

[Assessing the relationship between community engagement and perceived ownership of an urban park in Philadelphia](#)

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Abstract:

Urban parks provide many benefits, though evidence of environmental injustice associated with certain park investments is growing. Some cities fail to engage communities in park planning, which can reduce residents' sense of ownership of new and renovated parks and disconnect them from the neighborhood social fabric. Thus, this study assessed the outcomes of resident engagement with an urban park nonprofit located in a low-income community of color in Philadelphia. We developed new metrics measuring perceived engagement with park planning and programming and its association with perceived community ownership and perceptions of the park as part of the neighborhood social fabric. We analyzed these variables following a renovation using confirmatory factor analysis and structural equation modeling. Results showed significant relationships between perceived community engagement and perceptions of the park as a community asset. These findings underscore the importance of engaging communities in park planning to enhance ownership and avoid feeling excluded.

Keywords: Environmental justice | interactional justice | park renovations | procedural justice | public space

Article:

Parks are important amenities in urban environments as they provide social, physical, and mental health benefits in congested and polluted cities (Bedimo-Rung, Mowen, & Cohen, 2005; Lee & Maheswaran, 2011; Wolch, Byrne, & Newell, 2014). Urban parks can also contribute to the social well-being of a community (Gomez, Baur, Hill, & Georgiev, 2015) and foster neighborhood social ties and social support (Fan, Das, & Chen, 2011; Kaźmierczak, 2013). However, these amenities and their attendant benefits are not always equitably distributed across neighborhoods, and such inequities may exacerbate existing racial and socioeconomic disparities

(Mullenbach & Baker, 2018; Sister, Wolch, & Wilson, 2010). The inequitable distribution of parks across space represents an environmental injustice (Sister, Wolch, & Wilson, 2010). In the parks and recreation literature, there has been more focus on the injustice of park distribution than on other forms of environmental justice (i.e., procedural and interactional; Rigolon & Nemeth, 2018). Therefore, this study focuses on procedural and interactional justice related to a park improvement project to provide insight into other aspects of environmental justice.

Using an environmental justice framework, we assessed the impacts of community engagement on residents' perceived ownership of Bartram's Garden, which is a park in Philadelphia, and its contribution to the neighborhood social fabric. In this study, procedural justice is represented by community engagement of a nonprofit park organization with surrounding neighborhood residents, and interactional justice is represented by resident perceptions of park ownership and the park as part of the neighborhood social fabric. The degree to which a park becomes part of the neighborhood social fabric and the degree to which residents develop a sense of ownership may in fact be dependent on the degree of community engagement in park planning and development (Loughran, 2014). Such engagement may be particularly salient for neighborhood residents of color and low-wealth residents who have historically been excluded from decisions regarding developments in their neighborhoods and who are more vulnerable to displacement resulting from neighborhood changes (Marcuse, 2016). We posit that low levels of community engagement (procedural injustice) might reduce the levels of ownership that nearby residents feel for the park, as well as reduce their perceptions of the park as part of the neighborhood social fabric (interactional injustice).

Theoretical framework: Environmental justice

Traditionally, environmental justice research has been concerned with how environmental hazards are distributed across space—who lives near environmental hazards and who is employed in dangerous environmental jobs (Pellow, 2002). Early scholars of environmental justice found that hazards such as landfills, recycling plants, and waste were disproportionately located near disadvantaged communities (Pellow, 2002). Contemporary research on environmental justice has focused on the distribution and use of environmental amenities, as well as who benefits when environmental amenities (such as parks) are built or improved (Curran & Hamilton, 2012, 2017; Gould & Lewis, 2017; Wolch et al., 2014). Research has shown there is an inequitable distribution of these amenities across space, constituting environmental injustice (Hughey et al., 2016; Rigolon & Nemeth, 2018). For example, parks in low-income and African American neighborhoods are generally of lower quality than parks in higher-income and White neighborhoods (Hughey et al., 2016; Rigolon, 2017; Sister et al., 2010; Vaughan et al., 2013). There is also some evidence to suggest that efforts to improve environmental amenities in lower-income or high-minority areas can contribute to the issue of gentrification (Checker, 2011; Curran & Hamilton, 2012). While most environmental justice research investigates how amenities and hazards are distributed across space, environmental justice can also be thought to contain two other types: procedural and interactional justice (Low, 2013; Schlosberg, 2004). This study focused on the latter two types of environmental justice.

Procedural justice arises when the process and outcomes of decision making promote fairness (Low, 2013, p. 6). Procedural justice is met when the voices of residents are heard and when

residents are active participants in the decision-making process (Low, 2013). There is some evidence to show that park developments that typically cause gentrification also do not achieve procedural justice (Loughran, 2014). Park planning that does not adequately involve all stakeholder groups constitutes inequitable decision making, and therefore procedural injustice (Checker, 2011; Loughran, 2014).

Interactional justice concerns the fairness and equity of interactions among individuals. In a park, this means that visitors do not feel discriminated against or unwelcome (Low, 2013, p. 8). When people feel discriminated against by other visitors in a public space, interactional justice is not met (Sharaievska, Stodolska, Shinew, & Kim, 2010). In addition, interactional injustice can occur if nearby residents feel less comfortable or welcome in the new social environment within the park (Harris, Larson, & Ogletree, 2018). This could lead some to visit less often or feel discriminated against in the park (Harris et al., 2018). Depending on how park projects are developed, the culture of the neighborhood can change from one that reflects existing residents to one that reflects potential new residents (Reichl, 2016).

Community engagement

Developers and planners can include community members in the process of park design, policy making, and planning to get feedback, listen to concerns, and assess whether the park is representative of the neighborhood's views. Research has demonstrated the importance of community engagement in enabling residents to feel that their voices are heard and that they have influence on the direction of the neighborhood (Mathers, Parry, & Jones, 2008). Reaching out to the community is especially important when the investment is being made in a low-wealth, predominantly minority community, such as the neighborhoods adjacent to Bartram's Garden in Philadelphia. As discussed at length in contemporary environmental justice literature related to urban parks (Boone, Buckley, Grove, & Sister, 2009; Rigolon & Nemeth, 2018) and planning generally (Kahrl, 2018; Miller & Lubitow, 2015; Pulido, 2000), minority communities have been disproportionately targeted by environmental injustices. Given this complex history, environmental justice is an appropriate framework with which to conduct the present study. Community engagement in urban park development may enhance feelings of ownership and connection with the neighborhood social fabric and therefore act as a bulwark against interactional injustice. It can also lead to feelings of stewardship (Slater, Pugach, Lin, & Bontu, 2016). It is possible that a community-designed space may be one way for residents to fight injustice, which can occur when parks are designed for future residents instead of current ones. For example, Sunset Park neighborhood residents in Brooklyn, New York, were actively engaged with the development surrounding the new Bush Terminal Park, and that partnership helped protect them from displacement (Gould & Lewis, 2017).

On the other hand, neglecting to acknowledge a community's input into the planning of an urban greening project is not likely to lead to strong perceptions of ownership of that green space (Nemeth, Hollander, Whiteman, & Johnson, 2018; Pellow, 2002). Insufficient community engagement in fact may limit the perceptions of ownership by the community of the new space (Nemeth et al., 2018; Pellow, 2002). Racial and ethnic minority residents or low-income residents, who might have less political capital, would benefit from active engagement by city officials and park agencies, such as through nonprofit organizations acting as a liaison between

residents and developers (Eizenberg, 2012). Thus, a nonprofit park organization might be an effective liaison between a neighborhood and park planners.

Accordingly, not all community engagement is the same, nor does all community engagement fulfill procedural justice (Arnstein, 1969; Nemeth et al., 2018). Community engagement may look different in each neighborhood, which is why resident perceptions of community engagement can be a good indicator of whether efforts to engage residents were successful. Feeling heard, feeling as if their neighborhood is represented in ongoing management or in projects, and feeling as if their input matters are examples of potentially resident-reported indicators of whether procedural justice was met. Literature on citizen participation in decision making is yet unclear about how best to measure the success of community engagement (Purchase & Simmons, 2017); therefore asking residents directly about outcomes known to be associated with justice—namely, being heard, feeling valued, and being represented—may provide insights not commonly found in prior research.

Ownership

Perceived ownership of a place is the attitudinal state that one possesses a place and has a sense that that place is “theirs.” Perceived ownership is beneficial to both the person and the place as it can lead to feelings of responsibility, care, and stewardship of the place (Pierce, Kostova, & Dirks, 2001). While it can lead to feelings of territoriality or indifference to others (Broadway, Legg, & Broadway, 2018), a sense of community ownership can also foster social cohesion and promote civic participation (Low, 2006; Zhu, 2015). In addition, at a time when neighborhoods fear that park projects will lead to gentrification and displacement, it is important to focus on feelings of ownership across the neighborhood rather than exclusion (Zukin et al., 2009).

Social fabric

Related to the concept of ownership is the sense that a park is part of the neighborhood social fabric, which also may represent a dimension of interactional justice. Social fabric can be thought of as the cohesiveness of the neighborhood—social networks, neighboring behavior, interaction with local institutions, and common interests (Somerville, Van Beckhoven, & Van Kempen, 2009). While perceptions of neighborhood social fabric have not yet been tested in the context of a park, the idea of a neighborhood social fabric has been examined in the context of neighborhood organizing (Somerville et al., 2009), and it may assess another level of the relationship between a community and its public spaces. Participation in neighborhood activities, such as farmers’ markets, has led to positive perceptions of social fabric (Alonso & O’Neill, 2011). Residents who perceive the social fabric of their neighborhood to be strong have better mental health and are less likely to experience social isolation (Temkin & Rohe, 1998; Somerville et al., 2009). In addition, evidence suggests that physical spaces can act as social anchors, adding social fabric to the community (Clopton & Finch, 2011). It follows that a lack of positive perceptions of the neighborhood social fabric, as well as a lack of perceptions of public spaces as part of that social fabric, would indicate ill social health, a marker of interactional injustice. Cities and park agencies may be able to influence neighborhood social fabric through active engagement during planning or through inclusive programming.

The impact of effective community engagement, and its role in shaping sense of ownership, has been understudied in the context of environmental amenity development (Curran & Hamilton, 2012; Gould & Lewis, 2017; Schilling & Logan, 2008). Because relatively few studies of community engagement in park planning have been conducted, it is unclear how effective community engagement efforts may be in achieving procedural justice.

Green gentrification as potential environmental injustice

The literature reviewed here suggests that effective community engagement, an important component of procedural justice, may reduce the likelihood of distributional injustices in the provision of parks, including potentially green gentrification. Green gentrification is the process of change and displacement that occurs when an environmental disamenity is cleaned up and improved, or when a new environmental amenity (such as a park) is created, in a way that raises property values and rents, which consequently can displace residents (Gould & Lewis, 2017; Mullenbach & Baker, 2018). As cities create more environmental amenities, neighborhoods can become more attractive to wealthier residents and subsequently undergo green gentrification (Loughran, 2014; Rigolon & Nemeth, 2018). Not only can environmental amenities drive in-migration of wealthier residents and displace lower-income residents, the process of designing and planning the amenity (e.g., community engagement) can also result in displacement from the political process or from the neighborhood social environment. Residents may not necessarily be physically displaced from the neighborhood (i.e., forced to move), but rather may feel displaced from the neighborhood culture and social environment. This sense of displacement may be due to the closure of businesses and other community spaces that served them and due to the replacement of members of their social network with new residents who may occupy positions of privilege in deciding the future directions of the neighborhood. This latter form of displacement tends to affect those who manage to continue to live in their neighborhood because they can afford it or live in subsidized housing units (Delaney, 2004; Ley, 2004; Rigolon & Nemeth, 2018). Displacement from the neighborhood culture and social environment can disconnect residents from the new or renovated park and manifest as a loss of community ownership over the park. In neighborhoods undergoing green gentrification, this type of displacement may signal that community engagement during park planning failed to adequately engage the most marginalized residents, thus failing to achieve procedural justice (Curran & Hamilton, 2012, 2017).

Thus, in light of potential environmental injustice, this study examined residents' perceptions of community engagement and its association with their sense of park ownership and perceptions of the park as part of the neighborhood social fabric. *Perceived community engagement* in this study refers to an individual's perception that their voice was heard in the park planning phases, that their community is valued by developers and park managers, and that their input generally is heard and valued.

Hypotheses

We tested the following hypotheses in this study.

1. Higher levels of residents' perceived community engagement with a nonprofit park organization are associated with higher levels of residents' perceived ownership of the park.
2. Higher levels of residents' perceived community engagement with a nonprofit park organization are associated with stronger perceptions of residents that the park is part of the neighborhood social fabric.

Methods

In this study, we tested new metrics to assess the extent that (a) residents felt engaged with an urban park nonprofit organization during a recent renovation, (b) residents felt community ownership over the park, and (c) residents perceived the park to be an important part of the neighborhood social fabric. These metrics can be used by researchers and practitioners to evaluate nearby resident engagement in, for example, the design and planning of a park renovation, as well as its success in promoting ownership and stewardship of that space, thereby minimizing displacement from the neighborhood's social environment. We tested these metrics in a neighborhood survey of residents who lived near a park that was recently renovated and expanded. A description of the study follows, including study context, survey administration and design (including the development of these metrics), and analysis.

Study context

The context of this investigation was Bartram's Garden, a historic botanical park located in a low-income, predominantly African American area of Philadelphia, Pennsylvania. Bartram's Garden was the recipient of state and nonprofit financial support to build a multiuse paved trail along the Schuylkill River. Named Bartram's Mile, the trail extends from the southern boundary of Bartram's Garden, through the grounds, and slightly beyond the park's northern boundary. In a future project phase, the trail will cross the river via a new pedestrian bridge, creating a connection between the neighborhoods around Bartram's Garden and downtown Philadelphia.

Separate from this capital investment, Bartram's Garden has also undergone significant changes in its operations, leadership, and facilities over the past decade. In the past 5 to 10 years, Bartram's Garden developed an urban farm, community garden plots, a boating program, a special events pavilion, and many other regular programs and festivals (Director of Development, personal communication, May 25, 2017). Bartram's Garden also engaged more heavily and intentionally with the local community (Pentecost-Farren & Schultz, 2017; Smith, 2012). Historically, Bartram's Garden has received much visitation from older, usually wealthier, often retired visitors from the greater Philadelphia area, from outside the city, and from around the world. The organization has retained this core of locals and tourists who come for the botanical garden, but it has also seen dramatic increases in new visitors from nearby neighborhoods in Southwest Philadelphia and from near-adjacent neighborhoods in West Philadelphia (Director of Development, personal communication, May 25, 2017).

Survey administration

The survey was administered to neighborhood residents living within prespecified areas near Bartram's Garden within a half-mile radius. In consultation with Bartram's Garden staff and community members, we delineated survey zones that represented the most proximal neighborhoods, including the public housing complex immediately adjacent to Bartram's Garden. Before surveying the neighborhood, we placed flyers on the door of each house in the survey zones with information about the survey and contact information to opt out or schedule a specific time to take the survey. We administered the survey in person using iPads to record responses. Our project partners at the Penn State Survey Research Center (SRC) hired and trained field interviewers from the local community to help establish rapport with survey respondents and ensure that community members had representation in the research process. Field interviewers knocked on each door in the designated zones and surveyed everyone who was over 18 years of age who answered the door and agreed to participate. If the respondent was not home, the field interviewers left a flyer with information on how to contact the researchers if they wanted to take the survey. Surveying occurred in the evenings during the work week and from midmorning through early evening on the weekends. The survey took about 20–25 minutes to complete. Surveying occurred from mid-November 2017 to February 2018 (response rate = 61%; $N = 300$).

Survey design

The survey included both cognitive and behavioral domains, including residents' perceived community engagement (i.e., involvement of residents in managing and planning Bartram's Mile), personal and community ownership of Bartram's Garden by residents, and residents' perceptions of the park as part of the neighborhood social fabric. The survey also asked some questions about residents' use of Bartram's Garden (e.g., frequency of visitation, activities participated in) and demographic characteristics (i.e., age, gender, income, education level, race/ethnicity, home ownership, and years of neighborhood residence). Our present analysis focused on perceived community engagement and its potential outcomes: (a) community ownership and (b) perceptions of the park as part of the neighborhood social fabric. For clarity and brevity moving forward, we refer to the latter outcome as simply *social fabric*. Our dependent variables—perceived community ownership and social fabric—are representations or “markers” of displacement from the culture and social environment of their neighborhood, and we view community engagement as one strategy that practitioners can use to address perceptions of this type of displacement.

Community engagement. The construct “perceived community engagement” relates to survey respondents' perceptions of their own and their community's involvement in managing and planning Bartram's Garden. We created items to measure this construct based on prior studies of community engagement and urban planning (e.g., Doolittle & Faul, 2013; Sheppard, 2014). These items pertained to individuals' perceptions that their voice was heard in the renovation, that their community is valued by the agency that manages the space, and that their input generally is heard and valued.

Community ownership. Community ownership pertains to the extent to which residents feel that Bartram's Garden belongs to them as a collective. This construct consisted of three items, “our neighborhood feels a high degree of community ownership of Bartram's Garden,” “Bartram's

Garden is our neighborhood park,” and “Bartram’s Garden belongs to our neighborhood.” We based these items on Pierce and colleagues’ (2001) work on psychological sense of ownership and modified them to be appropriate for a public park setting as well as to reflect collective ownership of a park by a community.

Social fabric. We created social fabric items for the broader study in Philadelphia, of which this analysis was a part, based on conversations with project funders and prior literature on the impact of park and recreation investments (Pitas, Hickerson, Koerte, Kerstetter, & Mowen, 2017). Social fabric has been discussed by practitioners, planners, and community organizers, though measurement of the concept remains elusive. Drawing on peer-reviewed academic and professional publication sources, we developed items to try to tap into that construct (Somerville et al., 2009). The items pertain to feelings that the park is an important part of the neighborhood, that the park benefits the community, and that the park serves as a neighborhood meeting place. All survey items were measured on a Likert scale from 1 = *strongly disagree* to 7 = *strongly agree*.

Analysis

Given that we created some survey items for this study and adapted other items from prior studies, the survey was assessed for face validity by researchers and Bartram’s Garden staff, drawing on their experiences with the neighborhood. Bartram’s Garden staff suggested wording changes for several items to enhance readability for less-educated individuals and suggested changes to increase relevance to their specific park features and programming. These changes were incorporated into the final survey. We also assessed survey items for reliability using Cronbach’s alpha, with .70 as a cutoff value (Vaske, 2008). We tested the structure of the three constructs using confirmatory factor analysis (CFA) to confirm the hypothesized measurement model of the three variables. If the initial measurement model did not have good model fit, we tested a revised measurement model. When necessary, we examined modification indices to determine which items to drop in a revised measurement model (Kim, 2017). We then used structural equation modeling (SEM) to test the relationship between perceived community engagement and community ownership and social fabric. The CFA and SEM were conducted using IBM Amos Version 24. We chose SEM over univariate linear regression to test the impacts of perceived community engagement on both outcome variables at once. In addition, since we tested psychometric latent variables, SEM was identified as the most appropriate method to examine the degree to which the hypothesized structure of the variables was empirically supported. SEM also provides insight into model validity (Kline, 2011). We imputed missing values using Amos, and Little’s MCAR test failed, indicating there were no patterns to missing data, and all variables had less than 6% of data missing.

Results

A total of 300 residents completed the survey. About half of the sample (49%) were users of Bartram’s Garden, classified by their response that they had visited Bartram’s Garden in the past year. About 91% of the sample was Black, and the most commonly reported income category was \$10,000 or less (51%). A large proportion of the sample was female (75%) and was younger and less educated than Philadelphia generally (U.S. Census Bureau. American Community

Survey, 2016). Although these demographic characteristics do not necessarily reflect the city of Philadelphia at large, they are representative of the neighborhoods near Bartram’s Garden (U.S. Census Bureau. American Community Survey, 2016). The Census tract that incorporates Bartram’s Garden is 88% Black/African American with a median household income of \$21,505 (U.S. Census Bureau. American Community Survey, 2016). The sample also had a mix of new residents and long-term residents—36% had lived in the area for less than 5 years. Additional sample characteristics are displayed in Table 1.

Table 1. Sample characteristics (*N* = 300).

	<i>N</i> or mean (% or SD)
Race/ethnicity	
Black	272 (91%)
Latino	8 (3%)
White	6 (2%)
Other	7 (2%)
Gender	
Female	224 (75%)
Male	72 (24%)
Education	
High school diploma/GED	181 (69%)
≥Some college	82 (31%)
Most frequent age group	18–35 years (37%)
Most frequent income group	\$10,000 or less (51%)
Mean years lived in neighborhood	12.5 (12.2)
Users of Bartram’s Garden	147 (49%)

Note. Percentages may not add to 100 due to rounding.

Overall, mean scores were above neutral (4) for all three constructs, with a range of 5.3 to 5.6 out of a possible 7. This indicates residents had moderately positive views of their levels of community engagement with Bartram’s Garden, sense of community ownership of Bartram’s Garden, and view of Bartram’s Garden as part of the social fabric of their neighborhood.

Confirmatory factor analysis and structural equation modeling

The hypothesized factor structure (measurement model) is depicted in Figure 1. We used cutoff values for Tucker-Lewis index (TLI) and comparative fit index (CFI) of >.95 and root mean square error of approximation (RMSEA) of <.08 (Kline, 2011). In addition, in each tested model we reviewed the omnibus chi-square test for model fit. The initial measurement model did not have acceptable fit indices ($\chi^2 = 389.113$, *df* = 63, *p* < .001; TLI = .776, CFI = .819, RMSEA = .131). The latent variables, community ownership and social fabric, were highly correlated (*r* = .95). This suggested that community ownership and social fabric items from this sample might instead represent a single latent variable. Cronbach’s alpha values indicated good reliability for each construct (see Table 2).

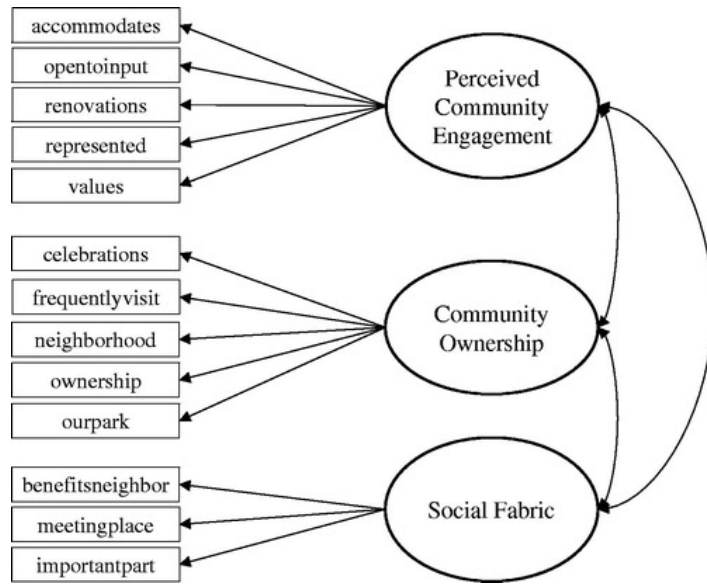


Figure 1. Hypothesized model.

Table 2. Final measurement model results.

Item	Mean (SD)	Unst (SE) ^a	St z value ^b
Perceived community engagement $\alpha = 0.86$			
Bartram's Garden accommodates local residents and visitors/tourists from other places	5.5 (1.4)	.99 (.11)	.68 9.38
I feel that Bartram's Garden would be open to my input	5.2 (1.5)	1.22 (.12)	.76 10.19
My community is represented in what happens at Bartram's Garden generally (programs, events, maintenance/upkeep)	5.2 (1.6)	1.35 (.13)	.88 10.67
My community was represented in the Bartram's Garden renovations	4.9 (1.7)	1.00	.61
Community asset $\alpha = 0.86$			
Bartram's Garden is an important part of this neighborhood ^c	5.9 (1.1)	1.10 (.08)	.82 13.87
Bartram's Garden benefits the local neighborhood ^c	5.8 (1.1)	1.00	.75
Bartram's Garden belongs to the local neighborhood ^d	5.6 (1.3)	1.27 (.09)	.82 13.83
Bartram's Garden is our neighborhood park ^d	5.5 (1.4)	1.10 (.10)	.67 11.31
Bartram's Garden is a neighborhood meeting place ^c	5.3 (1.5)	1.14 (.11)	.64 10.78
Our neighborhood feels a high degree of community ownership for Bartram's Garden ^d	5.0 (1.6)	1.15 (.11)	.61 10.18

Note. Model: $\chi^2 = 56.964$ $p = .008$; $DF = 34$; $\chi^2/df = 1.675$; $CFI = .982$; $TLI = .976$; $RMSEA = .047$.

Unst = unstandardized factor loadings; St = Standardized factor loadings; α = Cronbach's alpha; SD = standard deviation; SE = standard error.

^a Items fixed at 1.00 due to constraints required by SPSS Amos; one path in each latent variable must be fixed at 1.00 as a reference item. Items fixed at random.

^b All regression weights significant at $p < .001$.

^c Originally a social fabric item.

^d Originally an ownership item.

Therefore, we revised the model so that all community ownership and social fabric items loaded on one latent variable subsequently named *community asset*. The CFA indicated the revised model had better fit but still fell below desired cutoff values ($\chi^2 = 172.465$, $df = 62$, $p < .001$; TLI = .923, CFI = .939, RMSEA = .077). After reviewing modification indices, we removed one item from perceived community engagement (my community is valued by Bartram’s Garden), which was an item we created that was based on conversations with staff at Bartram’s Garden and theoretically inconsistent with other community engagement items. We also removed two items from social fabric (people from the local neighborhood frequently visit Bartram’s Garden, and people from the local neighborhood use Bartram’s Garden for celebrations and events), which were also created for this study and not based on existing scales or items, in pursuit of a parsimonious model. The final measurement model (see Figure 2) had acceptable fit indices ($\chi^2 = 56.964$, $df = 34$, $p = .008$; TLI = .976, CFI = .982, RMSEA = .047), and the correlation between the two latent variables was good ($r = .42$). Descriptive and reliability statistics for the final measurement model are displayed in Table 2.

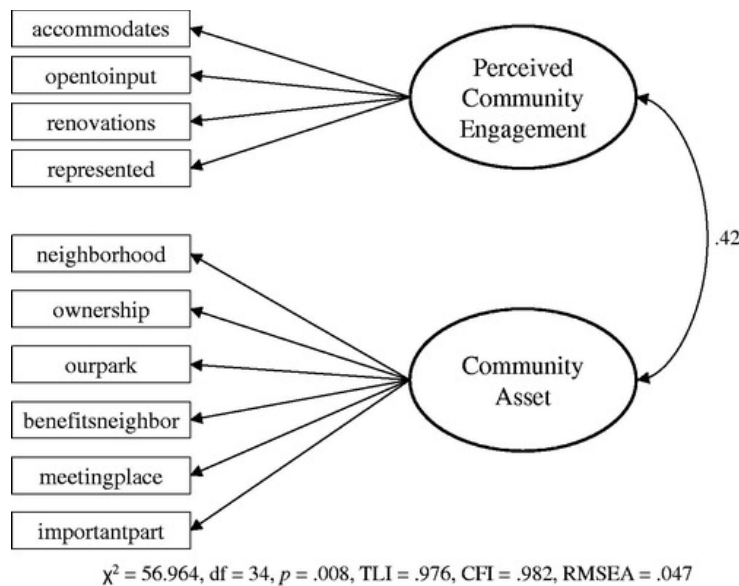


Figure 2. Second measurement model with combined latent variable *community asset*.

Following CFA, we conducted an SEM to observe the effect of perceived community engagement on perceptions of Bartram’s Garden as a community asset. We added two measured variables (number of years lived in the neighborhood and a user/nonuser dummy variable) to the model at this stage to provide additional insight into relationships between predictors of perceptions of Bartram’s Garden. Both paths from years lived in the neighborhood were not significant, but both paths from user/nonuser were significant at the .05 level. Not surprisingly, users of Bartram’s Garden reported higher levels of perceived community engagement and community asset. The relationship between community engagement and community asset remained significant ($B = .400$, $p < .001$) and explained 22% of the variance in community asset (see Table 3 and Figure 3).

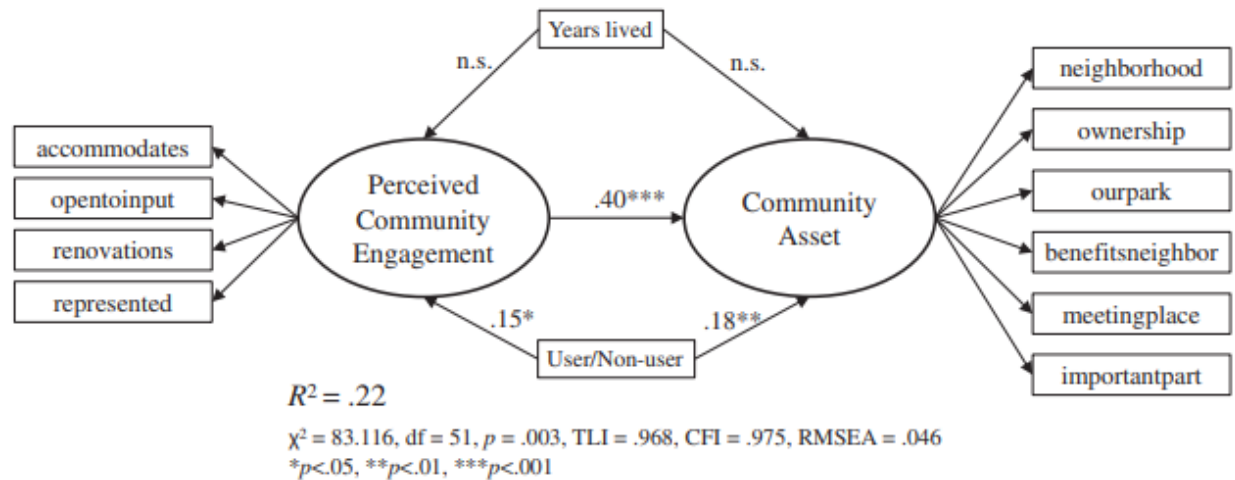


Figure 3. Structural model.

Table 3. Summary of effects and variance explained.

Independent variable →	Dependent variable	β	B (SE)	z value	R^2
Community engagement	Community asset	0.40	0.39 (0.07)	5.58***	.22
User/nonuser	Community engagement	0.15	0.25 (0.11)	2.42***	.02
User/nonuser	Community asset	0.18	0.29 (0.09)	3.08**	.03
Years lived	Community engagement	-0.04	-0.003 (0.004)	-0.60	-.002
Years lived	Community asset	0.11	0.01 (0.004)	1.93	.01

** $p < .01$; *** $p < .001$.

Discussion

Residents in our sample, both users and nonusers, had positive perceptions of Bartram’s Garden with regard to perceived community engagement and perceptions of its role as a community asset. Since mean scores for community engagement and community asset were above neutral (i.e., 4 out of 7 on the Likert scale), residents felt at least somewhat engaged with Bartram’s Garden and felt the park was a community asset. Therefore, we have some moderate evidence that at the time of the study procedural justice was met, as community members indicated their voice was heard, their community was represented in the renovations, and their voice mattered for what happens at Bartram’s Garden generally. In addition, given the general agreement that the park is a community asset, there is some moderate evidence that residents do not feel displaced from their neighborhood social environment.

We found that perceived community engagement was positively and significantly associated with perceptions of Bartram’s Garden as a community asset. Specifically, the more engaged residents felt with Bartram’s Garden staff and operations, the stronger their perceptions that Bartram’s Garden is a community asset. Community engagement by Bartram’s Garden with nearby residents appeared to have a positive impact on how the park is perceived. This is a noteworthy finding, given recent research on how park investments can negatively impact existing residents, especially low-income and ethnic minority residents (Loughran, 2014; Reichl, 2016; Rigolon, 2018). These positive results indicate success by Bartram’s Garden staff in outreach to and engagement with the local community during a period of park reinvestment.

The practical implications of our findings are that community engagement continues to be an important part of city and park planning and that intentional engagement can lead to positive outcomes for communities. Thus, organizations that manage parks should note that tailored engagement for the community is important and can result in positive social outcomes. In addition, others involved in park project planning and funding (e.g., developers, local government, planning firms) should note that residents' perceptions of these engagement efforts have important implications for their attitudes and opinions about the park. Thus, efforts should be made to ensure that the neighborhood feels engaged and feels heard. Periodically checking in with community members during the planning phases to assess their sense of engagement could be one way to address this. Taking advantage of an organization's ties to the community is another way; using nonprofits that are in touch with the community as a liaison during planning can help with communication between stakeholder groups. Residents—especially low-income and minority residents—may not feel as comfortable speaking out in meetings with developers or designers but might be more likely to engage with members of the nonprofit with whom they are familiar (Fernandez, 2018). These efforts will likely take more time and resources but may be necessary to avoid residents feeling displaced from their neighborhood social environment. Establishing community relationships prior to or in the absence of planned investments lays the groundwork for meaningful engagement when future opportunities present themselves, as was the case with Bartram's Garden.

Future research

Using CFA, we found the items that we had initially conceptualized as two constructs (ownership and social fabric) represented one latent variable related to perceptions of the park as a community asset. More research is needed to confirm this structure, though the items do show promise for scholars evaluating park investments in the future. In addition, future research should seek to connect these constructs to other dimensions of displacement from the neighborhood social environment, such as political participation or social cohesion.

Our results indicate that effective and intentional outreach and programming, especially in communities of color such as this one, could enhance perceptions of community outreach and thus engender greater feelings of ownership of a park and its role in the neighborhood social environment. Involving community members in planning, programming, and management can improve the relationship between the community and local agencies, particularly feelings of community ownership. It is noteworthy that this study found these results in a low-income community of color, as historically this type of neighborhood has met resistance when their residents have tried to engage in public discussions or have been pushed out of their homes and neighborhoods when amenities such as parks are upgraded (Boone et al., 2009; Kahrl, 2018). However, our evidence suggests the efforts of Bartram's Garden, especially the intentional outreach and creation of relevant programming, have created a space for local residents to feel ownership of. Other nonprofit and public agency managers of parks and public spaces should take note of their level of engagement and intentionality, especially those in communities of color.

Ownership's role in facilitating stewardship has been demonstrated in previous studies examining perceived ownership (Pierce et al., 2001, 2003). Future studies should therefore also

examine how community engagement enhances stewardship, via a sense of ownership, among residents who remain in the neighborhood following park investments. In this way, researchers can continue to assess procedural justice of park investments.

Previous studies of community engagement in planning and operations have also found that engagement efforts can increase social capital among residents and contribute to greater park use and physical activity (Manzo & Perkins, 2006; Slater et al., 2016). Social capital is an important resource for communities of color as it strengthens bonds to place and provides opportunities for personal advancement (Woolcock & Narayan, 2000). Although these social capital outcomes were not measured in this analysis, we found related positive outcomes of community engagement (i.e., parks as a community asset) with a low-income community of color, which adds to the growing literature on minority participation in urban planning. Considering the sample, this is a significant finding given the historical struggles of predominantly Black neighborhoods with urban renewal and public engagement (Fullilove, 2001). Future studies should also examine how community engagement might influence social capital, which may be important for lasting justice and attenuation of displacement from the neighborhood social environment.

Limitations

One of the limitations of this study is that self-reported engagement may not be an accurate portrayal of actual engagement with the nonprofit organization. There is some research to suggest that perceptions are as important as reality (Clarkson, Hirt, Jia, & Alexander, 2010), though in the context of park planning and management, accounting for who participates and how many people participate is important for determining whether procedural justice was present (Rigolon & Nemeth, 2018). In addition, our data are cross-sectional and only from a single city, and therefore we cannot make statements about causality. Future research should test the relationship between community engagement and community asset in other cities and contexts to examine generalizability and with longitudinal data to examine temporal relationships. Future research can also look into how to facilitate sense of ownership of parks, as well as what other nonprofits can do to enhance environmental justice. Future studies might explore what nonprofits can do in their community engagement, specifically, to be perceived as a community asset.

Conclusion

Our study findings underscore the importance of engaging residents in the planning and management of parks and other environmental amenities. With the planned addition of a bridge that will connect the neighborhoods around Bartram's Garden to downtown Philadelphia (a wealthier downtown district), there are fears of gentrification among nearby residents (see Mowen, Baker, Benfield, Hickerson, & Mullenbach, 2018). In light of potential green gentrification, Bartram's Garden represents an example of a nonprofit park organization creating a strong presence in its neighborhood through engagement, establishing the park as a community asset, and potentially forming a strong foundation with which the community could resist displacement from the neighborhood social environment.

Nonprofits, public agencies, developers, and other practitioners should continue to engage the communities surrounding their spaces to facilitate positive social outcomes. Resident perceptions are critical in assessing the justice of a park project. Furthermore, understanding the extent to which community engagement contributes to those feelings validates the process of community engagement as an important element of park management and investment. Because this was just one study that found positive results, such research must continue and must broaden the outcomes investigated. It will continue to be important to document the positive outcomes of community engagement and the negative outcomes that come from inadequate community engagement, given contemporary issues of green gentrification and disparities in access to quality parks and other environmental amenities. Giving residents a voice in what happens to the parks in their neighborhood (or other public spaces) ensures procedural justice.

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