methods instrument (such as a brief survey with qualitative portions) that can be administered on an anonymous basis, yet also provide important demographic information for intersectional analyses.

An avenue for further research we would like to explore are the resources and the embodied knowledge women bring in from outside and the gendered aspects of gardening as rooted in their family histories. While the unpaid labor of women to provide food for their families and communities is a characteristic of gendered inequality, women also derive power from remembering gardening practices with their grandmothers in particular. In the future, we intend to give more attention to gardening as a practice of remembering and (re)connecting with ancestry and family history. It shows up anecdotally as resource women bring with them that often is also imbued with spiritual meanings and needs more systematic exploration in the light of theorizing on contemporary matriarchal practices and theories.

CONCLUSION

In conclusion, we found that a garden is a place where we observed women working together-hands in the dirt-creating something new and healthy in a joyful way. Our data substantiate that

horticultural interventions can be effective, low-cost interventions researchers and practitioners should explore more systematically for correctional treatment. While we initially had framed our project in terms of risk and responsivity factors in correctional rehabilitation to gain entree to the field and the facility, we want to stress that the focus on individual risk and responsivity factors often obfuscates the view on gender and racial disparities and structural inequity in the criminal justice system. Food insecurity, systemic oppression, and poverty are racialized and gendered phenomena in contemporary U.S. society that place women and Black populations at greater risk for criminalization. Correctional facilities, including residential community corrections, have perpetuated systemic inequity by providing low-quality, insufficient industrial food dictated by food corporations.

In addition, carceral environments generally add to prior traumatization and environmental racism. They restrict access to green space and physical outdoor activity and often fail to offer effective programming that benefits mental health. Our data show that educational and therapeutic gardening is an opportunity for correctional facilities to take their responsibility for rehabilitations seriously and provide meaningful educational programs. In the spirit of community activist and urban gardener Karen Washington, we believe the abolition of racialized and gendered mass incarceration would be best to further the goal of food justice in U.S. society. Yet, we find that therapeutic gardens might be a way to make correctional environments more bearable as islands of autonomy, agency, and empowerment, especially for women, in the here and now.

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