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Using PhotoVoice to understand health determinants of formerly-homeless individuals living in permanent housing in Detroit

Rebecca R. Cheezum, PhD, MPH
Oakland University

Matthew T. Rosso, MPH
University of Michigan School of Nursing

Nick Niewolak, MPH
Physicians United

Tia Cobb, LMSW
Neighborhood Service Organization

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Abstract

Housing First is an evidence-based approach to addressing chronic homelessness that provides permanent, low-barrier housing. Previous literature on the health of tenants of Housing First programs has primarily focused on mental health, substance use, and health care. Using the social-ecological model, we conducted a community-based participatory research (CBPR) PhotoVoice study to better understand what Housing First residents in Detroit identify as factors that impact their health. Seventeen participants were provided cameras and photography training and asked to take photos on the theme *What impacts your health and wellness?* Group sessions were held to discuss photos. Results were organized into four themes: (1) loss of jobs hurts people and communities; (2) blight: more than just abandoned buildings; (3) being pushed out by development; and (4) experiencing the "battlefield" versus feeling peaceful. The Social-Ecological Model was used to indicate potential interventions indicated by study findings.

Background

An individual is considered chronically homeless if she or he is disabled and was homeless for at least a year or experienced four periods of homelessness in three years (U.S. Housing and Urban Development, 2007). On a single night in 2017, there were 86,962 chronically homeless individuals in the United States (U.S. Housing and Urban Development, 2017). Housing First is an evidence-based approach to addressing chronic homelessness that provides permanent, low-barrier housing. Housing First programs may be scattered site programs where apartments are scattered amongst available rental properties or single-site (sometimes called congregate) programs where all units in one building are reserved for Housing First program residents (Somers, Moniruzzaman, Patterson et al., 2017). Residents are not required to participate in any particular therapy or program or maintain sobriety to maintain housing. Residents pay 30% of their income to rent (Tsemberis et al, 2003). Previous literature on the health of tenants of Housing First programs has primarily focused on mental health, substance use, and health care utilization (Srebnick, Connor & Sylla, 2013; Larimer et al, 2009; Tsemberis, Gulcur & Nakae, 2004; Tsemberis et al., 2003). A few published studies have examined other health issues, such as chronic disease intervention (Henwood et al, 2013) and mortality among Housing First residents (Henwood, Byrne & Scriber, 2015) and the health status of new entrants to Housing First programs (Weinstein Henwood, Matejkowski and Santana, 2011). The present study used community-based participatory research (CBPR) and PhotoVoice, a participatory, qualitative research methodology, to better understand what tenants of a Housing First program in Detroit consider as health determinants. The social ecological model is used to understand these factors and to suggest relevant interventions.

The Bell Building: a Housing First Program in Detroit

Neighborhood Services Organization (NSO) is a non-profit organization that provides a variety of services to vulnerable residents of Detroit and Wayne County, Michigan. Among its services, NSO offers both scattered site and one single-site Housing First program through its Bell Building. In 2011, NSO purchased and renovated the vast headquarters of the Michigan Bell Telephone building, which had stood vacant for years. The renovated building includes 155 single-occupancy, fully-furnsihed apartments, a clinic, and an office for NSO staff. For individuals who choose to live at this single-site housing location, the Bell Building offers onsite services, provided by case managers, peer support specialists, a nurse, a clinician, a psychiatrist, and volunteers to attend to the resource, skill, and support needs of Bell tenants.

This study was conducted by the NSO/Bell-Oakland University Partnership, a community-based participatory research (CBPR) partnership (Israel et al., 1998) between the NSO and the School of Health Sciences at Oakland University in Rochester, Michigan. CBPR is an approach to research that focuses on a research question of priority to the community, considers the social-ecological contributors to health, and engages community members throughout the research process (Israel et al., 1998). At the time of the development of this study, the steering committee for this partnership was composed of the academic researchers, Neighborhood Services Organization staff and volunteers, and Bell Building tenants. While it was a goal of the academic researcher to engage NSO staff and Bell Building tenants in a steering committee that made research decisions, initial efforts to engage tenants were not successful. Before committing to participation, tenants wanted to understand what the purpose of the partnership was and what specific activities would take place, but NSO and the academic researcher wanted these to be

collaboratively developed with Bell tenants. The lack of clear purpose led to frustration among residents and their inconsistent participation on steering committee. NSO staff had seen PhotoVoice conducted with similar populations (unpublished projects) and were aware that it is an empowering research methodology (see Seitz and Strack, 2014 for examples). NSO staff and volunteers on the steering committee and the academic partner decided to conduct a PhotoVoice project to identify factors that affect the health of tenants at Bell Building.

PhotoVoice

PhotoVoice is a qualitative methodology where research participants are provided cameras and training in basic photography and then asked to take photos on a theme. This methodology is an empowering methodology whereby study participants are actively engaged in the generation of new knowledge. The methodology equips study participants to engage community members and policy makers in order to derive systems change (Wang & Burris, 1994, 1997). This methodology was selected because it has been successfully implemented with various vulnerable populations, including people with intellectual disabilities (Jurkowski & Paul-Ward, 2007), homeless adults, (Wang, Cash & Powers, 2000; Seitz & Strack, 2016), and methadone clinic clients (Rosen, Goodkind & Smith, 2011). These studies had found that the PhotoVoice methodology was an appropriate method for participatory needs assessment and there was evidence of increasing empowerment among participants (Seitz & Strack, 2016; Catalani & Minkler, 2010). This methodology includes multiple meetings between participants and researchers. Previous studies have found that the methodology helps to build relationships between researchers and participants (Seitz and Strack, 2016). NSO staff and researchers felt this would be an effective strategy for building trusting relationships and, thus, increase residentengagement in the research partnership. Finally, residents of the Bell Building had been

requesting more arts-based programs, and the photography aspect of PhotoVoice would help to respond to this request.

Social Ecological Model

The aim of this study was to identify factors that impact the health of tenants of the Bell Building. This study is, to our knowledge, the first PhotoVoice study to identify factors that impact the health of Housing First tenants. This article utilizes a social-ecological model for understanding these factors. The social-ecological model, presented by McLeroy and colleagues (1988), identifies individual and social environmental factors as targets for public health intervention. These factors are presented as five levels: intrapersonal factors, interpersonal factors, institutional factors, community factors, and public policy. Intrapersonal factors include knowledge, attitudes, behaviors and skills. Interpersonal factors represents the influence of formal and informal social networks and social support (e.g., family, co-workers, peer groups). Institutional factors include characteristics of social institutions and organizations (e.g., workplaces, schools, health systems). The community factor level reflects the relationships between organizations, institutions, and networks within a community. The public policy level refers to national, state, and local laws and policies (McLeroy et al., 1988).

Methods

Participants

Research team members recruited study participants from the lobby of the Bell Building, where many tenants passed through and/or lingered in a seating area. Additionally, flyers were posted around the Bell Building. All tenants were eligible to participate in the study. Twenty participants were recruited. NSO staff on the research partnership steering committee anticipated that not all would participate. We were aiming for 12-15 participants, which

partnership steering committee members felt would be an appropriate balance between providing the opportunity to as many residents as possible and allowing for adequate group discussion and comfort in the meeting room space. Seventeen tenants attended and participated in the research study. Two participants never responded to invitations/reminders to attend weekly meetings. One participant came to one of the last sessions of the study after being released from a long hospitalization, but it was determined that he could not participate as he had missed the training on photography ethics and safety. All participants met the criteria for living at the Bell Building; thus, they had experienced chronic homelessness and were disabled. Nearly all were African American. Twelve were men and five were women.

Procedures

The study included 13 research sessions, which took place each Monday over lunch for 13 weeks. This time was selected to avoid conflicting with other Bell Building activities, such as NA/AA meetings or tenant council meetings. During session 1, participants collaboratively developed a list of ground rules for the study and discussed in small groups and as a large group what the terms "health" and "wellness" meant to them. Researchers told participants to take any photo that reflected their idea of these terms. During sessions 2 and 3, a professional photographer trained participants on photography technique, ethics, and safety. At the suggestion of NSO staff who were concerned that residents may sign up for the project and take the cameras without participating, participants initially received a disposable camera. They handed in the disposable camera after one week for photo development, and received another one to take photos for the following week. During sessions 4 and 6-10, participants discussed their photos. Participants received digital cameras (Nikon COOLPIX S5200 Wi-Fi CMOS) during session 5. Each week, participants had one memory card on which they could take photos, while the

research team developed photos that were identified by the participant to be part of the study from a second memory card. Participants kept the digital camera and two memory cards after the study ended. Two participants lost their digital cameras during the study. They received disposable cameras for the remainder of the study so they could continue participating. Sessions 11 and 12 were devoted to collaboratively planning the photo exhibits. Session 13 was a focus group interview to discuss participants' experiences in the study. Between 13 and 17 participants attended each session. All participants received lunch and a $10 gift card to a local business or bus pass at each session.

Participants were asked to take photographs related to the theme *factors that impact my health and wellness*. After two weeks of photography on this theme, participants had the opportunity to determine a new theme. Participants reached consensus that they would continue with the theme *factors that impact my health and wellness* for the remainder of the study.

During six of the sessions, the group viewed and discussed some of the photos. The discussions were facilitated by the first author (RC). Participants volunteered their photos for discussion. For each photo discussed, the photo was projected onto the wall so all study participants could see it. Initially, the SHOwED technique (Wang & Burris, 1997), a series of questions generally used in PhotoVoice, was used to facilitate the conversation. These questions are: (1) What do you see here? (2) What's really Happening here? (3) How does this relate to Our lives? (4) Why does this situation Exist? (5) What can we Do about it? Because these questions did not generate active discussions, the facilitator employed more open-ended questions. Researchers asked the photographer, "Tell me about this photo?" and "How does this relate to health and wellness?" Researchers then opened discussion to the broader group with prompts like, "What do others think?" and "What are the experiences of others?" The

photographer was then asked to assign a caption for the photo. This revised series of questions was then used throughout the study. These discussions were audio-recorded and a verbatim transcript was produced.

Photo Exhibits

An important component of the PhotoVoice methodology is having an opportunity for participants to display their photography during an exhibit. The final three sessions were devoted to planning two photo exhibits through which participants displayed some of their photos. As a group, participants selected, from among the photos discussed, the photos they would like to see in the exhibit. These photos were enlarged and framed. A label with the caption and the photographer's name--as s/he chose to be identified--was printed to go with each photograph. One exhibit took place at Oakland University School of Health Sciences; the other exhibit was at the Bell Building. Both exhibits were open to the community. Local policy makers and community members were invited to the exhibit at the Bell Building, which was held immediately before a Neighborhood Service Organization Board of Directors' meeting so board members could easily attend. Local community members and Oakland University faculty, staff, and students were invited to attend the exhibit at Oakland University. Research participants attended both exhibits, during which they interacted with attendees. Transportation was provided to bring study participants and other interested Bell Building tenants to the exhibit at Oakland University.

Data Analysis

Recordings of all discussions were transcribed, and a verbatim transcript was produced. Photos discussed were included in the transcript. The research team, composed of the principal investigator and two student research assistants, each read all transcripts of the PhotoVoice

discussions. Using an inductive approach informed by Grounded Theory (Strauss & Corbin, 1990), the team reviewed all transcripts and developed a codebook composed of themes discussed by the participants. The research assistants then coded each transcript using this codebook. The research team met weekly to discuss coding; new codes were added as they were identified. The research team conferred about any coding disagreement until it was resolved. NVivo was used to manage and organize the data analysis. Memos and diagrams were developed throughout the coding process to identify connections between the codes.

Participatory Analysis

The analysis of the data (photos and transcripts of photo discussions) included a participatory data analysis process after initial analysis by the research team. All participants were invited to five data analysis meetings. Three to seven participants took part in each of the data analysis meetings, which took place over five weeks. During these data analysis sessions: (1) the researcher gave a brief introduction to qualitative research methods, (2) the draft codebook was presented to the participants and discussed for accuracy; (3) passages were read or the recordings played to accommodate literacy challenges, and coding decisions were reviewed; and (4) the central themes of the study were identified. This was designed to be more than a traditional member checking session. Participants reviewed the coding of specific passages after reading and listening to the audio recordings. These sessions often led participants to expound upon the discussions recorded in the data. This helped to identify important codes missed by the academic researchers (e.g., memory, hobbies). Participants in the data analysis section identified the central story of the data presented in this article, the impact of structural forces (blight, development) on Bell tenants' health. The researchers subsequently related their analysis to the social ecological model. After recoding the transcripts based upon feedback from the

participatory analysis sessions, member checking was used to share updated analysis with participants and to receive additional feedback. These results were affirmed by those in attendance. Having multiple researchers review and code transcripts, engaging study participants in the analysis of transcripts, and using the member checking process all sought to ensure scientific rigor and trustworthiness of results (Merriam & Tisdell, 2016).

Research Ethics

The procedures for this study were approved by Oakland University Institutional Review Board. The principle investigator met with each participant individually to read through the consent form, answer questions, and obtain written consent. The consent included details about all activities related to the weekly sessions and the photo exhibits. Potential risks included the risk of information shared during group meetings being shared with others outside the group. To mitigate this risk and increase confidentiality ground rules were established collaboratively during the first session with participants who determined that keeping information shared in the group confidential would be a ground rule. The research team maintained participant confidentiality by removing identifying information from transcripts, using participant codes throughout study, and keeping all data in locked file cabinets and encrypted computer folders. Participants indicated by signing a form their permission for use of their photos at exhibits and/or professional presentations and publications. They also indicated how they wanted to be credited for their photos in manuscripts and exhibits. All participants requested that their photo be credited either using their name or a nick name. Finally, participants who took part in the participatory data analysis meetings were reminded about the group norm of keeping what was said in the meetings confidential.

Results

Study participants were asked to identify, through photographs and group discussions, the factors that impact their health and wellness. From their responses, we identified four major themes: (1) loss of jobs hurts people and communities; (2) blight is more than just abandoned buildings; (3) being pushed out by development; and (4) experiencing the "battlefield" versus feeling peaceful. These themes demonstrate participants' emphasis on the impact of their environment on their health. Here we describe each of these themes in more detail, including the words and photographs of the participants. Pseudonyms for participants are used in order to protect their identity.

Loss of Jobs Hurts People and Communities

Study participants described a profound loss of jobs in the city. They described how many of these jobs went overseas: "They go to Mexico and Venezuela and China and things are made cheaper. They don't have to pay them much money." Participants lamented that even "temp agencies," which may provide some, albeit inconsistent, work were now almost nonexistent in the city: "The [temp agencies] be so far out [in the suburbs]." "The ones [temp agencies] in the city are all gone really." Participants further explained that some jobs remained, but often the jobs that were located in the city were filled by people who were not Detroit residents. One participant expressed frustration that many people who worked in Detroit (taking existing jobs) lived outside of the city and, therefore, took resources (income) out of the city.

> You have more people that work in this city and don't stay here than you do the residents that stay here, you know? And they come and they talk about Detroit -- but this is where your income comes from and you taking the resources out of the city.

Participants discussed how the loss of jobs affected individuals and communities. They explained that the loss of a job can lead residents to lose their homes. They may, thus, become homeless or they may leave the city. Participants connected loss of jobs to the deterioration of the community. This results in a loss of human as well as financial resources in the community. They stated that many businesses were central to the community, providing jobs and services. Participants declared that the loss of businesses led to the "death" of the community.

While the city-wide loss of jobs was one reason people lost jobs, participants also shared how changes in their health status caused them to lose the ability work. One participant said, "Well, back then my health was really good. But then after a while, through the years, my health started gettin' real bad." When asked what it meant to him that his health was not as good as it used to be, he replied:

> "It feels sad 'cause I'm used to working all the time. I'm not used to sittin' around ain't doin' nothin'. I'm used to being on the go every morning. Bein' out on the job by six o'clock in the morning. Get off by eight. But now I can't do that. So that affected me a whole lot."

Blight is more than just abandoned buildings

Another theme was that of abandoned and blighted property. Participants photographed and discussed multiple meanings behind abandoned buildings. These buildings represented everything from the loss of jobs, reminders of places they were forced to live while homeless, health hazards, and a sense of loss of the places where they had spent time earlier in their lives. Living near blight was frustrating and frightening. The presence of blight was also a constant reminder of the decline of their city.

While participants photographed and discussed now-empty buildings from different areas of the city, much of this discourse centered on a massive abandoned property that lies adjacent to the Bell Building. This property once had been home to a major candy manufacturer. One participant used a photograph to present (Figure 1) a view of the Bell Building as if one was looking at it while peering through the rubble of this abandoned candy manufacturer.

Figure 1: The photo shows a view of the tower of the renovated Bell Building through the rubble of the building next door. Photo by Uzi Faroor.

Another photo (Figure 2) showed the same property's abandoned guard booth, which lay on its side. This photo launched a vibrant discussion of what this abandoned guard shack represented to participants. Participants described how the members of a nearby church,

frustrated with people using this guard shack for illicit activities, knocked it over, hoping to discourage others from entering the shack. For some, this vacant guard shack represented neighborhood job losses. One participant wondered what happened to the individual who once served as guard: "Well, somebody had a job. Somebody got no job no more." Another individual described how that guard shack also had served as a refuge for individuals left homeless through this very loss of jobs. This participant expressed gratitude that he no longer needed to sleep in places like that.

Figure 2: A guard shack, beaten and battered, lies on its side in the garbage-filled brush of an abandoned building. In the distance behind the shack, you can see a partially collapsed chain-link fence. Photo by Alexis Porter.

Participants expressed several concerns about this specific vast, abandoned property, including the presence of toxic substances, such as asbestos, rodents, or people hiding in the

property. Participants also talked about the impact that abandoned buildings had on their mood or mental health. They were frustrated that this blight sat next to the beautifully renovated building in which they resided. As participants discussed their photos of several buildings that now lay abandoned, they spoke of memories of those buildings--some fond, some painful--and described a sense of loss with the abandonment and deterioration of the buildings.

One participant was nostalgic when looking at a photo she took of an abandoned public housing project (Figure 3) and described the loss that its abandonment represented to her.

> I got so many good memories to that place… I won't get a chance to take my niece and them to the Brewster Center so they can experience the stuff we did…. There was just a lot of good memories there, and just look at how unhealthy it is.

Figure 3: Behind an overgrown, grassy foreground, two multi-story apartment buildings--once public housing--and another, single-story building stand vacant. Photo by Alexis Porter.

Being Pushed out by Development

Participants spoke of the development taking place in Detroit's Midtown and Downtown. They viewed these efforts as being largely under the control of a university and a handful of individuals, the mayor of Detroit and two local business leaders who had purchased a vast amount of property. Participants described feeling no longer welcome in these areas of the city. They expressed sadness and frustration at being excluded from areas they had once considered home. Participants talked about how low income individuals and people of color were no longer welcome. One participant talked about how people of color had been priced out of their former neighborhoods by a developer.

> When I first came [to Detroit], [the downtown area] was busy. It was a lot of people was down there. Now, when I went back down to the neighborhood, [a developer] had about everything down there. And it's no people of color in the neighborhood where it used to be…. The places where they got to rent, they can't afford it. It's just pricing them out.

They also described the other systematic ways in which they were excluded from these areas or city resources. They felt profiled when questioned by security guards or others in this downtown area.

> I went downtown the other day and this security guard, I was standing out, waiting on the Smart Bus, and he had the nerve to come up and ask me where I was going. I didn't like it, but I didn't say anything. I just put my headphones on and tuned him out.

To further demonstrate their alienation, participants described barriers to using a park in the city, which had recently been taken over by the state. They engaged in a discussion about the presence of a state police officer checking ID at its entrance. They understood that if an individual had a warrant, they would be arrested for trying to enter the park. As a result, they did not feel comfortable being asked for their ID to use this resource.

Participants viewed safety as varying across the city and as affected by development efforts. They opined that the white mayor was prioritizing the safety of the downtown and midtown areas of the city, where development efforts were concentrated. The safety of these areas was seen by participants to come at the expense of other neighborhoods, those where people of color and lower income individuals resided, including the area around the Bell Building.

Low income housing also was targeted by some of these development efforts. When the city vacated these buildings--like the housing project described above and shown in Figure 3--some of the residents were provided a new spot in the low-rise housing across the street. Others were sent to public housing in a different area of the city.

Moreover, participants expressed concern about the loss of resources that help the most vulnerable residents. They feared that a local drop-in center for homeless Detroiters was going to close because it is located too close to a developing area. They noted that other city resources, such as Boblo Island, a local amusement park that had been a location for family outings for working class families, had been closed in recent decades.

“Battlefield” vs. Feeling Peaceful

While many participants discussed about how the blighted property adjacent to the Bell Building affected their health, one participant labeled it “the battlefield” (see Figure 4) and talked about how it reflected what she felt inside.

> That’s the battlefield. That’s a battlefield to me. A lot of times, that’s how I feel like my life is, it’s a battlefield, because I’m struggling with so much mentally. I’m fighting with myself a lot. I’m arguing with others, you know what I’m saying? And then when I walk outside, I look at the Battlefield.

Figure 4:
“The Battlefield.” Photo by Alexis Porter

Another participant took two related photos (Figures 5a and 5b), presenting them as a metaphor for the way in which people may try to hide their feelings. One of these photos

captured a mural of a smiling face on the outside of a building. The other view was as if one peered through an open door, where one could see it was scorched and filled with rubble.

> I mean, like, you were saying something from the inside because you can feel, that's how some people might think they are on the inside is, you know, tore up and messed up and nasty, horrible. Some people think that about theirselves on the inside. And, but on the outside, the picture on the left, you be like, you know, that's how a person might be. Smiling and happy. But on the inside, it's going to be how a person actually feels.

Figures 5a&b:

In figures 6a and 6b, we see a building with the mural with a smiling face, but when we look inside, we see it is burned out and filled with rubble. One participant used this as a metaphor for how some people feel. Photo by Lucretia Gaulden.

These discussions contrasted to others where participants described how a view could help them feel more at peace. One participant shared a photo of a sunset over the Detroit skyline. She said,

> And at that time I was mad about whatever, and I looked out, and I saw the sunset, and it just made me up, made all that go away. I don't know about nobody else, but that right there just made all that anxiousness and angriness go away for me. And it was so pretty.

Discussion

This study was successful in providing a better understanding of the factors that tenants of this Housing First program identify as having an impact on their health. Each week of the PhotoVoice study, participants were asked to take photos that reflect factors that impact their health and wellness. Our analysis of the photos and the related group discussions revealed four major themes: (1) loss of jobs hurts people and communities; (2) blight is more than just abandoned buildings; (3) pushed out by development; and (4) facing the "battlefield" versus feeling peaceful. Together these major themes tell the story of the way in which changes at the community level can impact a city's most vulnerable residents, such as the residents of the Bell Building, who are very low-income, mostly African American, and disabled, including physical disabilities, mental illness, and/or substance abuse. Participants described how the loss of jobs and businesses in the city led to deterioration of neighborhoods. Businesses closed, leaving abandoned buildings and a lack of services in the community. Residents lost their incomes and often, subsequently, their homes, which then lay vacant. This contributed to greater blight in the community. The existence of empty buildings where communities once were caused participants to feel a sense of loss and nostalgia. Some areas of the city were left looking like a "battlefield," as one participant stated. They expressed that this physical blight reflected their internal feelings of sadness and stress. Although participants acknowledged that some parts of Detroit are being developed, they described how development efforts are concentrated in the midtown and downtown areas and controlled by a handful of developers. This development has

gentrified many areas, increasing rental pricing and pushing former residents out (Reindl, 2016). As these areas of the city gentrify, low-income individuals and people of color are pushed to the still blighted areas. They have also been cut off from city resources and necessary services, including those that can improve health, (e.g., parks). Participants described dynamic changes that occurred in the city within a few decades. These changes led to continued and reinforced racial segregation in a city that had already been segregated based upon racist policies and practices (Sugrue, 2014). The findings of this study support current trends in research on racism and health. Past research on racism and health has focused on interpersonal racism, which leads to health disparities through adverse physical, social, and economic exposures, coping behaviors, and stereotype threats. Our findings support theories that racial segregation, in itself, causes stress on vulnerable populations (Williams & Collins, 2001). Health disparities research, therefore, should continue to examine the role of racial segregation on health (Bailey et al., 2017).

This study provides an important contribution to literature related to Housing First and other permanent supportive housing programs for chronically homeless individuals, which has previously focused on housing stability, substance use, and health care and service utilization (Larimer et al, 2009; Srebnick, Connor & Sylla, 2013; Tsemberis, Gulcur & Nakae, 2004; Tsemberis et al., 2003). Participants in our study directly linked the prevalence of blight, particularly the large abandoned and deteriorating complex adjacent to the Bell Building, to stress. Participants' discussions of stress, strategies for managing stress (e.g., looking at a sunset) and one participant's use of metaphor with the photo of the burned out building with the smiling face exterior indicate that stress and mental health issues are likely experienced by many tenants of the Bell Building. Previous research has demonstrated an association between blight

and a stress response within the body, which, when persistent over time, can lead to psychological and physiological illness (Branas et al., 2011; Hill, Ross & Angel, 2005). Participants in the present study expanded our understanding of potential causes of stress to include displacement from their former neighborhoods. Vulnerable populations, like the participants in this study, who already are likely to have increased morbidity and mortality, may be more susceptible to negative health effects of environmental changes (Flaskerud & Winslow, 1998), may be less socially integrated, and may be particularly vulnerable to the disruption of their networks (Wallace & Wallace, 1990) that occurs when they are displaced by either neighborhood abandonment or gentrification.

Figure 6 uses McLeroy et al.'s (1988) Social Ecological Model to present health risks and potential protecting factors, informed by these findings. The use of this model can help to identify points of potential intervention at the different levels that impact health. At the public policy level, development policies and the ways in which cities handle foreclosures and resulting abandoned or blighted properties shape the landscape of the city. Small businesses help keep neighborhoods vibrant and provide necessary services. Subsidized consulting services to medium sized businesses (Wren & Storey, 2002), business incubators, job retention tax credits, and connections between community colleges/trades schools and local employers (Hobor, 2012) are potential strategies for keeping local businesses open, preserving neighborhood jobs, and matching residents' skills to employment opportunities. Community-based foreclosure prevention programs for homeowners, such as counseling and assistance loans (Collins, 2011; Quercia & Cowan, 2008), may prevent foreclosure, the subsequent abandonment of properties, and the development of blight.

At the community level, development initiatives in midtown and downtown Detroit push low income individuals and people of color out of these neighborhoods through high prices and hostility (e.g., questioning why they are there). These economic and social forces restrict vulnerable residents to blighted communities with few jobs and services, decreasing their access to health-promoting resources. Community advocacy efforts for mixed use and mixed income housing can reduce this sense of exile. Community mobilization efforts to address blighted properties, such as creating green spaces (Schilling & Logan, 2008), can further mitigate the negative social and health effects of this displacement.

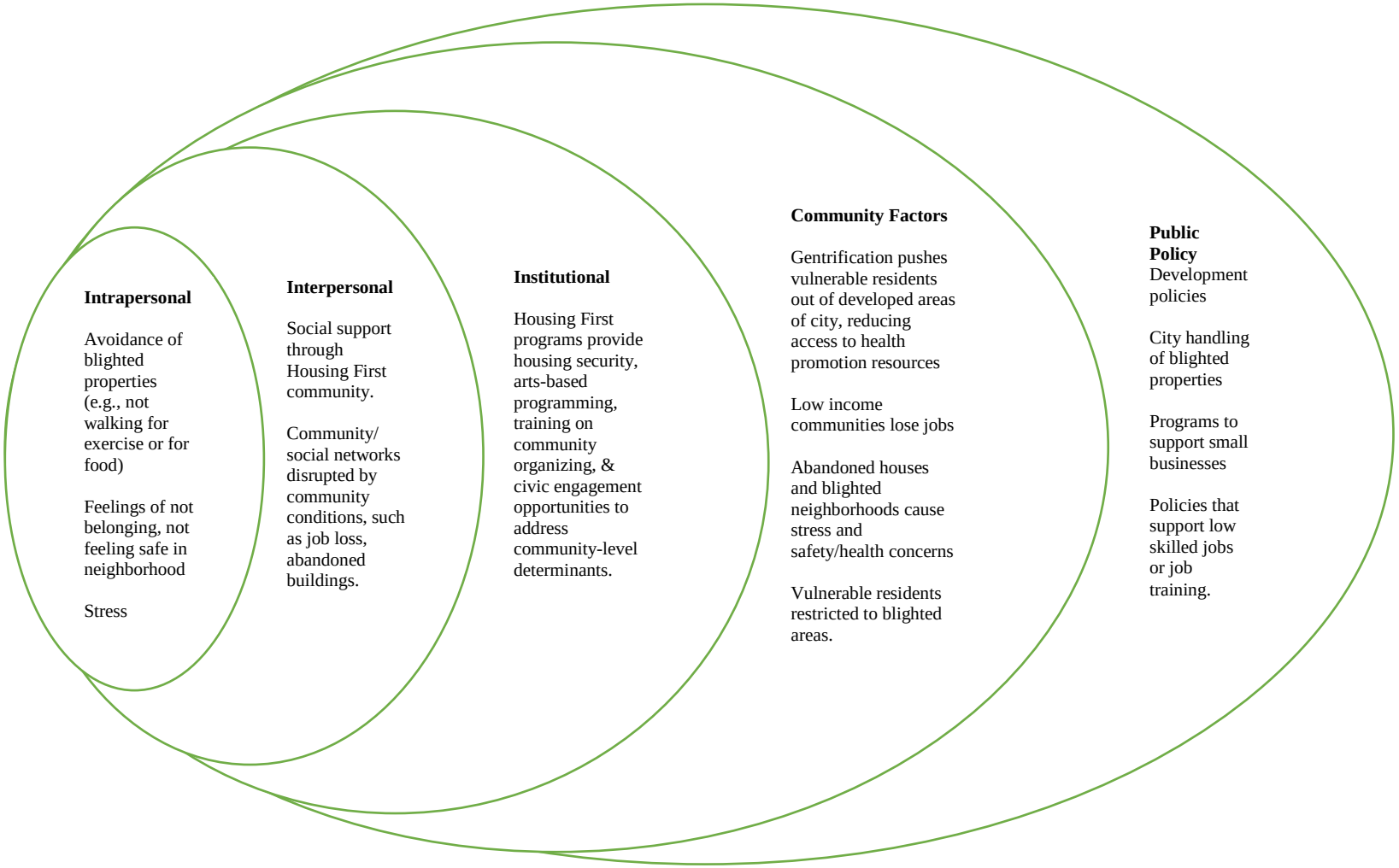

Figure 6: Social Ecological Model of Bell Building residents' health

At the institutional level, Housing First programs can incorporate policy advocacy, community organizing training, and opportunities for civic engagement (Cheezum, Israel, Coombe, 2013; Israel, Coombe, Cheezum, 2010) into the activities of the organization. These efforts can be leveraged to influence policy and make changes at the community level, described above. Housing First programs can offer some relief from exposure to blight by providing safe and visually appealing homes to residents, though the impact of these interventions may be reduced if surrounded by blighted properties. If a Housing First program, like the Bell Building, is located near blighted properties, efforts to provide indoor opportunities for physical activity and access to healthy foods may help reduce the impact that fear of walking near blighted properties may have on residents' physical activity or eating habits. Providing structured means for physical activity and social interaction within the Housing First program may be particularly important, as residents of supportive housing programs may isolate themselves if located in a high-risk environment (Henwood, Lahey, Harris et al., 2018). Providing transportation to needed services and providing many services in house may also help reduce the impact of nearby blighted properties. The impact of blight on mental health should be considered in the identification of potential sites for Housing First programs, particularly programs like the Bell Building, which house many Housing First consumers.

Housing First programs provide unique opportunities for making change at the interpersonal level by building community and social support among its tenants to lessen the impact of the loss of social networks that results from neighborhood displacement. At the intrapersonal level, participants described avoiding the large blighted property nearby due to safety concerns. Their concerns affirm previous literature that has associated blight with health-related outcomes, including decreased physical activity (Kwarteng et al., 2013) and crime

(Spellman, 1993). Interventions at this level can offer arts-based, stress-relieving activities and purposeful exposure to beauty (e.g., photography clubs, fieldtrips to art museums).

Limitations

It is possible that the methodology of PhotoVoice--coupled with the public proclivity toward Detroit "ruin porn" (photos of Detroit's abandoned buildings as art)--lent itself to participants taking a disproportionate number of photos of abandoned buildings. Requirements of the institutional review board around what could be photographed (no photos of illegal activities or other people without their permission), while designed to protect the safety of participants, may have influenced what photos were taken and, importantly, which were not as well as the discussions the group had or did not have. For example, participants may not have shared photos that led to discussions about illicit drug use. However, the discourse throughout the project supports the conclusion that job loss, the existence of these abandoned buildings, and downtown development affected study participants' health.

SHOwED questions are a set of standard questions generally used in PhotoVoice studies. In the course of this study, these questions were not found to be effective. One question that was particularly problematic was "What can be done about this?" Participants often stated that nothing could be done. Participants expressed feelings of disempowerment. These feelings are justified given their experiences of systematic exclusion, although over the course of this project, participants expressed greater levels of empowerment. It is possible that after the completion of this project participants felt that their opinion had more power and would have been able to identify specific interventions.

While SHOwED questions are standard in initial PhotoVoice methodology papers (Wang & Burris, 1997), the degree to which they are used in PhotoVoice projects is unclear. Some

studies report use of SHOwED (Pruitt et al., 2018; Seitz & Strack, 2016), whereas others did not (Rosen, Goodkind & Smith, 2013). In their review of 20 PhotoVoice studies with disabled individuals, Dassah, Aldersey, and Normal (2017) found only three had used the SHOwED questions in their data collection. Still others adapted the methodology, choosing to do one-on-one interviews, similar to a photo elicitation technique (Padgett et al., 2013) or to use written stories or narratives (Carlson, Engebretson & Chamberlain, 2006) rather than group discussions to elicit data. By not using the SHOwED questions, it may be researchers missed an opportunity for critical consciousness among participants, but other more-open ended questions yielded more discussion. Perhaps taking steps to enhance critical consciousness before photo discussions may make SHOwED questioning more effective.

There may have been other ways that the participation of Bell residents in planning and implementing this study could have been enhanced and/or the study could have been more empowering. PhotoVoice reviews and critiques (Evans-Agnew and Rosemberg, 2016; Han & Oliffe, 2016; Minkler & Catalani, 2010) provide recommendations on enhancing the participation, resulting empowerment, and fidelity to the voice of participants.

Conclusions

Community-based participatory research and PhotoVoice are research tools that can be used to better understand the health impacts experienced by vulnerable communities, such as individuals who have experienced chronic homelessness. In this study, PhotoVoice was an empowering methodology that gave tenants a forum to describe the social factors that left them isolated from health-supporting resources and social networks. Applying McLeroy et al.'s Social Ecological Model (1988) to these findings can elucidate the factors that contribute to the mental and physical health of tenants of a Housing First program. Single-site Housing First programs

may offer unique opportunities to address homelessness and to build community among residents through programs and supported civic change campaigns. This will counter social network interruption and provide residents with an opportunity to organize to address community factors that negatively impact their health. This model also can be used to identify points of intervention at the policy, community, institutional, interpersonal, and intrapersonal levels to improve health outcomes of individuals who have experienced chronic homelessness.

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