Engaging and empowering youth to promote health could be important in promoting sustainable positive behaviors. Photovoice is a community-based participatory research tool giving priority populations opportunities for active community engagement and advocacy through photography. Our project objective was to better understand youth perceptions related to food justice within their own community and identify solutions to promote positive change, using photovoice. Twelve minority youth from a low-income New York City neighborhood participated. Six photovoice sessions were conducted within a 24-week after-school food justice program, which included three photo assignments aimed at answering, “What influences me to eat healthy and unhealthy in my community and home environment?” Photos guided interviews and discussions. Inductive and deductive processes were used to identify codes; similar codes were grouped into themes. Five major themes emerged from the data: (1) attitudes toward food industry and food safety, (2) environmental influences of food choices, (3) social influences of food choices, (4) diet impact on health and well-being, and (5) solutions to improve the food environment. Participants shared their photos with community members at a celebration/photo exhibit. Photovoice could be a useful tool for youth to reflect on their food environment and engage in promoting positive change within their community.

INTRODUCTION

Childhood obesity continues to be a serious public health issue in the United States as one third of 6- to 19-year-old youth are considered overweight or obese (Ogden, Carroll, Kit, & Flegal, 2014; Ogden, Flegal, Carroll, & Johnson, 2002). In New York City (NYC) alone, nearly 40% of public school children Grades K through 8 are overweight or obese with rates disproportionately higher in low-income neighborhoods (Egger, Bartley, Benson, Bellino, & Kerker, 2009). This increased prevalence poses a greater risk for extensive physical, psychosocial, and economic consequences (Pizzi & Vroman, 2013; Pulgarón, 2013; Trasande & Elbel, 2012).

Keywords: community-based participatory research; health research; child/adolescent health; minority health; photovoice; food justice
as obesity not only compromises a child’s quality of life but also increases the risk of developing such health problems as cardiovascular disease and type 2 diabetes (Freedman, Khan, Dietz, Srinivasan, & Berenson, 2001). Youth residing in low-income urban communities are at greater risk due to factors related to food injustice within their environments (Lang & Heasman), such as abundant access to poor quality energy-dense foods, inequitable access to reasonably priced fresh produce, and targeted marketing of unhealthy foods (Larson, Story, & Nelson, 2009; Walker, Keane, & Burke, 2010). These inequities in the food environment have been documented by various approaches, which include using geographic information system technology and census data and conducting surveys, in-store observations, and interviews with community stakeholders (Walker et al., 2010).

The evidence indicates a need for policy initiatives and environmental approaches to achieve food justice, which could ensure equitable access to healthy foods across all communities (Hilmers, Hilmers, & Dave, 2012; Story, Kaphingst, Robinson-O’Brien, & Glanz, 2008). Many initiatives have been implemented in different communities to address food equity issues, such as the expansion of farmer’s markets specifically in underserved communities, for example, the Greenmarket Farmers Markets in NYC (GrowNYC, 2015) and The Food Trust’s Farmers’ Market Program in Philadelphia (The Food Trust, 2012). New York City has also implemented the Green Carts Initiative wherein it provides micro loans and technical assistance for cart operators to sell fruits and vegetables in neighborhoods that lack access to healthy, affordable produce (Fuchs, Hollway, Bayer, & Feathers, 2014).

Food justice initiatives address these issues by increasing people’s capacity to “address inequities while seeking to change the [food] system as a whole” (Gottlieb & Joshi, 2010, p. 7). Engagement of all community members, including youth, is a key component of such initiatives. Leveraging the strengths of youth as critical thinkers and problem solvers aims to engage and empower them to address issues they believe to be important to themselves, their families, and their communities. Empowerment, which has often been defined as a critical understanding of one’s environment (Zimmerman, Israel, Schulz, & Checkoway, 1992) and a mechanism by which people, groups, and communities gain control over their affairs (Rappaport, 1987), could lead to positive and, more important, sustainable impact. Thus, engaging at-risk youth around their personal health and motivating them to promote positive change in their own communities could be an effective approach to address food justice.

Photovoice is a unique community-based participatory research method that involves placing cameras in the hands of people so they can record and reflect on strengths and concerns within their community using photographic images (Wang, 1999; Wang & Burris, 1997). Photovoice has been shown to be a promising strategy for engaging people; it has been used extensively with adolescents, especially around health and justice issues (Findholt, Michael, & Davis, 2011; Hannay, Dudley, Milan, & Leibovitz, 2013; Wilson et al., 2007). These collaborative partnerships between researchers and community members combine the knowledge and expertise of both groups to ultimately improve health outcomes and eliminate health disparities (Faridi, Grunbaum, Gray, Franks, & Simoes, 2007). Thus, the integration of photovoice into an after-school food justice program for youth not only is a unique approach to linking research and practice but also could be an innovative and effective approach to addressing health disparities as it enhances the youth learning process through active participation to understand food-related health inequities and empowerment, in order to promote change in their own communities (Strack, Magill, & McDonagh, 2004).

To our knowledge, few if any studies have explored the practice implications of photovoice by its incorporation into a food justice curriculum for middle school youth. The objective of this project was to better understand youth perceptions related to food justice and injustice within their own community and identify solutions to promote positive change, using photovoice.

METHOD

Description of the Food Justice Program

The food justice program was 24 weeks long and comprised three phases. In Phase 1 (Exploring Food Justice With Photovoice), participants examined the concept of food justice and conducted assessments, using photovoice, to identify food justice and injustice in their community. Photovoice was actively incorporated into Phase 1 of the food justice program to enhance the learning process and increase opportunities for youth to discuss and reflect on relevant topics and to identify possible solutions to address food injustice in their community. Additional details related to Phase 1 are provided in the section “Exploring Food Justice With Photovoice.” The remaining two phases, which are not within the scope of this article, included planning a youth-led community food justice project and taking action to implement it. The after-school
food justice curriculum was developed through a collaborative process with program staff (Director of Nutrition and Foods Programs, food justice coordinator, and instructors) and academic researchers and research assistants (RAs).

Setting

The program was conducted at a community site of one of the oldest NYC nonprofit organizations focused on providing programming and assistance for children living in poverty. The neighborhood in which the study was conducted, East Harlem, New York, is considered as one of NYC’s high-risk neighborhoods related to health disparities due to high concentrations of poverty, crime, poor housing, and limited access to health care (King et al., 2015).

Participants

Youth in the food justice program also participated in the photovoice project (Phase 1 of program), which was composed of seven females and five males (n = 12) in Grades 6 to 8 (ages 11 to 14 years). All were residents of East Harlem, New York, and majority (11 out of 12) were Hispanic or Black/African American; one was White. Program site staff selected participants based on two criteria (1) youth who expressed interest in food justice and health issues and/or (2) youth who were considered to have a supportive home environment to complete home photovoice assignments. These inclusion criteria were used because, based on prior experiences of the site staff, this was one of the most successful approaches to minimize attrition and increase engagement within afterschool programs, particularly for those lasting more than one academic semester.

Parental consent and youth assent were obtained prior to project initiation. On completion of each home photovoice assignment, participants received a $5 store gift card. The project was approved by Hunter College’s and the nonprofit organization’s institutional review boards.

Exploring Food Justice With Photovoice (Phase 1 of Program)

The photovoice component of the food justice program included six sessions and three photo assignments via a community assessment and two home assignments. Sessions were conducted over a 10-week period, beginning October 2012, led by a Hunter College RA, who was a graduate student in nutrition, and a food justice instructor, who had previous experience with youth and community food projects. Sessions were approximately 90 minutes long.

Session 1 provided a short lesson on basic photography and safety issues associated with photographing the environment. The photovoice concept was introduced and findings of other youth photovoice projects that had been conducted by the lead author were shared with the participants.

Session 2 began with the RA leading a guided photo expedition so participants could explore and learn how to frame photos to convey thoughts and communicate ideas. The topic for the photo expedition, “What do you like about being a part of (this organization)?” was deliberately chosen to not be food-related, with the aim of minimizing potential bias with future photovoice assignments. Following the expedition, a brief discussion about food justice occurred to ensure there was a basic understanding of the topics so participants would be able to think independently about their own perceptions and concerns during the photo assignments. The discussion specifically addressed key concepts related to food justice, such as the food system, the relationship between food and health, and environmental and social influences of dietary choices. While images were used to engage the youth, the discussion comprised mainly broad questions to allow the youth to share their personal perspectives and to minimize RA and instructor bias.

In Session 3, participants completed a community food assessment, which was conducted in groups of three to four, in a geographic region of a five- to six-block radius around the program site. During the assessment, youth took photos documenting barriers and facilitators of healthy eating in various venues, including street carts/vendors, fast food establishments, and bodegas (convenience stores). The program staff and youth collaboratively determined the venues in which the community food assessment was conducted.

After the assessment, the first home photovoice assignment was issued, intended to answer the question “What influences me to eat healthy or unhealthy in my home environment?” Participants were provided digital cameras and given one week to take at least five photos related to the assigned topic. The assignment question was intentionally designed to be broad as the researchers wanted the youth to have the flexibility to document any environment or situation they felt were most important and influential to them personally. However, for potential safety concerns, it was recommended to the youth to minimize taking photos of people.

Session 4 began with participants selecting two to three photos they had taken that best answered the assignment question. The selection of photos composed of those taken from both the home assignment and the
community assessment as youth expressed the desire to have the full range of photos to choose from in order to properly capture their perspectives. The selected photos provided the foundation for in-depth semistructured interviews and a focus group discussion conducted by the RAs and food justice instructor using six questions adapted from the SHOWeD technique (Wang, Yi, Tao, & Carovano, 1998), to progressively challenge participants to discuss possible solutions and roles they could play in promoting change within their food environment. Such questions included, “What story does the photo tell us about food and health?” and “What can we do about this situation?” A total of four in-depth interviews and one focus group discussion were conducted. Certain youth preferred to speak individually and reflect personally on the photos they had taken, while others favored a group setting to engage in a conversation around photos they all felt best captured their perspectives. Youth participated in either an interview or group discussion based on personal preference.

In Session 5, youth participants interviewed neighborhood residents on the streets to better understand how community members “experience” the food environment, with the ultimate goal of planning and implementing a community food justice project in the latter phases of the program. A week prior to the community interviews, the youth refined their interviewing skills by being provided a script and practiced asking the questions with each other. The program staff initially drafted the interview questions. Youth then reviewed the questions and provided feedback, which was incorporated into the final questions. One of the questions asked was, “If you could make any change in your environment regarding food, what would you do?”

Following the community interviews, the second home photovoice assignment was issued focused on addressing the same question as before: “What influences me to eat healthy or unhealthy in my home environment?” Participants were provided digital cameras and given one week to take at least five photos related to the assigned topic.

In Session 6, a total of four interviews and two focus group discussions were conducted. Similar to Session 4, six questions adapted from the SHOWeD technique were used and conversations were guided by the photos selected by the participants. Participation in either an in-depth interview or group discussion was dependent on the preference of each youth.

Throughout the program, instructors and RAs continually reminded participants about the importance of their role as researchers and “active participants” in promoting positive change in the community food environment.

Data Analysis

Interviews and discussions were audiotaped and transcribed verbatim. Two authors reviewed the transcripts for accuracy. A preliminary codebook was developed, guided by the literature related to social and environmental influences of childhood obesity (Ebbeling, Pawlak, & Ludwig, 2002; Kumanyika, 2008; Patrick & Nicklas, 2005). Three authors reviewed the codebook to ensure standardized definitions of the codes. Two authors coded the transcripts using inductive and deductive processes to identify codes (ideas emerging from text). Reflexive iteration was used to identify additional codes (Srivastava & Hopwood, 2009). Authors compared their coding and resolved any discrepancies through discussion and consensus. Data reduction occurred where similar codes were grouped together to identify relevant themes. Data analysis was conducted using thematic conceptual matrix sheets and code trees.

RESULTS

Participants collectively took nearly 225 photos. Five major themes emerged from the photographic and interview/focus group data: (1) attitudes toward food industry and food safety, (2) environmental influences of food choices, (3) social influences of food choices, (4) diet impact on health and well-being, and (5) solutions to improve the food environment.

Attitudes Toward Food Industry and Food Safety

Distrust in Food and Food Industry. Participants were generally aware of food marketing practices and expressed distrust in food products and the food industry. Referring to a local bodega, two female participants expressed concern over hidden agendas of food retailers, “[Bodega owners] know [the food] isn’t healthy but they just want to make money. That’s all they care about.” Participants additionally mentioned larger corporations and what they felt were deceptive practices negatively affecting their health, “All the advertisements from McDonalds . . . look healthy but it’s really not. That’s . . . their goal.”

Concerns About Food Safety. Food safety also emerged as a major concern. A female participant suggested that fresh fruits and vegetables should be presented in a more sanitary manner as the cardboard boxes currently used in bodegas “have bacteria in them” (Figure 1).

One male participant also expressed concerns related to the impact of pesticides in fresh fruits: “Do
you know what they do with apples? They spray something and they say you could die . . .”

Environmental Influences of Food Choices

Access. Participants expressed that lack of access to healthy foods was a major barrier to healthy eating, which is exacerbated by an abundance of unhealthy foods. One participant noted that having a variety of unhealthy options influences her to eat pizza for lunch most days: “If they sell it, I’m getting it.”

Cost, Portion Size, and Advertising. Some participants expressed difficulty in making healthy choices in their neighborhood because unhealthy foods were cheaper and heavily advertised. One female participant noted the pizza sign (Figure 2) was in red and yellow, which are “the most attention-grabber colors.” She also mentioned cost-related marketing practices on the sign: “The pizza . . says 99 cents . . . if you think that’s really good you’ll keep buying . . . but it’s really unhealthy no matter how low the price . . .”

Cost was a major influence for food choices, particularly when combined with portion size. A female participant noted sugary drinks often cost less money and are sold in larger containers compared to healthier alternatives, which incentivizes her to purchase the larger sizes.

Choice Architecture. Despite these influencers, participants noted that “choice architecture” (the way food choices are presented to people; Thaler, Sunstein, & Balz, 2010) also plays a role in influencing purchasing behavior. A female participant described how she purchased a less healthy, but more expensive snack at a bodega:

I was going to get a banana for breakfast . . . and didn’t have (much) money. I just bought . . . candy . . . cause it was right next to the bananas. . . . But the candy was a dollar and the banana was fifty cents. . . . If you go to a local store, everything is mixed together. . . . A lot of children like candy so obviously they’re going to pick the candy.

Social Influences of Food Choices

Grandparents. Participants identified social influences more often than environmental ones in shaping their food choices. Majority of comments were related to intergenerational relationships with grandparents as some participants acknowledged that living with their grandparents influences them to eat unhealthy foods. Another participant then shared her creative solution when visiting her grandmother (Figure 3): “My grandmother’s house . . . only has Pepsi and faucet water and I really don’t like faucet water so I . . . fill up a thermos of spring water . . .”

However, participants also described ways their grandparents serve as positive influences and role models. A female participant mentioned,

[My grandfather] was the one that . . . changed me to drink water. . . . He said that Pepsi could cause you to get cancer so I thought . . . I don’t want . . . cancer because I am living such a beautiful life so I changed. (Figure 4)

Parents. Participants noted that parents can also strongly influence their food choices. One participant said, “It’s based on the parents. Whatever [they] do is
what the children does.” Others specifically described how their parents model healthy eating behaviors. Participants also suggested parents enforce greater authority over their diet, such as by restricting unhealthy foods or regulating food purchases outside of the home, compared to grandparents.

**Youth as Positive Change Agents.** Participants mentioned how they themselves acted as positive change agents with their friends and family. One participant described how she educated her friend about sugary drinks by setting her friend’s smart phone background as a nutrition facts label “because she didn’t know how much sugar it had... now she has [soda] once a week and... throws half of it out.”

Participants also mentioned attempts to prevent their parents from engaging in unhealthy behaviors, often targeting parents’ sugary drink consumption. One female participant offered her mother a healthy drink when she asked for soda, explaining, “It’s healthy for you, unlike Pepsi.”

**Diet Impact on Health and Well-Being**

**Concern for Family and Personal Health.** Participants were concerned about the health of their own family members. One participant acknowledged the worries she had about her overweight mother someday developing diabetes, “In the past... [my mom’s] hands started hurting and... her foot... what if something dangerous really... happens to her foot and... arm?”

Participants also expressed concern around personal health and possible premature death. For example, a female participant expressed worry about her oral health because she has 12 cavities from consuming sugary drinks when she was younger, while a male participant was surprised to discover, at a recent doctor’s visit, that his weight was a risk factor for early death.

**Socioemotional Well-Being.** One participant described how her social well-being was affected as a child because her family was overweight: “No one had energy for me,” and “My mom never had time for me.” She also shared her worry about having a poor quality of life as an unhealthy adult:

> I don’t want to see myself... older and... being at a wedding... and I just see my child playing... everybody is dancing and having fun and I’m just sitting there... on my bums... I don’t want to be the only one who... wouldn’t be able to... move. (Figure 5)
Some participants also recognized the psychological consequences of unhealthy eating. One male participant described how a female classmate and his male cousin are bullied about their weight at school, and how this results in “suffering” and retaliation through fighting.

**Solutions to Improve the Food Environment: Education, Environmental, and Advocacy Solutions**

While some participants reported barriers to making positive changes, all offered at least one solution to improving the food environment. Some suggested displaying posters or developing courses to educate consumers. Others felt the issue required better access to fresh fruits and vegetables, combined with increased promotion of such foods.

Creative solutions came from participants suggesting bodegas adopt elements of choice architecture to influence purchasing fruits and vegetables. One female participant suggested, “I will put the fruit . . . in the front and candy in the back,” and another made recommendations to improve food presentation, in order to enhance consumer perceptions of healthy foods. Participants also considered advocacy work through coalition building for healthier food and writing letters to companies to reduce the sugar content in beverages.

**DISCUSSION**

Photovoice places cameras into the hands of community members with the goal of promoting critical thinking and reflection so that people become more socially aware and empowered to promote change (Catalani & Minkler, 2010; Sanon, Evans-Agnew, & Boutain, 2014). This tool provided participants in the food justice program the skills to better understand and identify existing barriers to healthy behaviors and to facilitate ideas to promote positive change within their food environments. Their images also encouraged dialogue on food and food environments with other participants and their family and peers, suggesting that photovoice can play a role in civic engagement. As noted by the instructors and youth themselves, it enhanced the overall food justice program and became an engaging process by allowing participants to be the researchers and advocates within their own communities.

Instructors reported participants felt more engaged when using the tool to conduct community food assessments; bringing the subject of food justice into their own neighborhoods made the concept “come alive” by allowing “youth to uncover . . . issues they understood but could not communicate without a visual aid.” Discussions and interviews encouraged the “deepest conversation” and taught the participants that “environment shapes choice.” Participants also felt that photovoice was an effective mode of learning. One participant noted, “Pictures can educate because it makes people think more as to whether they want to eat healthy or unhealthy and problems when they get older because of what they ate when they are younger.”

The themes that emerged from the project reflect photovoice’s theoretical framework of youth empowerment, critical consciousness, and documentary photography. Photovoice can help individuals become aware of the complex socioecological factors influencing health and empower them to identify solutions to improve their own health and that of their communities. To reinforce participant empowerment, instructors and RAs emphasized the important role that each participant played throughout the project.

The themes also highlight the complexity of food justice issues the participants face in their communities daily. Interviews and discussions guided by the photographs revealed that participants generally distrust the food industry, including small bodegas. Negative perceptions of food safety emerged from photos of fresh produce in bodegas presented in cardboard boxes, as well as general concerns about pesticides. Bodegas are often met with structural challenges, such as a lack of retail space and refrigeration for fresh produce (New York City Department of Health and Mental Hygiene, 2009), which may result in youth being discouraged from purchasing these healthier foods. Food safety perceptions have been identified not only among youth in developing countries (GavaraVaraP, Vemula, Rao, Mendu, & Polasa, 2009; Verstraeten et al., 2014) but also among minority youth in the United States (Onufrak et al., 2014). However, more research is needed to understand the source and impact of youth food safety perceptions as they relate to dietary behaviors.

In addition to food safety, participants were aware and critical of industry practices related to food pricing, portion size, and advertising. However, interviews revealed that choice architecture in retail settings may override these influencers in participants’ food decision making. Therefore, initiatives to promote access to healthy foods in urban retail settings should consider not only increasing their availability but also providing choice architecture encouraging positive behaviors, such as stocking healthier food items at eye level and minimizing point-of-sale promotion of unhealthy foods (Dannefer, Williams, Baronberg, & Silver, 2012).

Although participants discussed the positive and negative influences that parents and grandparents have
on their own health and diet, they also expressed worry for the health of their family and peers. Participants acknowledged that unhealthy dietary behaviors not only affect one’s own physical health but could also have psychological and social consequences such as bullying experienced by overweight classmates. Furthermore, participants acknowledged the impact illness has on a family’s socioemotional well-being. One participant described childhood memories of parental lack of attention because her mother was overweight. This limited their opportunities to spend quality time together, which led the girl to develop concerns for her own future around social connectedness. As childhood obesity is associated with both physical and psychosocial consequences (De Niet & Naiman, 2011), future interventions should consider family (Davison, Jurkowski, & Lawson, 2013) and peer-centered (Avery, Bostock, & McCullough, 2015) social support that addresses youth’s socioemotional well-being, in addition to traditional weight-related outcomes.

While participants acknowledged various environmental and social influences on their personal food choices, many also described the roles they themselves have played in changing the dietary behaviors of those around them and recognized the meaningful impact they could have in their own community. These expressions of personal agency support the notion that young people may be able to play a role in changing food norms in their peer and family networks. This study complements previous youth-based photovoice projects surrounding health advocacy (Necheles et al., 2007), by helping youth not only share their personal challenges and concerns but also identify actionable solutions that result in empowerment and food justice, whether it be expressed through education, advocacy, or promotion of positive environmental changes.

This project also highlights how photovoice could provide a platform to further enhance the influence youth voices can have in their own community, particularly through such venues as the Celebration and Exhibit, which occurred at the end of the 24-week food justice program. This event provided a forum for youth to increase community awareness related to food equity by having the opportunity to display and discuss their photographic work and share the food justice project they developed with event attendees, which was composed of youth and staff from other local youth-based organizations, engaged community members, funders, and academicians.

However, there were some limitations to this study, which should be noted. The sustainability of the engagement and empowerment efforts is unknown. The photovoice component was designed to be part of a 24-week curriculum to increase youth awareness related to food justice and injustice within their own community and thus did not have a specific focus on longer term advocacy beyond the youth-led project and the Celebration and Exhibit. Future programs should consider incorporating a focus on sustainability of efforts and encourage the instructors and RAs to provide specific guidance for the youth-led project, such that it could enhance engagement and potential impact within the local community food environment. Another limitation is the potential source of bias due to the selection process of the participants. As noted in the Method section, the site staff used specific inclusionary criteria to identify potential youth for the program. While this was done to minimize the afterschool program’s attrition rate, this selection process could have biased the study’s findings. Another possible source of bias was the content and extent of information presented to the youth during Session 2. During the curriculum development process, the program staff and researchers agreed that the youth should be aware of key concepts related to food justice, which would increase awareness and provide a foundation for deeper reflection and critical analysis. However, such information could have biased the youths’ perspective and, thus, which photos were taken for the community assessment and home assignments. Other limitations include the small sample size and the limited geographic region as the project was conducted in a specific neighborhood, which lends to the study’s lack of generalizability to urban communities, including other low-income neighborhoods in NYC.

**PRACTICE IMPLICATIONS**

The collaborative experience with academic and community-based partners leveraged the strength of resources that each organization could provide. The photovoice project was an integral part of the after-school food justice curriculum, which highlights how researchers and community-based organizations can work together to develop a food justice program for youth residing in low-income urban communities. Such collaboration not only generates research and education but also promotes engagement and empowerment of youth to advocate for change in their own communities. While the ultimate goal of photovoice is to promote positive change in the community, participation in such activities also provide the opportunity for youth reflection and discussion, which can lead to increased awareness of personal behaviors. This awareness could result in incremental positive change at the individual level, while increased empowerment could
lead to influencing the behaviors of their peers and family members. Such grassroots efforts could build momentum and have the potential to result in greater, and potentially more sustainable, changes within the communities by providing youth a platform to voice concerns and engage in issues important to themselves and their own community.

REFERENCES


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