

TRAUMA-INFORMED NUTRITION INTERVENTION RECOMMENDATIONS IN URBAN
AGRICULTURE PROGRAMMING

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ABSTRACT

The trauma that marginalized communities endure as a consequence of systemic racism has resulted in extensive health and economic disparities. Urban farms can address many these inequities by providing a myriad of sociocultural and health benefits, though they cannot solve the systemic racism ingrained in American culture and politics. Thus, to influence a healthier diet, structural changes need to be implemented. To ensure sustainability and maximize effectiveness, nutrition interventions at urban farms should be approached with cultural competency while using the trauma-informed framework. In understanding oppressed populations' trauma, researchers and public health officials will be better suited to acknowledge and address these disparities.

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BIOGRAPHICAL SKETCH

Jenna Rice is from Buffalo, New York. She graduated from Binghamton University in 2018 with a degree in Business Administration and a concentration in Marketing. Following graduation, she joined AmeriCorps National Civilian Community Corps where she traveled across the United States and worked at numerous nutrition assistance non-profits and farms. These experiences shaped her decision to pursue a Master of Professional Studies in Agriculture and Life Sciences at Cornell University.

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Introduction

Originally, this paper was intended to delve into ‘best approaches for community garden-based nutrition educators to influence participants to adopt a more plant-rich diet’. As I began my research, the results seemed mixed. Some studies demonstrated marked dietary improvements among their participants, while others failed to achieve the same results. Initially, I could not understand why this was the case, as many of these studies used similar nutrition education approaches. Upon further research, I learned that most nutrition interventions do not take into account the lived trauma by the populations they intend to serve. Inadequate nutrition and food insecurity are caused by a myriad of systemic inequalities that force many households to consume foods that are energy-dense and nutrient-scarce, causing significant health disparities among communities of color in the United States. Trauma is a multidimensional issue, and a 10-month long nutrition education program alone cannot resolve the plethora of issues contributing to food insecurity in the United States

Segregation

Jim Crow laws in the south and greater employment opportunities in the north resulted in a mass migration of Black people to northern cities in the mid 1900s. As these cities became more populated, racial tensions and the need to expand housing grew. Thus, with the economic boom following the end of the war, home construction began on the cities’ outskirts. This urban sprawl became known as the suburbs.

There were plenty of nonracial reasons the suburbs appealed to consumers. Job opportunities were offered in suburban centers, commuting became more time and economically efficient with the development of highways, and the idea of single-family living on a larger plot of land was very alluring. Suburbs offered quieter and more private neighborhoods with less

congestion, crime, and pollution (Mieszkowski & Mills, 1993). However, economically mobile White people also saw this as an opportunity to escape racial tensions, pay less money in taxes, avoid local redistributive taxes, and live in a more affluent and White school district (Mieszkowski & Mills, 1993). In short, suburbs provided them the chance to live in a racially and economically homogenous neighborhood. Therefore, the emergence of suburbia became a vessel for segregation preservation and intentional exclusion. Housing discrimination by realtors and predatory lending practices by banks took advantage of this urban sprawl by making it extremely difficult for people of color to purchase or rent units in suburbs and other predominately White communities.

Racial segregation was maintained through a variety of housing discrimination practices. One such method included redlining, which allowed loan discrimination based on race. Another was blockbusting, where realtors would induce panic-selling of homes in White neighborhoods at low rates, and later resell at higher rates, by convincing residents that racial minorities would soon be moving into that neighborhood. Another tactic was steering, where realtors would guide homebuyers or renters towards certain neighborhoods based on their race. A final strategy was unfavorable service by realtors and landlords towards Black renters and buyers. In many cases, rental and sales agents presented Black clients with fewer property options, as well as less information about the properties they were willing to sell them. They also required more background information from Black than they did from White customers (Wienk, 1979) (Hoff, 2008).

Redlining was a particularly impactful and blatantly racist way to preserve segregation. The Homeowner's Loan Corporation (HOLC) created Residential Security Maps that designated sections of cities as "fourth grade", "third grade", "second grade", and "first grade" (Nelson et

al., n.d.). These categories were used to determine mortgage risk and were largely based on the neighborhood's racial demographics. People living in "fourth grade" neighborhoods were typically denied mortgages or approved for them only with extremely high interest rates due to their connection with a "hazardous" neighborhood (Nelson et al., n.d.). These "hazardous" neighborhoods were highlighted in red on city maps, hence the name "redlining" (Nelson et al., n.d.). These maps were accompanied with notes that explained the rationale for each categorization grade. A common justification for deeming a neighborhood risky was "infiltration by Negroes", though some areas were accompanied by more in-depth notes (Nelson et al., n.d.). One such detailed explanation on a redlined neighborhood map in South Philadelphia was that the area had been "slowly deteriorating for years" due to "Negro encroachment" (Nelson et al., n.d.). A nearby "third grade" neighborhood was described as becoming unfavorable due to a "[threat] of Negro encroachment". Yet another Philadelphia locality was labeled "second grade" because it was comprised of a "homogenous...population" but was not characterized as "first grade" because of the "possible encroachment" of ethnic minorities from a nearby neighborhood. In an adjacent "first grade" region, their reasoning behind that categorization was that it was "well protected against encroachment" (Nelson et al., n.d.). As exhibited in these HOLC maps, redlining was a blatant attempt to ensure continued segregation of ethnic minorities (particularly Black populations). This was accomplished by dissuading them from accepting loans due to astronomical interest rates, taking advantage of them by offering loans only with high interest rates, or altogether barring them from obtaining mortgages. Not only did this successfully prevent desegregation, but it prohibited Black people from becoming homeowners. Redlining also increased income inequality, as generational wealth is largely passed down through homeownership (Pager & Shepherd, 2008). Since people of color struggled to obtain home

mortgages, they were essentially incapable of moving out of the cities and into the newly built suburbs. Suburbs became White-dominated spaces which were unwelcoming to non-White residents.

Although these discriminatory housing policies were technically outlawed in the 1960s and 1970s, Black and Hispanic households continued to experience racial discrimination in the home purchasing and renting process. A Department of Housing and Urban Development 2000-2002 study concluded that housing discrimination was continuing to affect Black and Hispanic individuals and families, consequently perpetuating segregation. The practices observed in the study include Black and Hispanic home buyers and renters being provided with less information about units and being shown fewer units in total. In the case of purchasing as opposed to renting, Black and Hispanic homebuyers were steered into lower income and higher minority neighborhoods and were generally offered less financial assistance during the purchasing process (Hoff, 2008).

Segregation has triggered many harmful effects on cities and the people living in them. As the economically mobile White people began moving out of cities and into suburbs, the cities lost their higher-income taxpayers. This loss was impactful since local property taxes help fund public schools, police and fire protection, infrastructure, and municipal services (Property Taxes 2017). Thus, with the mass exodus of people moving to the suburbs, city services began to lose resources. Infrastructure began to deteriorate, public schools lost funding, and homes and buildings were left empty, leaving behind abandoned lots. This economic decline created a spiral of decay for low-income areas and communities of color, from which it has proven very difficult to recover (Andersen, 2002). As neighborhoods become neglected, the quality of education for children declines, instances of crime increase, and overall social cohesion decreases due to a lack

of neighborhood socialization. Furthermore, the reputation of these neighborhoods for both insiders and outsiders begins to decline, which leads to further stigmatization and marginalization. Racist stereotyping of ghettos and inner cities began to plague America. Without a complete understanding of the systemic harm that caused these cities to decline, it became commonplace to conflate ethnic minorities with decay and crime. Accordingly, people began to think of Hispanic and Black folk, primarily the latter as “lazy, immoral, dishonest, and irresponsible” (Neubeck & Cazenave, 2004, p. 142).

Policing

Arguably the most harmful result of segregation has become the heavy policing that occurs in predominately Black and Hispanic neighborhoods. Race-based policing was greatly influenced by the “War on Drugs” brought on by the Reagan administration (Provine, 2007) and has influenced controversial policies such as stop-and-frisk, broken windows policing, traffic stops, roadblocks, and checkpoints (Cooper, 2015). Even children are impacted by racial discrimination in policing; in 2011, Black boys were 9.3 times more likely to spend time in a juvenile detention facility than White boys (Davis, 2018). Furthermore, Black and Hispanic students make up over half of all students arrested at school. Black students only make up 16% of student enrollment yet represent 27% of all students referred to law enforcement (Davis, 2018). Unfortunately, these racial disparities continue into adulthood. Black individuals are 2.5 times more likely to be arrested than White Americans. Additionally, 49% and 44% of Black and Hispanic men respectively can be expected to be arrested by age 23, as compared to 38% of White men. In my hometown of Buffalo, New York, one of the most segregated cities in the nation, racist policing has become notorious (Malhotra, 2017). The broken windows policing initiative was implemented as part of the Buffalo Police Department’s (BPD) Zero Tolerance

campaign. The broken windows theory states that crime is more likely to occur in an area with physical disarray such as abandoned buildings, overgrown lawns, and broken windows (Kondo et al., 2016). Broken windows policing occurs when law enforcement increases police presence in these areas. As mentioned earlier, due to segregation, many areas like this are predominately Black and/or Hispanic due to housing discrimination and segregation. Therefore, these areas have greater police presence and are thus disproportionately targeted by this approach. The BPD implemented permanent police vehicle checkpoints and roadblocks in these neighborhoods which were intended to “[surprise] the criminal element” (Malhotra, 2017, p. 26). These checkpoints resulted in a 62% increase in traffic tickets, 22.2% of which were for tinted window violations (a threefold increase from the years prior). While these individuals were being targeted for having tinted windows, tickets for driving while intoxicated decreased by 10%, tickets for running red lights fell 23%, and tickets for driving while operating a mobile device fell 35%. Of all 67 roadblocks implemented, 65 were in communities of color. The BPD did not seem focused on increasing public safety, as evidenced by the steep decreases in ticket issuance of inarguably more dangerous acts (such as driving while intoxicated) but rather on policing Black and Hispanic neighborhoods. Regrettably, the financial burden of these fines and tickets only exacerbated the economic inequalities faced by people of color; after the check points were implemented, “income from traffic violations increased by 92%” (Nessel et al., 2018, para. 3). Black and Hispanic neighborhoods in Buffalo make half the median income as those of White people and suffer twice the poverty rate. In the years following the implementation of the strike force and broken windows policies, “the City’s revenue from towing grew by five times, or \$7 million dollars in 2006-2008... in the first three years of Zero Tolerance campaign and from \$1.44 million in to \$8.39 million from 2013-2015” (Malhotra, 2018, p. 14). In the two years

following the checkpoint implementation, the number of suspended licenses increased by 58%, likely due to outstanding tickets. Consequently, the percentage of arrests and tickets for suspended license violations also grew by 58%. Before these tactics were implemented in Buffalo, Black people were four times as likely as White people to become arrested for a misdemeanor marijuana possession and Latino people were arrested at the same rate as White people. After the execution of the Zero Tolerance Campaign, Black people were seven times as likely and Hispanic people twice as likely as Whites to be arrested for a misdemeanor. These policies were very clearly intended to target and harm Black and Hispanic communities in the city of Buffalo. Unfortunately, these tactics are not unique to Buffalo. They are instituted in Black and Brown neighborhoods across the United States.

Two of the main problems associated with discriminatory policing, in addition to the psychological trauma accompanying it, are police brutality towards people of color and racism within the judicial system. Black men are 21 times more likely to be killed by police than White men even though they are half as likely to be armed than White men, while Black and Hispanic people are also more likely to experience non-fatal police violence than other races (Davis, 2018, p. 7). Within the judicial system, Black men receive almost 20% longer sentences than their White counterparts for comparable offenses and are disproportionately sentenced to death. Importantly, having a felony status can severely harm an incarcerated individual's life long after they are released from prison. Felons face voting restrictions, an inability to access federal benefits (such as nutrition assistance and public housing) and a much greater difficulty getting a job; roughly 75% of the formerly incarcerated continue to be unemployed one year after their release and approximately half of all people released each year will return to prison (Davis, 2018, pp. 8-9). The inability to obtain employment greatly contributes to these high recidivism

rates. The current system makes it extremely difficult for convicted felons to succeed upon release.

Health Disparities

Segregation also contributes to and perpetuates health disparities, as it reduces accessibility to healthy food and introduces barriers to physical activity. Racial discrimination and the colonial mindset also introduce stressors which further impair residents' ability to make healthy choices.

Research has shown that low-income communities of color lack grocery stores with nutrient-dense and culturally relevant foods. This occurs for a number of reasons. It can be more difficult to establish a supermarket in urban areas because the plots of land are smaller and physically cannot accommodate a large building (Walker et al., 2010). Furthermore, businesses in general are less likely to open for fear they won't have a high profit margin. In addition, studies demonstrate that grocery stores are less prevalent in predominately Black and Hispanic neighborhoods, even when adjusted for income, presumably due to neighborhood stereotyping and racial prejudice (Zenk et al., 2005). One study found that the prevalence of chain grocery stores in Black neighborhoods is about 52% and in Hispanic neighborhoods about 32% of that found in White neighborhoods when adjusted for income and other variables (Powell et al., 2007). In place of chain grocery stores are convenience or corner stores and fast-food restaurants which carry less healthful, energy-dense foods and very little produce (Grigsby-Toussaint et al., 2010) (Walker, et al., 2010) (Ohri-Vachaspati et al., 2019). Individuals who rely on these foods can develop "weight gain and [compromised] blood sugar, blood pressure, and lipid control" (Palar et al., 2019, para. 2). Furthermore, grocery and convenience stores are not likely to carry an array of culturally relevant food options, which creates further barriers to healthy eating

(Grigsby-Toussaint et al., 2010) This can be particularly harmful to non-English speakers who are unfamiliar with the food offerings in the United States and are unsure of how to use the products available in their local grocery stores (Grigsby-Toussaint et al., 2010). Additional barriers to food access include a lack of physical safety, sidewalks to access grocery stores, and time to shop due to juggling multiple jobs or heading a single-parent household, and restricted access to personal or public transportation due to financial burdens (Walker et al., 2010).

Food insecurity is defined as limited or uncertain access to sufficient, safe, and nutritious food to maintain a healthy life (Palar et al., 2019). Food insecurity can result in increased rates of mental health issues, chronic disease, and delayed development among youths. It has also been shown to correlate with higher rates of violence exposure among children (Hecht et al., 2018). According to the United States Department of Agriculture, approximately 8% of non-Hispanic White households were food insecure while 21% and 16% of Black and Hispanic households respectively were food insecure (Coleman-Jensen et al., 2019). It is imperative that people living in low-income neighborhoods and communities of color achieve a healthy diet. Poor nutrition can reduce the body's ability to fight off pathogens, making it more susceptible to disease, and low-income communities of color are more likely to be exposed to environmental pollutants and experience economic and race-related stress (Franklin et al., 2006). These variables weaken the immune system even further. Race-related stress can be caused by police presence and brutality; internalized racism; psychological and physical distress from racist remarks, violence, and microaggressions; tokenism; and transgenerational transmission of stress (Franklin et al., 2006).

Physical access to food is not the only barrier to achieving a healthy diet. Studies have shown that inserting a supermarket into a neighborhood will not always change food purchasing patterns for residents (Cummins et al., 2014). Race-related stress can influence disordered eating

patterns such as overeating as a coping mechanism, which can lead to obesity, hypertension and diabetes (Connolly, 2011) (Small & Fuller, 2020) and (Hayes-Conroy & Hayes-Conroy, 2016). Hayes-Conroy explains how “racism was so deeply traumatizing” that she “sought solace in the foods” that her White “peers looked down upon with disgust” (p. 140). Even though there were plenty of healthy foods available for her, other race-related barriers stood in her way of consuming healthful foods. This anecdote demonstrates the complexities of healthy eating and explores how racism permeates facets of lifestyle behavior that may not always be outwardly apparent.

Under-resourced localities can be environmentally inhibitive for exercise for adults and outdoor play for children, further disrupting their health. Safety factors such as traffic and fear of violence can prevent household members from spending time outdoors. Other aspects, such as high costs of gym membership, time constraints, and lack of motivation can also contribute to a sedentary lifestyle (Baruth et al., 2014). Lastly, as there is a lack of grocery stores in communities of color, there is a paucity of physical fitness facilities as well.

These are all compounding stressors that people living in White middle- and upper-class neighborhoods are not typically exposed to and contribute to the fact that racial minorities are 1.5-2 times more likely to develop a major chronic disease (Price et al., 2013). In general, communities of color “tend to have higher rates of mortality, morbidity, and health risk factors compared with White neighborhoods, even after accounting for economic and other characteristics” (Gee & Payne-Sturges, 2004, para. 7). Minority youths are disproportionately more likely to develop a chronic disease such as asthma, diabetes, obesity, hypertension, mental illness or attention-deficit/hyperactivity disorder than their White counterparts. Racial discrimination in healthcare (both in coverage, accessibility and practice) makes it more difficult

for these populations to recover, and the majority of children that are uninsured are racial/ethnic minorities (Price et al., 2013). Similarly, racial discrimination introduces stressors that negatively affect pregnancy and birth outcomes; Black and Indigenous women are 2-3 times more likely to die during childbirth and women of color are more likely to give birth to infants with lower birth weights, a leading cause of infant mortality. Black infants are twice as likely to die before their first birthday than their White counterparts and are born with a very low birth weight three times as often. Low birth weight also impacts childhood growth and development and can have severe consequences as children mature into adulthood (Dominguez et al., 2008) and (“Racial and Ethnic Disparities”, 2019).

These health disparities as a result of segregation and racism compound leading to localized poverty and poor health outcomes among communities of color, creating a perpetuating cycle. Since “residential segregation leads to differential experiences of community stress, exposure to pollutants, and access to local resources... when not counterbalanced by resources, stressors may lead to heightened vulnerability to environmental hazards” (Gee & Payne-Sturges, 2004, para. 1). It is essential that communities of color have access to the appropriate resources to dismantle this cycle; otherwise, it will continue to intensify. It is imperative to understand the interconnectedness of all the variables in this cycle that contribute to health disparities in order to introduce resources and processes that will be culturally appropriate.

Racism in Wellness

Another barrier to communities of color improving health outcomes is the racism associated with the recent wellness and alternative food movement (AFM) upsurge. AFMs include local food movements such as community-supported agriculture and farmers markets, dietary trends such as veganism, and the popularity of purchasing organic products. The modern

food movement calls upon Americans to consume locally produced, fresh, organic and non-processed foods as a way to defy the heavily mechanized and monocrop agriculture that is commonplace today (Alkon & Agyeman, 2011, p. 14) This discourse encourages individuals to “vote with [their] fork” with the belief that, if enough people were to choose this lifestyle, corporate agriculture and its negative consequences would dissipate (Holt-Giménez, 2010, p.2). Economically supporting local agriculture is akin to supporting environmental sustainability, local farms, fair labor practices, community health, and the local economy (Bradley & Herrera, 2015). The consumer who makes these purchasing decisions is healthier than the consumer who does not. BBMG, a Brooklyn-based marketing agency, describes the newly-trending conscious consumer as someone who “[seeks] natural, organic and unmodified products that meet their essential health and nutrition needs. They avoid chemicals or pesticides that can harm their health or the planet. They are looking for standards and safeguards to ensure the quality of the products they consume” (Bemporad & Baranowski, 2007, p. 2).. According to BBMG, the five core values that define a conscious consumer are “health and safety, honesty, convenience, relationships, and doing good” (Bemporad & Baranowski, 2007, p. 2). Conversely, consumers that ‘choose’ not to comply with this movement are perceived as supporting the opposite; as unhealthy, immoral, unprincipled, and supporting corporate agriculture and the degradation of the environment.

Although supporting local sustainable agriculture is important, the modern food movement is exclusionary. The food moralist narrative is created by and for middle- and upper-class White people and is informed by their “White racialized embodied experiences in the US” whose “consciousness has been shaped by such racial and class locations, which informs their sense of food, ethics, and justice” (Hayes-Conroy & Hayes-Conroy, 2016, p. 141). “Racialized

consciousness” is when a White person “does not understand when they are engaging in covert acts of Whiteness/White privilege racism when they believe they are sincerely engaging in activism like food justice” (Hayes-Conroy & Hayes-Conroy, 2016, p. 142). They may not realize the environmental privilege they hold in living in an area with greater access to more nutritious options. Consumers do not have access to local foods for many reasons, including the physical and economic ability to access them. The people most deeply harmed by the current food system, as described above, are low-income communities of color. It is important that these residents take part in food movements, but oftentimes they are simply out of reach. A trip to a fast food restaurant to feed the family is extremely time and economically efficient. Frequently, it is the best or only option for households at that point in time. It is unfair to place judgment on these individuals for ‘not complying’ with alternative food discourse. Food moralism is harmful, exclusionary and racially discriminatory. It is a narrative that further marginalizes and stigmatizes communities of color.

Trauma

Trauma can broadly be defined as “experiences that produce enduring emotional pain and distress” (Bowen & Murshid, 2016, p. 1). Repeated trauma through racist institutional policies, interpersonal interactions, and cultural beliefs (such as racist stereotypes) combine to make living day-to-day as a Black, Indigenous or Person of Color (BIPOC) exceedingly difficult and stressful. The suffering that results from this trauma is “structured by processes and forces that conspire—whether through routine, ritual, or more commonly, the hard surfaces of economics and politics—to constrain agency.” (Bowen & Murshid, 2016, para. 6). The major consequences of this suffering include the development of shame and a loss of critical consciousness. This pervasive shame develops as “negative stereotypes and expectations are embedded in societal

beliefs and disseminated via interpersonal interactions, mass media and institutional policies” (Johnson, 2020, p. 3). It is also important to acknowledge the intersection of oppressive forces that may cause further harm. For example, a Black transgender woman experiences the intersection of racism, sexism, and transphobia, making her trauma more complex. When oppression is as ingrained in society as racism is, it is difficult for the oppressed to distinguish the systems that intentionally suppress their autonomy (Slater, 2001). As communities begin to see and hear these harmful stereotypes about themselves constantly repeated, they begin to internalize them (Glover, 2003). Furthermore, America’s ‘colorblindness’, a harmful belief that the concept of race should be ignored or erased, removes the trauma that people of color (particularly Black people) have endured throughout America’s existence (Apfelbaum et al., 2012). This negative self-identity and gaslighting by American culture make positive community development difficult because it reduces feelings of critical consciousness, which is the “capacity to recognize and overcome sociopolitical barriers” (Diemer & Blustein, 2006, p. 1). When entities consider implementing health interventions in these communities, public health experts must recognize the residents’ feelings, understand their trauma and realize how these unique experiences shape their behavior.

Trauma-Informed Social Policy

Trauma-informed social policy mimics the provisions of trauma-informed care, which is an “organizational change process centered on principles intended to promote healing and reduce the risk of retraumatization for vulnerable individuals” and “recognizes the intersection of trauma with many health and social problems for which people seek services and treatment, aiming to sensitively address trauma along with an individual’s issue” (Bowen & Murshid, 2016, para. 2). The framework includes six core principles including safety, trustworthiness and

transparency, collaboration, empowerment, choice, and intersectionality (Hecht et al., 2018).

Urban agriculture itself addresses numerous aspects of this framework and provides a plethora of benefits, as I will discuss in the next section. Combining urban agriculture with this framework can potentially influence very positive health outcomes in affected regions across America.

Urban Farming

Farming can be an extremely effective public health tool for urban neighborhoods. An urban farm can be defined as an “intentional effort by an individual or a community to grow its capacity for self-sufficiency and well-being through the cultivation of plants” and includes community gardens, school gardens, and organizations that grow produce for the local area (Hanson et al., 2012, p. 5). Urban farms have the potential to address many of the plights caused by racism and urban segregation. Green space availability, violence and crime, food insecurity, and community health are areas that urban farming can impact, and all contribute to helping neighborhoods build their own identity and assert their culture.

Benefits of urban farming

Green spaces are typically less common in cities than in suburban and rural areas. Cities tend to be much more congested than other neighborhoods in general due to smaller lot sizes and a more densely packed population. Cities are made up of buildings, grey spaces, which are spaces between buildings comprised of hard infrastructure, and some public spaces such as parks and playgrounds (van den Berg et al., 2015) whereas suburban and rural areas tend to have more space for lawns, fields, and natural space. Low-income urban populations, particularly communities of color, are more likely to be under-funded than other neighborhoods, which contributes to a lack of parks and public spaces for those residents. Furthermore, time and

transportation constraints prevent many urban households from accessing green spaces (Dai, 2011).

A lack of green space is problematic for numerous reasons. Green space is important to mitigate the heat island effect, promote species biodiversity, and purify the air. Furthermore, it positively influences mental and physical health by promoting physical activity, decreasing overall stress levels, and encouraging social interaction (van den Berg et al., 2015). It can also foster cognitive development among youth and can minimize the symptoms of attention-deficit/hyperactivity disorder (ADHD) (Westphal, 2003). Green spaces are extremely vital in health promotion and environmental justice, and urban farms are a way to insert them into cities. Oftentimes, urban farms and gardens replace overgrown and abandoned lots, which are hotbeds for illegal dumping and criminal activity (Kondo et al., 2016). The transformation of an abandoned lot to a food-producing green space has been associated with a reduction of felony assault, burglary, robbery, and theft in the surrounding neighborhood, with no spillover of crime into adjacent regions (Kondo et al., 2016). Therefore, urban agriculture can address the safety principle in the trauma-informed framework. These increased feelings of safety influence residents to partake in more outdoor recreational activities, which promotes social interaction and increases physical activity.

Green space availability is an important determinant of health, as is gardening. The physical act of gardening is an effective form of physical activity. Furthermore, the produce cultivated from urban farms can help residents increase their intake of fruits and vegetables and also reduce a few barriers to accessing healthy foods, such as physical access. If there are no supermarkets nearby, an urban farm might be the only feasible way of retrieving fruits and vegetables. Urban farms can also greatly reduce or eliminate the cost of produce. Finally, urban

farms enable residents to control the types of plants that are grown, providing access to culturally relevant fruits, vegetables, herbs, and medicinal plants. This allows individuals and communities to assert their cultural identity and heritage and pass down traditional foods to younger generations, thus contributing to mental well-being and cultural pride, while maintaining cultural diversity. It also introduces additional food options into the equation, an important concept in the trauma-informed care framework and a step closer to food sovereignty. A community garden can also provide a place of solace and safety, an escape from harsh realities, an opportunity for residents to reconnect with themselves and nature in a space that is free of judgment and respectful of diverse cultures, a refuge for individuals living in violent or distressing households, and heightened feelings of self-worth, particularly when providing others with the fruits of their labor (Slater, 2001) (Palar et al., 2019). Additionally, leadership positions within the farm allow residents to feel self-confident and empowered. Empowerment is an essential component of the social determinants of health and is one of the six core principles of trauma-informed care. Lastly, the urban farm can employ locals, providing them with professional and leadership experience and youth development opportunities while also stimulating the local economy.

These benefits provide residents with social capital, or “links, shared values and understandings in society that enable individuals and groups to trust each other and to work together”, and sense of place, including place attachment (OECD, 2009, p. 102). High levels of social capital are an indicator of community health and, when combined with place attachment, can mobilize residents to come together to partake in community betterment initiatives and other social activities (Wang & Martin, 2006). An increase in community involvement can connect residents with local politicians and decision-makers. These connections can help the local councils and decision-makers better understand the needs of their constituents and can

potentially result in positive policy changes (Westphal, 2003). Urban farms have the potential to provide residents with many tools to overcome structural hurdles; however, they cannot address all of the trauma that has been discussed in this paper. Urban farms cannot reduce police brutality or help schools get funded. It is for this reason that the efforts to implement community garden programming must be supplemented by other policies to support these oppressed populations in the recovery from the institutionalized racism that has been a barrier to their success.

Trauma-Informed Care: Community Gardens

Though urban agriculture has the potential to offer a plethora of benefits on its own, it cannot provide a holistic solution to the structural problems that exist in poor, urban communities. Furthermore, there have been some cases where community gardens seemed to cause more harm than good due to poor communication and leadership and lack of social cohesion/problem solving abilities (Nolan & March, 2016). Some research has demonstrated that community gardens can improve a participant's diet by increasing their fruit and vegetable intake (Alaimo et al., 2008) though whether urban agriculture alone can benefit food security is up for debate (Corrigan, 2011). To maximize the effectiveness of community garden food security and nutrition, it is essential to integrate trauma-informed social policy into its implementation. There are numerous barriers to healthy eating, and an urban farm alone cannot address all of them. Food insecurity and poor diets are symptoms of the larger issue at hand, which is systemic racism. Decision makers should apply the framework of trauma-informed care when hoping to establish a functional community garden and influence positive nutritional outcomes for its residents.

Policy Recommendations

Research tells us that healthy behaviors are heavily impacted by environmental, interpersonal, and cultural influences. In marginalized populations, it is abundantly clear that racism negatively impacts all aspects of health. For this reason, nutrition education can be defined as “any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoption of food choices and other food and nutrition- related behaviors conducive to health and well-being; nutrition education is delivered through multiple venues and involves activities at the individual, community, and policy levels” (Contento, 2008, p. 177). Research has shown that “self-efficacy, or the belief that one can perform a behavior even under difficult challenges, has been consistently shown to be an important predictor of health behavior changes” (Sorensen et al., 2003, para. 6). Moreover, investing in social capital and empowering residents have been shown to influence adoption of healthy eating patterns (Slater, 2001) (Berti et al., 2004). This is why a program focused only on nutrition information dissemination should not be the only variable included in a nutrition promotion program. An effective program must address the root of the problem which is why it is essential to identify systemic influences that empower these residents (Holt-Giménez, 2010). I suggest that nutrition promotion in under-resourced areas include components of food justice and changes to the racist systems that have caused harm. This is the most equitable and efficient approach to health promotion, though not the simplest. The complexity and depth of these interrelated systems make solutions very complex; they take much planning, preparation, and relevant knowledge.

In the first step of health promotion, the organization implementing the program must understand the community they are serving. They must be culturally competent and aware of the history of structural racism in the United States and in that specific region. Nutrition educators

and their organization should begin with a loosely designed plan rather than a concrete one. They should identify major barriers, concerns, questions, and cultural behavior surrounding health and nutrition and develop their programming around them. The results have potential to drastically shift the course of the program. Barriers to living a healthy lifestyle can be environmental or behavioral; examples include transportation and time constraints, disordered eating patterns, safety issues, mental illness, a lack of knowledge surrounding healthfulness, and language and economic barriers. Questions and concerns could revolve around chronic disease (such as recommended food options for people with diabetes), cooking, pregnancy, and pediatric health. Cultural norms can also help an educator better understand why residents make various dietary choices to target areas for change.

Once the organization understands the community's needs, they should synthesize this information, identify trends, and develop a relevant program to cater to those specific needs. If a local barrier to accessing healthy foods is a lack of sidewalks, for example, a nutrition program and urban garden are not enough. This is why the organization must advocate for structural change and offer solutions themselves. They could lobby for bike lanes or sidewalks, organize bus stop markets, raise funds for a mobile market, or organize the implementation of a farmer's market as possible solutions. If established, the farmer's market should become an authorized Supplemental Nutrition Assistance Program (SNAP) and Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) retailer. The urban farm could also offer residents home gardening supplies and either virtual or in-person gardening classes and workshops. They could also advocate for healthier food options in corner stores or bodegas that are more accessible.

If a neighborhood is predominately comprised of immigrants, residents may not be familiar with some of the ingredients typically available at their local supermarket. Educators could develop a program to teach them how to use accessible ingredients in lieu of traditional ones. For example, they could make a culturally relevant dish replacing jicama, uncommon in many supermarkets in the United States, with daikon radishes or water chestnuts, which are more likely to be locally available. They could also source culturally relevant seeds for planting.

Some questions and concerns may arise regarding pediatric health. For example, parents may have difficulty influencing their children to eat healthy foods such as fruits and vegetables, as they may be unwilling to try new foods, or they may simply refuse to eat them. In this case, the urban farm could contract a registered dietician and/or child psychologist to discuss tailored solutions, develop youth programming at the garden, or assist in the development of school gardens in the area, as school gardens have been shown effective at shifting child perceptions of food and influencing healthier eating habits (Shafer, 2018). Furthermore, they could advocate for Farm to School programming, which benefits not only childhood nutrition but the local economy and farmers as well (National Farm to School Network, 2019).

Cultural norms can also positively and negatively impact health behaviors. For example, a study in a predominately Black and low-income neighborhood found that some barriers to healthy eating and exercise were due to social influences. Feelings of intimidation and embarrassment as well as negative comments about body size from strangers and acquaintances in public were commonly reported as barriers to exercise. Furthermore, a lack of support from friends, family, and coworkers in their healthy eating goals was particularly detrimental. Additionally, many participants claimed they did not want to have a healthy diet because they wanted to maintain their curvaceous figure and avoid being “skinny, skinny” (Baruth et al., 2014,

“Race and Culture” para. 1). A solution could include body image counseling alongside health and nutrition courses. Trends like this vary from one community to the next, so it is imperative to understand the prevailing thoughts and feelings in a given neighborhood.

Addressing the Trauma-Informed Framework

Urban farms should incorporate the trauma-informed framework into their planning efforts to ensure the community is adequately served. Utilizing this method allows the neighborhood to become more resilient, healthy, and safe; it ensures that the complexities of structural racism are identified and addressed.

1. Safety

Safety, the first of the six principles in the framework, is meant to “ensure physical and emotional safety and prevent further trauma from occurring” (Hecht et al., 2018, table 1). Marginalized populations have already experienced much race-related trauma and violence; therefore, it is important that programmatic implementation ensures and strengthens community safety. Helping residents heal from systemic violence can play a role in accomplishing this goal.

Urban farms provide a plethora of safety-related benefits to the community, including decreasing violence and crime and providing residents a place of peace and respite. Urban farm programs can enhance these benefits through the use of community cohesion and safety-related programming, including civic engagement outreach, healing programs, and the use of safe pest and weed repellants and fertilizers. Involving residents in short-term community betterment projects such as tree planting or gardening projects can build social cohesion and connections, which can result in a reduction of criminal behavior and an increase in critical consciousness. Healing programs can be utilized for individuals afflicted by trauma. Gardens can facilitate healing through trauma-specific programs such as grief and sexual violence counseling and

physical and cognitive rehabilitation. Farms can partner with local juvenile detention centers, addiction recovery centers, foster homes, domestic violence survivor support organizations, prisons, schools and hospitals to create these initiatives. Grassroots Gardens is a nonprofit organization that assists communities in building and maintaining community gardens in Buffalo. Recent initiatives have been trauma-focused and implemented in residential facilities. They built gardens in a foster home, youth detention center, and domestic violence shelter to provide grief and trauma focused counseling programs in the garden. These programs are particularly impactful in residential facilities, because residents lack the freedom to move autonomously throughout their neighborhood due to legal and safety constraints. Lastly, it is essential that the food from the farm contributes to the health of the residents; therefore, any agricultural input used must be safe for human consumption.

On a more general scale, food-related safety includes food availability and emergency preparedness. As this paper has outlined, accessibility to healthy food in marginalized communities is quite limited, which results in poorer health outcomes. Thus, supporting initiatives to increase the prevalence of and transportation to these outlets is important. Massachusetts Avenue Project is an urban farm organization in Buffalo that is heavily involved in advocacy work. One of their initiatives to increase accessibility to foods has included neighborhood canvassing to determine interest in the availability of produce at local corner stores and then finding a pathway to make that happen. They have also played a role in changing citywide backyard chicken and urban agriculture zoning laws. Solutions like these are effective at improving local health outcomes. Moreover, since general accessibility and economic ability to stock up on emergency supplies are already issues, crises only exacerbate the problem of food insecurity and improper nutrition. Inclement weather, delayed public transportation, and health

pandemics can restrict people's ability to obtain food, so it would be beneficial for an urban farm to partner with local agencies to create emergency food stocks that contain foods safe for all people, including infant formula and allergen-free options (Hecht, 2018). Doing so will help maintain proper diets among residents who need emergency assistance.

Police racism and violence puts the safety of communities of color at great risk.

Advocacy work surrounding police brutality could include supporting the implementation of local police body cameras and ensuring that they are always turned on when responding to calls, demilitarizing the force, requiring bias training, and ending racist police tactics such as broken windows policing (Campaign Zero, 2020). Further policy work could include advocating for additional sidewalks and bike lanes, community beautification projects, lower speed limits, or other safety-related policies the neighborhood needs.

2. Trustworthiness and Transparency

Oppressed populations have been institutionally harmed throughout American history. This deep-rooted fear has resulted in a lack of trust between neighborhood residents and the government and other policy-enacting organizations. This is why it is essential for urban farms to be trustworthy and transparent in their operations to “maintain transparency in policies and procedures, with the objective of building trust among stakeholders” (Hecht et al., 2018, Table 1). Organizations should include the community in their operations and build lasting partnerships with local organizations. They should gauge community needs before developing health programming or advocating for policies, as Massachusetts Avenue Project in Buffalo does. Before MAP enacts advocacy work, they ensure the community is in support of the policies. Employees who are not essential to the immediate operation of the garden are given time off of

their normal work schedule to canvass neighborhoods and gauge interest in their proposals. If the community overwhelmingly supports it, they go forward with their advocacy plans.

3. Collaboration

One way for urban farms to maintain relevance and trust through the collaboration and peer support principle is by partnering with prominent and respected organizations, such as churches, food pantries, and food banks. The trustworthiness and transparency principle ties in closely with the collaboration principle, because involvement with prominent local organizations can help identify community needs and display credibility.

Churches have been shown to play important and effective roles in health initiatives (McNeill et al., 2018) (Resnicow et al., 2001) (Johnson-Lawrence et al., 2019). Additionally, when a high-ranking member of the trusted partner organization displays support for these partnerships and programming, positive outcomes generally follow (Pinsker et al., 2017). Partnerships through a church could also be a tactic for increasing participation in programming. The church could host wellness fairs, fitness classes and cooking demonstrations as an outreach initiative by the farm to increase engagement. Hosting events directly after a service could influence individuals to attend since it does not involve extra travel. Furthermore, it could positively change the collective culture around healthy foods, cooking, and exercising. Additional institutions that would be valuable partners include local universities, colleges, and university extensions. They can be effective resources to develop health promotion materials and provide resources. For example, the Cornell Cooperative Extension has an Expanded Food and Nutrition Education Program where they provide income-eligible families and youth with hands-on workshops covering a variety of topics including food budgeting, food preparation, and food

safety (Paddock, 2019). Partnerships with the extension could allow for curriculum or personnel sharing to disseminate this information to urban farm participants.

While urban gardening provides numerous benefits, implementing green spaces into a region can result in gentrification. Though widely touted in literature as a benefit, green spaces can cause property values to increase and eventually displace residents through higher rent and property taxes. Gentrification can be combatted through partnerships and collaboration with the local government and city planners to offer rent control and tenant option to purchase policies, just-cause eviction ordinances, vacancy taxes, and development restrictions through the use of community benefits agreements (National Low-Income Housing Coalition, 2019).

4. Empowerment

Empowerment is the fourth principle of the trauma-informed framework. As outlined, this is a crucial component of improving health outcomes and making positive behavioral changes. Urban farms provide many empowerment benefits. Furthermore, if the organization takes resident concerns into account and enacts policies or programming tailored to those requests, the population will feel empowered (Hecht, 2018). A behavioral change technique that came up very frequently in effective health intervention literature is motivational interviewing, a “client-centered, directive method for enhancing intrinsic motivation to change by exploring and resolving ambivalence” where the psychological work is mainly completed by the client but guided by the counselor (Markland et al., 2005, p. 813). The counselor is empathetic, understanding, and encouraging, and “rolls with [client] resistance rather than [contesting] it” (Resnicow et al., 2001, “Cue and Counseling Calls” para. 2). They use their skills to elicit motivational statements and behavioral change from their clients rather than simply disseminating information. They help their clients feel empowered and in control of their

decisions. Nutrition interventions should utilize this method to maximize the effectiveness of their program.

5. Choice

The fifth principle, choice, “seeks to preserve people’s ability to make choices freely and maintain a feeling of control” and is very prevalent in the conversation surrounding marginalized populations’ relationship with food (Hecht, 2018, Table 1). The barriers to food access that oppressed people face severely limit the number of available food outlets, which can leave them feeling disempowered. Urban farms can be a partial solution to this problem, particularly if they are involved in outreach for home and school gardens. They can serve as another food source for residents and also provide culturally relevant options. They can partner with local food banks and churches to distribute excess food from urban gardening, devote entire portions of urban farms to grow and harvest fruits and vegetables to send to food banks, collaborate with the organizations outlined in the “safety” section, or create mobile or bus stop markets. Urban farm organizations should combine these outreach initiatives with advocacy for policies that increase accessibility to food sources including infrastructure improvements, zoning laws, supermarket expansions, and healthier options in local corner stores. Furthermore, lobbying for a higher minimum wage and more affordable housing could allow residents more economic mobility and freedom, allowing for a greater number of food purchasing options.

6. Intersectionality

Lastly, intersectionality accounts for compounding variables of oppression that occur on the basis of race, ethnicity, gender, social class, LGBTQ+ status, and age. Awareness of the history and existence of intersectional trauma in these communities is absolutely essential. In

order to create a sustainable and effective nutrition intervention program, systemic oppression must be addressed.

Conclusion

It is essential for public health experts and policy makers to understand that in order to influence positive behavior modifications, they must provide oppressed populations with environmental changes that can positively affect residents' self-efficacy and critical consciousness and empower them as individuals and as a community. The more a population believes that they matter, the more they will take actions to influence a positive outcome for themselves and their neighborhood. When completing health interventions, if experts do not take the time to learn about the trauma that marginalized communities endure, they cannot have a comprehensive understanding of the community's health needs. The trauma-informed framework is a valuable tool that should be utilized to ensure a comprehensive approach to urban farm nutrition interventions. Establishing community-supported policies and programs that support sustainable health promotion will be the most productive and equitable way to positively affect behavior change.

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