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Research Paper

Resident-led beautification of vacant lots that connects place to community

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ABSTRACT

Urban vacancy is a pressing issue in many cities across the U.S. and globally. A variety of greening strategies have been proposed and implemented for repurposing vacant lots, and their success depends upon the extent to which greening goals address the social needs of residents. The primary contribution of this paper is to explore the relationship between place and community within the context of resident-led beautification of vacant lots. We queried new owners of vacant lots purchased in disenfranchised neighborhoods through the Chicago Large Lot Program in 2015. We used a mixed-methods design that included three focus groups (n = 25) and a mail/online survey (n = 197). Our work builds upon a relational place-making framework that casts the greening of vacant lots as acts of beautification with both physical and social expressions. Focus group findings indicated that resident-initiated beautification activities of cleaning, planting, and engaging with neighbors fulfilled personal goals in ownership while strengthening interpersonal relationships, which participants hoped could transform the community of their block. We examined these results in a path analysis of constructs developed from the survey. Results showed participants' interest in beautifying their lot positively influenced social interaction with neighbors and individual investments in caring for a new lot. Social interaction was positively correlated with place attachment, which in turn predicted sense of community. Individual investments and neighborhood change did not influence place attachment or sense of community. Our work suggests that resident-led beautification of vacant lots can be an empowering way for communities to work for positive change.

"What a powerful difference the lot has made on the block. It's about beautification where people know that good things are possible. We're not just bottom-feeders who live here. [These gardens that were once vacant lots] change culture. The mother who has a picnic in the garden is overjoyed. It's become theirs and they treat it like it's theirs. People look out for one another now."
-Chicago Large Lot Program and focus group participant

1. Introduction

In many older cities across the U.S. and around the world, a block with vacant lots is a block that has seen better days (Mallach & Brachman, 2013). What was once a vibrant place filled with family homes and neighborly interactions has become neglected space that invites dumping and criminal activity. As perceived from outside the block and experienced from within, vacancy connotes a loss of place, and with it, a lost sense of community (Glover, 2003; Lawson, 2004). While urban greening is not a panacea for the many problems associated with urban vacancy, it can play an important role in repurposing vacant lots, particularly when land values and redevelopment potential remain low. But to be successful, any greening strategy must not only benefit the ecology of the city and the services it provides, but it must also improve the social and economic conditions that together make neighborhoods and cities sustainable (Anderson & Minor, 2017).

One greening strategy that seems particularly well suited to repurposing vacant lots and restoring the vitality of blocks and neighborhoods is resident-led beautification. Beautification is typically associated with the removal or screening of objects seen as ugly or discordant (e.g., billboards, junkyards) and the addition or enhancement of objects seen as attractive (e.g., planting trees, repainting houses). Engagement is an important additional aspect of resident-led beautification, where individuals and groups from an area participate in beautification efforts within that area to realize personal and shared community goals. Thus, although top-down efforts of highway and city beautification are often criticized as superficial in addressing

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environmental and social problems (Roman et al., 2018), resident-led beautification efforts at the neighborhood scale have been viewed as holding potential for forging deep connections between people and green nature in the city and to each other (Alaimo, Reischl, & Allen, 2010).

In our study of a vacant lot re-purposing program in Chicago, resident-led beautification emerged as a key concept and as the above quote from one of our focus groups attests, resident engagement in vacant lot beautification can be transformative. On a physical level, beautification efforts provide visual signs of care and stewardship, and the process of reshaping a lot from blight to beauty has the potential to strengthen a sense of place (Gobster, Nassauer, Daniel, & Fry, 2007; Nassauer, 1995). On a social level, investments in time and hard work can create a personal attachment to place for vacant lot stewards and can also lead to a revitalized sense of place to the broader community (Krusky et al., 2015). Both the physical changes on the lot and residents' relationships to other people and places are key to understanding relational place-making and its contribution to building a sense of community among neighborhood residents (Foo, Martin, Wool, & Polsky, 2013).

The purpose of our study is to understand the consequences of beautifying a vacant lot on owners' place attachment and its implications for enhancing sense of community. We used a mixed-methods design that combined focus groups and a household survey of new owners of vacant lots in predominantly African American neighborhoods of Chicago. This paper advances knowledge of how the greening of neighborhood landscapes impacts the relationship between place-making and sense of community, which are key social drivers to building sustainable and resilient environments for our increasingly urban world.

2. Literature review

2.1. Re-purposing vacant lots: a relational framework

Frazier, Margai, and Tettey-Fio (2003; see also Sugrue, 1996) developed a convincing framework to understand and strengthen social connections among residents of racial and ethnic minority neighborhoods that experience inequities in housing, public services, and environmental well-being. The authors recommended that planners and elected officials should more effectively engage neighbors in constructive dialogue about cultural messages that lead to social change. Sutton and Kemp (2011) also provided evidence showing that marginalized urban neighborhoods can develop from "places of inequities" to "places of transformation" through the creation of community gardens, informal parks, and playgrounds that sustain neighborhood social interaction. This process exemplifies a bottom-up approach to landscape change and community revitalization in marginalized neighborhoods and stands in contrast to more traditional top-down approaches.

The transformative ability of vacant lot repurposing efforts to reflect human intentions connects the vacant lots to a socio-spatial system of relationships (Pierce, Martin, & Murphy, 2011). Foo et al. (2013) characterized urban spatial systems as having interconnected social meaning. Referring to a given neighborhood as a "place-based community," they recognized the physicality of the lived environment and its embeddedness in the larger scale development of the city (p. 157). In their study of relational place-making, they characterized the sources of social meaning for vacant lots in the following way:

> The experience, function, and meaning of each site is dually defined by the territory of the neighborhood as well as the intersection of broader socio-political and biophysical processes. In urban neighborhoods, relational place-making reconfigures the term "local" to refer to both the territory of the neighborhood together with political-economic processes that influence the perception and experience of the neighborhood or vacant lot. (p. 158)

Foo (2017) characterized policies to address land vacancy as an alignment of greening with economic stabilization goals. Simple acts by residents to care for vacant lots are a form of political resistance to re-territorialize the social meaning of their neighborhood from years of decay and physical decline.

A relational place-making framework brings sensitivity to changes across time to account for neighborhoods or sites as declining or improving, and communication with outsiders about the vectors of change in the neighborhood. Pierce et al. (2011) suggested that site development is perceived as a re-ordering of a new set of shared place identities that integrate the multi-scalar connections of sites to one another. Following Sutton and Kemp (2011), we argue that this process is particularly important in low-income, racial and ethnic minority neighborhoods because, in addition to experiencing disproportionate exposure to environmental hazards and a lack of environmental amenities (Boone, Buckley, Grove, & Sister, 2009), they are often stigmatized as places characterized by physical disorder and crime (Sampson & Raudenbush, 2004). Thus, place-making processes in disenfranchised communities of color can contribute to reshaping the narrative about such communities. The geographic scales of this paper emphasize connecting vacant lots to their block and neighborhood with some extension to municipal contexts.

2.2. Lot beautification as a place-making process

Physical changes to a vacant lot may involve simple acts of mowing, pruning overgrown brush, and picking up trash, and could also include more extensive individual investments linked to growing a garden or building a children's playground. While these acts of cleaning and greening are essential to place-making, they are motivated by the achievement of broader aesthetic and social goals. We argue that these actions and intended outcomes are collectively encompassed within the concept of beautification, or more precisely, resident-led beautification to distinguish it from municipal street tree planting, civic sculpture programs, and other top-down efforts that fall under the rubric of urban beautification (Herzfeld, 2017; Makhzoumi, 2016; Nasongkhla & Sintusingha, 2012).

While resident-led beautification emerged as a concept in our work, there is some precedent in its use. Alaimo et al. (2010) examined community gardening and "beautification projects" and found that resident involvement was positively linked to sense of community. Although their study did not detail the aesthetic actions that constitute beautification, work by Nassauer (e.g., 1995, 2011) and others provide evidence for its importance. In particular, Nassauer and Raskin (2014) characterized an aesthetic for repurposing vacant lots in which landscape features communicate human intentions, and describe various "cues to care" as everyday strategies that reflect a neighborhood in which residents look after one another. Further, Lawson (2004) found that activities such as mowing, fencing, or planting flowers that add beauty and communicate care are associated with improved social interaction with neighborhood residents. While their work was done in a rural context, Morse et al. (2014) showed how people's "performance" in landscape management activities contribute to a sense of attachment to place and express the social norms of an aesthetically desired landscape by a viewing audience of neighbors and visitors. Although resident-led beautification may be a relatively new term in the literature, there is ample support for its use.

Because the social meaning of vacant lot improvement has the potential to re-order place identity in relation to its block and neighborhood, resident-led beautification asserts that a revised sense of place for any given lot may have a spillover effect that strengthens sense of place across the entire block in which that lot is located (Goldstein, Jensen, & Reiskin, 2001). If social meaning is tied to a larger public discourse, the implications of beautification would take its cues from this discourse. For example, Chicago's Large Lot Program, the subject of our study, sells selected vacant lots to property owners on the block for $1 (City of Chicago, n.d.) with explicit goals of giving residents greater control

over their neighborhood, increasing safety in neighborhoods, and building community. The goals of the program grew out of an extensive public engagement process for the City's Green Healthy Neighborhoods plan (City of Chicago, 2014). The public discourse of the Large Lot Program asserts a hopefulness and shared meaning of ownership in caring for a lot (e.g., Sweeney, 2017), and support activities by civic organizations further the connections between individual lot purchases and broader concepts such as place-making (McCarron, 2015). There are also other urban programs to re-purpose vacant lots into more attractive and functional places (Schilling & Logan, 2008), and the objectives and public discourse of each of these programs will likely influence the shared meaning of the re-purposed lots.

2.3. Strengthening sense of community through place-making

Many residents of neighborhoods with high percentages of land vacancy have remained in their home by choice (Coulton, Theodos, & Turner, 2012). Brown, Perkins, and Brown (2003) suggested homes are imbued with social meanings of family and friends whose daily lives are filled with routines that connect them with other residents. Even when neighborhoods decline, residents' place attachment may adapt in ways to accommodate the physical and socio-economic characteristics of the neighborhood. Other researchers have provided empirical support for the dynamic nature of place meanings of home environments and the human capacity to redefine the sense of refuge or haven in the aftermath of negative experiences (e.g., Cheng & Chou, 2015; Manzo, 2003; Soilemezi, Drahota, Crossland, Stores, & Cost, 2017).

Social interaction with other residents, membership in neighborhood associations, and engagement in local governance forums are part of place-making processes. Events that foster collective activity with neighbors – planning forums, block parties, collaboration in yard work, and the like – have potential to create social cohesion and enhance awareness of the physical fabric of one's block and neighborhood (Agyeman, Devine-Wright, & Prange, 2009; Brown et al., 2003). Strong place attachment both influences, and is influenced by, individual investments in activities that help shape the future of neighborhoods (Anton & Lawrence, 2014; Von Wirth, Gret-Regamey, Moser, & Stauffacher, 2016). In their study of urban flooding, Clarke, Murphy, and Lorenzoni (2018) discussed transformative adaptation of place attachment in which residents engaged in policy-making processes to adapt to a new sense of place of their home landscape. In contexts of highly-vacant, shrinking neighborhoods, the accumulation of events that reflect a trajectory of urban decay could be integrated with a redefined sense of place through activities linked to social interaction and behavior that connects residents to one another (Heckert & Kondo, 2017). Beautification of vacant lots is an example of such integration in that residents could be motivated to work together to assert a sense of place that counters a public framing of their neighborhood as being in physical and social decline (Foo et al., 2013).

Social interaction and individual investments to redefine one's sense of place can result in a positive sense of community. While sense of place is defined by meanings people ascribe to specific environments, sense of community is defined by a readily available, supportive and dependable social structure to which one belongs (Mannarini, Tartaglia, Fedi, & Greganti, 2006; Pretty, Chipuer, & Bramston, 2003). Senses of place and community are kindred concepts, and distinguished by sense of place connecting meaning to environments, and sense of community connecting oneself to others within a given place. When compared to sense of place, Mannarini et al. (2006) argued that "sense of community seems to be a more exhaustive indicator of the tie between people and the urban environment they live in" (p. 204) and will be employed in this study in a similar fashion.

Given the findings of the above literature, and the concept of relational place-making accounting for a spatial system of inter-connected social meaning, we expect that activities that re-define one's sense of place *also* have significant impacts on one's sense of community. However, we found very limited research that explicitly links the two concepts in the context of vacant lot beautification or within contexts of low-income communities of color. Thus, we set out to uncover such connections by studying the impacts of lot beautification for Chicago's Large Lot Program.

3. Methods

Our study evaluated the impact of the Chicago Large Lot Program (City of Chicago, n.d.) on perceptions and intentions of new lot owners. In the first phase of our mixed-methods study, we conducted three focus groups to understand new owners' visions and challenges they faced with their lots. In the second phase, we administered a mixed-mode survey to all 318 lot owners that quantified many of the concepts identified through the focus groups. The findings of the interviews and focus groups informed the construction of questionnaire items. The development of conceptual relationships across two methods in a mixed-method design has been an effective investigative approach across numerous contexts (Gibson, 2017; Greene, Caracelli, & Graham, 1989; Tashakkori & Teddlie, 2010). Building on the focus groups results, we used a path analysis to test the quantitative support for a framework of relational place-making tied to lot beautification.

3.1. Large Lot Program and study sites

Our study examined new landowners of City-owned residential lots purchased in winter 2014–15 under the inaugural offering of the Large Lot Program (City of Chicago, n.d.). Existing property owners could purchase one or two lots on their block or the adjacent block, which resulted in 318 owners of 424 lots. Under the program, owners are required to maintain the property, pay the taxes, and fence the lot if it is not directly adjacent to their existing property. They can do what they want with the property under residential zoning ordinances, including building houses and garages. In the first years of the program it was expected that most new owners would use the property as an extension of their current yard (typical "Chicago lots" are 7.6 m × 38 m) for gardening or green space, a social/play area for adults or children, or a gravel or paved area for vehicle parking. After five years, the owners are free to sell the property. To illustrate the lots prior to ownership and the kinds of improvements made, Fig. 1 compares two lots in before/after images from 2014 to 2016 (two years after ownership transfer).

The lots were located in two areas to the south and west side of Chicago's central business district that have been most affected by land vacancy (Fig. 2). The southern area followed the boundaries of the Green Healthy Neighborhoods plan (City of Chicago, 2014) and encompassed a number of different community areas, including Englewood and Woodlawn where we conducted two of the focus groups. There were 275 properties sold in the southern area out of 4062 offerings (7% were sold). The western site was coterminous with the East Garfield Park community area, where we conducted the third focus group. There were 149 lots sold in East Garfield Park out of 418 lots offered (36% were sold). These neighborhoods are often mentioned in city and national news outlets for issues of disenfranchisement, population loss, and gun violence, which over time have contributed to their stigmatization (e.g., Sweeney, 2017). Table 1 provides a socio-demographic profile for the study site drawn from United States Census data.

We worked with a number of organizations to implement the study and ensure our research approach was tailored to the local context. Because our research was partially focused on monitoring and evaluating the effectiveness of the Large Lot Program, we consulted with the City's Department of Planning and Development – the office responsible for administering the program – to understand their goals and engage them in the research from its beginning. We also engaged staff from a non-profit organization, the Local Initiatives Support Corporation (LISC Chicago, n.d.), whose mission is to support neighborhood programs and connect them with municipal policies and resources. LISC's close ties

Fig. 1. Photographs of Large Lot properties from East Garfield Park (top) and the Green Healthy Neighborhoods area (bottom) in fall 2014 prior to purchase (left) and fall 2015 one year after purchase (right). Credits: 2014 photos Google Street View; 2015 authors' collection. (For interpretation of the references to color in this figure legend, the reader is referred to the web version of this article.)

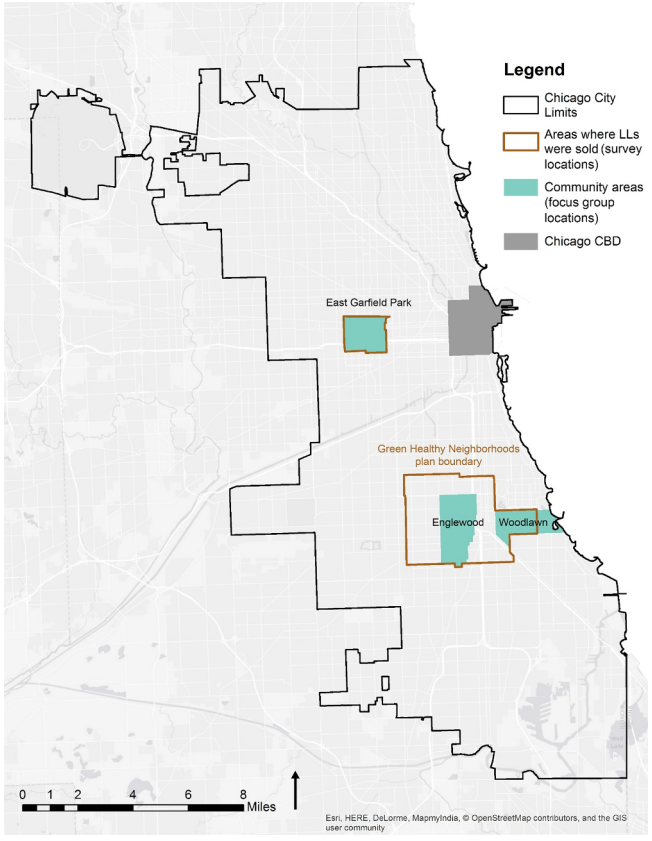

Fig. 2. Study sites.

with neighborhood associations across the City contributed to the success of resident participation in this study because they introduced us to three local organizations in the neighborhoods of interests. We then developed working relationships with these neighborhood associations to enlist their help, explaining the intentions of the research and our goals to provide feedback to local decision makers (e.g., The City of Chicago) while advancing theory and application that would have utility beyond the Large Lot Program.

3.2. Focus groups

We conducted focus groups after the first growing season of lot ownership in fall 2015 to understand owners' intentions for their lots, perceived challenges of lot ownership, improvements made, and anticipated impacts of lot ownership on their neighborhood. A resident association within each neighborhood organized the focus groups. We worked with the director of each association to ensure we had participants in the focus groups who lived in the neighborhood and had purchased a vacant lot in the recent round of property sales. The directors identified and invited residents who fit these two criteria. As incentives to participate, we offered each participant a $25 gift card to a local garden store and provided a group meal at each session to show appreciation.

Across the three focus groups, there were 25 participants including 6 individuals in East Garfield Park (3 females and 3 males), 8 in Englewood (all females), and 11 in Woodlawn (9 females and 2 males). At least two of the authors conducted the focus groups and audio recorded them for transcription. We then used NVivo10 to help structure the qualitative text analysis and identify important themes relating to intentions for lot ownership and its impact on neighborhood quality of life. We adapted procedures from Morgan and Krueger (1998; see also Bloor, Frankland, Thomas, & Robson, 2001) and followed a general format that began with introductory items to initiate the flow of ideas, followed by transition to key points, with a final set of questions that both summarized and called for anything missing from the discussion. During the focus group, we used a visible flip chart to record and help guide the conversation.

Table 1
Demographic and housing characteristics of the selected sites.

Geographical Unit	Population	Median household income	Percent college graduates[a]	Percent Black residents	Percent Hispanic residents	Percent vacant housing
East Garfield Park	20,656	$21,482	12.7%	91.3%	3.5%	17.7%
Englewood[b]	26,121	$19,854	6.2%	95%	2.6%	36.3%
Woodlawn[b]	24,150	$23,986	23.3%	84.7%	2.4%	24.7%
Green Healthy Neighborhoods project area	125,759	$27,364	11.7%	88.4%	6.9%	28.6%
City of Chicago	2,717,534	$48,522	36.5%	30.9%	29.1%	13.2%
Chicago metro area	8,505,977	$63,441	37%	17%	22.4%	9.1%

Notes: All data are from 2015. Source: Agency (2018) and United States Census Bureau, 2018.
[a] People ages 25 and older with at least a bachelor degree.
[b] Englewood is completely included in Green Healthy Neighborhoods project area, and Woodlawn is partially included in such area.

3.3. Survey, measurement, and analysis

We administered a mixed-mode survey in summer 2016 to follow up on the findings of the focus groups, operationalize and quantify concepts that we identified, and further understand the influence of lot ownership on neighborhood quality of life. Working with the City, we secured a sampling frame of the 318 names and mailing addresses of Large Lots owners who purchased lots in the inaugural offering. We employed two modes of a questionnaire – mail-back and online – to maximize response rate and minimize respondent burden. We pretested the questionnaire on five individuals using verbal protocol analytic techniques to improve the clarity of wording, composition, and visual layout of the questionnaire (Sudman, Bradburn, & Schwarz, 1996). We followed procedures in Dillman's Tailored Design Method for formatting the questionnaire, hand-addressed the envelopes, and mailing with "live" stamps, nominal ($1) monetary pre-incentives to respond, question construction and order, and follow-up mailings (Dillman, Smyth, & Christian, 2014). In addition, the City's Department of Planning and Development provided an introductory letter sent a week prior to our first wave of the questionnaire, introducing the research team and explaining the purpose of the survey to gather feedback for improving the Large Lot Program. Staff members also made phone calls to non-respondents in concert with the mailing of the third wave of the questionnaire to help maximize response rates.

The eight-page questionnaire included 24 questions, with a variety of items designed or adapted from previous work, to ask owners about their new lot purchase, their neighborhood and larger community in which they lived, and their personal and household characteristics. A letter accompanying the survey told respondents that if they purchased two lots that they should complete the questionnaire with reference to the lot they had improved or cared for the most.

Our questionnaire measures were drawn from the focus groups and past research, and through dialogue with the organizations mentioned above (see Table 2). Findings that emerged from the focus groups were also used to form expected relationships among the six constructs. First, sense of community was comprised of seven items linked to needs fulfillment, group membership, influence, and shared emotional connection following Peterson, Speer, and McMillan (2008). Second, place attachment was measured using Brown et al. (2003) format that accounted for place attachment for different geographic scales of concern. The two items used in this study were at the geographic scale of the lot and block. Third, neighborhood change was measured by two items that assessed the extent to which respondents thought their neighborhood was declining or improving. Fourth, the individual investments of owners' time and efforts in the care for their lots were measured by a suite of 11 cues to care actions (Nassauer & Raskin, 2014) that owners stated they had already undertaken on their lots. Fifth, social interaction was measured using three items characterizing different interactions with neighbors. Finally, beautification intent was measured by four items relating to the aesthetic goals or purposes for why the lot was purchased.

To better understand how sense of community was influenced by a range of factors identified during our focus groups, we estimated a path model using Mplus version 7.0. First, we evaluated the validity and reliability of the survey, and found that the internal consistencies of all factors were above Cortina (1993) 0.60 threshold. Next, we conducted a confirmatory factor analysis (CFA) to ensure that the hypothesized factor structure fit the data well ($\chi^2 = 23.37$, df = 11, RMSEA = 0.07, NFI = 0.93, CFI = 0.98). Finally, we constructed item parcels using the means of the items loading onto each factor (Little, Cunningham, Shahar, & Widaman, 2002). The item parcels were then included in a path analysis model (Anderson & Gerbing, 1988) to better understand the multiple relationships among phenomena influencing sense of community among Large Lot owners.

4. Findings

4.1. Findings from the focus groups

With focus groups occurring after the first growing season of lot ownership, we expected discussions that were descriptive of owner activity with their lot, challenges they had in their first year, and a growing self-awareness of effort needed to realize their visions. Along with rich detail about their experiences and challenges in making improvements, participants were enthusiastic to share stories of change regarding the positive impacts of owning and developing their lots. Across the three focus groups, a consistent narrative was that ownership and caring for one's property transformed vacant lots from "breeding grounds for unwanted behavior" to a neighborhood that is "friendlier, nicer" and shows more respect for one another and for the vacant lot. The focus group themes presented here provide content for lot conditions prior to ownership, activity, and interest in beautifying their lot, and the actual and anticipated impacts of lot beautification that were later quantified in the survey phase of this research.

4.1.1. Lot prior to ownership

The descriptions of the neighborhood and vacant lot prior to transferring ownership aligned closely with findings from past research (Mallach & Brachman, 2013; Nassauer & Raskin, 2014). Participants described undesirable environmental conditions and unwanted behavior that had been occurring in the lots. As illustrative of the conditions of the vacant lots, participants stated:

> *"…overgrown brush, and then the wind blows and everything* [trash] *gets caught in the brush."*

> *"we had huge weed trees, …10 feet and more randomly growing…just completely unkempt."*

> *"…* [the lot] *hadn't been maintained in years, so there was a major clean up that had to happen…uh hum, a lot of weeds"*

Table 2
Survey items, mean values, standard deviations, standard errors, and factor loading scores.

Survey items	N (%)	M (SD) ± SE	λ
Sense of Community (α = 0.872)	–	3.04 (0.90) ± 0.06	–
This neighborhood helps fulfill my needs	–	2.48 (1.25) ± 0.09	0.520
I feel like a member of this neighborhood	–	3.69 (1.17) ± 0.08	0.875
I belong in this neighborhood	–	3.45 (1.30) ± 0.09	0.768
I have a say about what goes on in my neighborhood	–	2.88 (1.48) ± 0.11	0.621
People in this neighborhood are good at influencing one another	–	2.76 (1.22) ± 0.09	0.562
I feel connected to this neighborhood	–	3.49 (1.28) ± 0.09	0.755
I have a good bond with others in this neighborhood	–	3.41 (1.18) ± 0.09	0.899
Place Attachment[a]	–	4.21 (0.85) ± 0.06	–
How attached do you feel to the large lot that your purchased	–	4.37 (0.90) ± 0.08	0.577
How attached do you feel to the block of your large lot as a place to live?	–	4.06 (1.09) ± 0.08	0.794
Neighborhood Change[b]	–	3.14 (1.11) ± 0.08	–
Over the past five years, my neighborhood has improved	–	3.22 (1.36) ± 0.10	0.732
My neighborhood has been declining in the recent past[c]	–	3.06 (1.40) ± 0.10	0.491
Individual Investment[d]	–	4.20 (2.26)	–
Mowed the grass	172 (88.2)	–	–
Cleaned up litter, debris	167 (85.6)	–	–
Removed shrubs or trees	96 (49.2)	–	–
Installed fencing	98 (50.3)	–	–
Filled in sunken areas	61 (31.3)	–	–
Planted shrubs or trees	45 (23.1)	–	–
Planted flowers	53 (27.2)	–	–
Planted vegetables	31 (15.9)	–	–
Made area for sitting, play	44 (22.6)	–	–
Made area for parking	27 (13.8)	–	–
Other	25 (12.8)	–	–
Social Interaction[b] *(α = 0.657)*	–	3.51 (0.95) ± 0.07	–
My neighbors and I visit informally with each other all the time	–	3.14 (1.39) ± 0.10	0.756
I often chat with neighbors	–	4.02 (1.04) ± 0.07	0.731
Sharing ideas and equipment with others is the best way to maintain my large lot	–	3.39 (1.25) ± 0.09	0.448
Beautification Intent[e] *(α = 0.773)*		3.00 (1.13) ± 0.09	–
To create opportunities to interact with my neighbors	–	2.97 (1.48) ± 0.11	0.599
To grow vegetables and other things to eat	–	3.24 (1.49) ± 0.11	0.769
To grow flowers and other ornamental plants	–	3.54 (1.46) ± 0.11	0.859
To plant shade trees in my neighborhood	–	2.42 (1.42) ± 0.10	0.522

[a] Measured on a five-point response from not attached to extremely attached.
[b] Measured on a five-point response scale ranging from strongly disagree to strongly agree.
[c] Coding for this item was reversed because it was asked in the negative.
[d] For each survey item, yes = 1, no = 0; index was summated to range from 0 to 11.
[e] Measured on a five-point response scale ranging from not at all important to extremely important.

"And then, like, rodents and animals, it's also their area, especially when the weeds are high [there are nuisance animals like] *possums, raccoons, that happen a lot, too."*

In addition to litter from weather-blown trash, natural flora and fauna challenges, participants attested to unwanted public behavior occurring on their vacant lots. Participants stated:

"[the] *lot was used as a public bathroom"*

"we had…used condoms, vile trash, hypodermic needles, empty bottles…"

"…I got tired of the fly-dumping and drinking going on there"

These were the initial circumstances for most new owners of vacant lots. A few participants indicated they had been caring for their lot prior to purchase and that it was already attractive. Another participant stated that her "lot was hidden and not noticed from the street and that [her] street was already quiet."

4.1.2. Lot after ownership

Across the focus groups, participants discussed their intents and activities to beautify and engage with neighbors to clean up their lot. Beautification was articulated through three different strategies. One view of beautification was simply to meet the standards of the City – mow the ground cover, maintain shrubs to make sidewalks passable, and eliminate hazard trees. A second view was to plant flowers and ornamental shrubs to be enjoyed by the lot owners and neighbors. A third perspective of beautification was to plant vegetables or fruit trees to share their bounty with friends and family. These beautification intents are illustrated in the following quotes:

"I have like maybe six trees on my lot, and about three of them I am gonna get rid of, and three of them I have elms. So, I want my elms. But, the other trees that are around them are the ones that had to be cut, and then the elms, they need to be trimmed up."

"Right now just cleaning up all those trees, and fencing it off. That's pretty much it for now…I don't need any more greenery back there…oh my goodness, uh, still raccoons and possums back there!"

"[I put in a] *neighborhood garden to let people grow their own vegetables, fruits, and flowers"*

"I have a community garden across the street, and [I plan to] expand on the community garden with my lot."

The above visions were contextualized as improvements on the lot and part of hopeful processes of increasing the quality of life in the neighborhood. For many participants, they were coming to realize the resources necessary to clean-up and beautify their newly acquired property.

4.1.3. Lot beautification and its impacts

Participants were asked about the effects of lot ownership. The question and prompts were open-ended and did not intentionally evoke creating a sense of place nor strengthening sense of community.

However, many participants shared a perspective on the effects of cleaning-up their lot and tied their activities to concepts of place and community. In a number of cases, residents seemed to link beautification intent to a sense of place and community – both actualized and hopeful:

> *"I'm into beautification, and I'm interested in having a lot that is developed so that when people walk by, it makes you want to stop and reflect… I'm not into a lot of gardening so I want something native and the whole concept would be to use my garden for beautification so that maybe the neighbors on both sides might like to join in at some point…"*

> *"A large lot is a great investment. It allows us to tell our own story and it is a story so unlike the ones being told about Englewood. This is about history making for Englewood, and it's time for us to take ownership of our community."*

> *"And I agree with* [the other participant]*, you should be able to walk around this neighborhood and see nothing but beauty. And when people start seeing that, their conduct changes."*

> *"There's becoming a transformation where morality has changed, and kids need to see change in order for them to change."*

These quotes speak about the residents' desire to change the narrative about their neighborhoods, from highlighting degradation and crime, to a new one that breathes hope for health and connections with others. Across all focus groups, participants were unanimously hopeful about the prospects of lot ownership and associated positive impacts on the quality of life of their block. Several of the impacts identified reflected the intended goals of the Large Lot Program.

4.1.4. Implications for development of the survey of Large Lot owners

The findings of the focus groups provided a basis to develop a survey for all owners who purchased lots in the inaugural offering of the program during 2014–15. We understood the challenges owners faced with their newly acquired lots, the language they used to discuss their visions for development, and their perceptions of the impacts of lot ownership on their neighborhood quality of life. These impacts aligned with a relational place-making framework that tied social meaning to vacant lots, and held relevance to sense of community that connected lot owners to others in the neighborhood.

Resident-led beautification was a recurrent theme across the three focus groups. There were several voiced intentions for beautification that included basic clean-up, planting flowers, growing vegetables, and designing attractive spaces for social gatherings. Given the centrality of beautification as an intention that compelled Large Lot owners, it was treated as an exogenous variable in subsequent analyses. Along with beautification intent, other talking points included activities that participants already reported doing as part of their individual investment in beautification, increased frequency of social interaction with neighbors due to their active involvement with lot beautification, and perceptions of neighborhood change in the sense of declining or improving conditions. We expected these factors would influence place attachment, which in turn would influence their sense of community.

4.2. Findings from the survey of Large Lot owners

Of the 318 lot owners in the sampling frame, 18 addresses were not usable and 22 were corporations, leaving a net of 278 valid addresses. Of these, 197 owners returned completed questionnaires for a 71% response rate. Table 3 presents a profile of socio-demographic characteristics of the sample: 59.2% were female, 73.9% were African American, 33% had annual household incomes less than $50,000 per year although close to one-quarter of the sample did not respond to the income question. In addition, about 41% of respondents held either a four-year college degree or higher. These data suggest that survey respondents are much wealthier and educated than their neighborhood as a whole (compare Table 3 to Table 1).

Table 3
Socio-demographic characteristics of respondents (n = 191).

	Category	Percent
Gender	male	59.2
	female	40.8
Race and Ethnicity	African American	73.9
	White/Caucasian	15.8
	Hispanic/Latino/Puerto Rican/Hisp-White	7.3
	Pacific Islander	0.6
	Asian American	0.6
	Other	1.8
Income	less than $20,000	11.2
	$20,000–$49,999	21.8
	$50,000–$99,999	29.4
	$100,000–$149,999	10.7
	$150,000- or greater	3.0
	preferred not to answer	23.9
Age	30 or younger	1.1
	31–40	11.8
	41–50	20.2
	51–60	27.5
	61 or older	39.3
Education Level	some high school	4.8
	high school grad	16.1
	some college	28.5
	2 year college	9.1
	4 year college	19.4
	post-college	3.2
	graduate degree	18.8
Number of Adults in Household	one	25.4
	two	51.4
	three	14.6
	four	5.9
	five of more	2.7
Number of Children in Household	none	62.0
	one	16.8
	two	12.5
	three	6.5
	four or more	2.2

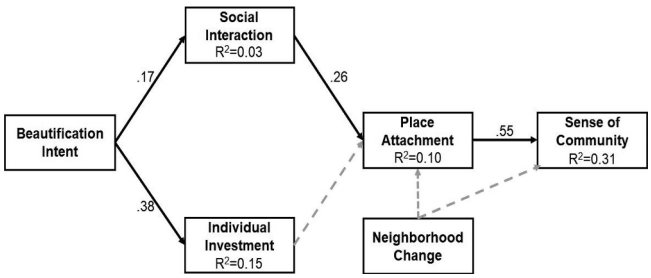

Fig. 3. Results from the structural model of factors influencing sense of community among Large Lot owners. Dotted lines show non-significant paths.

4.2.1. Connecting beautification to sense of community

Building on results from three focus groups, we predicted that sense of community would be positively influenced by a chain of variables. Fig. 3 shows that we found partial support for the relationships among variables that were tested in a path model. Large Lot owners' beautification intentions resulted in higher levels of individual investment to improve their lot ($R^2 = 0.15$) and stronger social interactions with neighbors ($R^2 = 0.03$). Specifically, beautification intent positively predicted individual investment to care for their lots ($\gamma = 0.38$) and social interaction ($\gamma = 0.17$) with neighbors. We also found that social interaction influenced place attachment ($\beta = 0.25$; $R^2 = 0.10$), but individual investment did not. Along similar lines, neighborhood change

Table 4
Estimates of the path analysis model.

Dependent variables	Predictors	γ	β	SE	t-value	R^2
Social Interaction	Beautification Intent	0.17	–	0.08	2.25*	0.029
Individual investment	Beautification Intent	0.38	–	0.14	5.42*	0.145
Place Attachment	Social Interaction	–	0.25	0.06	3.62*	0.100
Place Attachment	Neighborhood Change	–	0.18	0.12	1.50	
Place Attachment	Individual Investment	–	0.06	0.04	1.64	
Sense of Community	Place Attachment	–	0.55	0.05	10.25*	0.312
Sense of Community	Neighborhood Change	–	0.062	0.06	0.971	

* Significant value at $p \leq 0.05$.

did not predict place attachment or sense of community despite the focus groups providing evidence to the contrary. As expected, place attachment was positively correlated with sense of community ($\beta = 0.55$; $R^2 = 0.31$). The predictive capacity of our model was moderate, as illustrated by the results shown in Table 4.

5. Discussion

Overcoming the stigma of neighborhood decline is a recurrent theme that emerged in findings across the two methods we used in this study. Starting from places of neglect, resident-led beautification of vacant lots is altering the narrative to one of hope and transformation. To "*tell our own story*" is to re-write the social meaning of the block and neighborhood. The impetus for such hope is tied to a comparatively simple policy that aims at stabilizing communities and encourages residents to lead the beautification process of their home environments. By transferring ownership to residents, they become stewards of a previously vacant lot with intentions to create a sense of place that is "*so unlike the ones being told*" within the popular public discourse of the city. By investing their time and energy in beautifying their lot, residents strengthen connections with, and among, their neighbors. The spirit that runs through these connections is to overcome the stigma of land vacancy to project a positive future for their neighborhood. Across both methods used in this study, resident-led beautification resulted in social interaction that increased attachment to places and a sense of community.

The cues to care framework of Nassauer and Raskin (2014) provided a basis to predict the process that residents undertook to build greater cohesion within their communities. These intentions were public expressions of a larger social narrative for the block and neighborhood (see also Foo et al., 2013; Lawson, 2004). In addition to providing the basis for our path model, results from the focus groups indicated there was evidence for relational place-making, in that the motivations of owners to beautify their lots were directed at "*making the dirt go away*" by cleaning-up the trash, providing flower gardens for others to enjoy, creating spaces to socialize, and expressing a general message that "*morality has changed*" on this block. Lot owners enjoyed the benefits of their place-making, which were generally about developing relationships with others on their blocks and in their neighborhoods.

Place attachment was a strong predictor of sense of community. Place and community were distinguished operationally by their geographic scale. Place attachment was linked to one's large lot as nested within the block, whereas sense of community was directed at the neighborhood-level. The direct relationship between place and community aligns with previous research that suggests that small scale lot activity has implications for the lived experience of one's neighborhood and community planning at a broader scale (Manzo & Perkins, 2006). Other researchers have observed a spatial contagion of urban greening and support for what has been called the "greening hypothesis," where improvement spreads from one parcel to adjacent parcels in a radiating pattern of spatial interconnections (Krusky et al., 2015; Minor, Belaire, Davis, Franco, & Lin, 2016). The connection between place-making on an individual lot and its implications to a wider system of social meaning may provide a deeper theoretical explanation for understanding such patterns of spatial contagion.

This research has limitations. Our implementation of the mixed-method design was purposely grounded within the discourse of the focus groups. The literature on land vacancy and urban development provided a useful framework and guidance on how to measure place attachment and sense of community; however, measures of beautification intent, social interaction with neighbors, individual investment in caring for one's lot, and perceptions of neighborhood change were not well developed in previous research. The scales for these latter four constructs thus require further elaboration and empirical testing. Several of our expectations, including the effects of individual investment on place attachment were contrary to past work that suggests place accounts for variation in individual behavior (e.g., Halpenny, 2010; Raymond, Brown, & Robinson, 2011). Our guiding framework for the path analysis was directed by the recurrent findings from the focus groups, including the relationship between individual investment and place attachment. Although we found statistically significant and positive effects of beautification intent on both social interaction and individual investment, the magnitude of the association between beautification intent and social interaction was relatively low ($\gamma = 0.17$, $R^2 = 0.03$). This small effect size may be due to the acceptable, yet comparatively low, internal consistency reliability with the social interaction scale (Cronbach's alpha = 0.657), which may have increased the error variance when testing the relationship.

Another interpretation of our analysis, which could also help explain the comparatively small effect size between beautification intent and social interaction, is that people who intended to beautify their lot were also likely to interact with their neighbors regardless of their motivations to care for the land. Thus, social interaction would have consequences for beautification intent. In support of reverse causal relations, a growing body of research suggests that bi-directional relationships (Sussman & Gifford, in press) and feedback loops (Van Riper et al., 2017) strengthen explanatory models of behavior, and may have application to the relationship between beautification intent and social interaction. Although the effectiveness of our methods were enhanced by building a working relationship with the City's planning staff (e.g., the high survey response rate of 71%), respondents could have interpreted the introductory letter for the survey or the telephone call to persistent non-respondents in ways that contributed to socially desirable responses.

Another set of limitations was related to the time period of this study relative to the onset of owners acquiring their lot. Because the focus groups and survey took place within two years of ownership transfer, the long-term consequences of Chicago's policy are not yet known even though the short-term impacts are deemed favorable in building a sense of community among current residents. As yet, there are not concerns for displacement of current residents. A final limitation is related to comparative contexts in other urban areas with high levels of land vacancy. Although Chicago's policy for re-purposing land has been successful, to what extent could these policies be effective elsewhere? There may be contextual factors that were not explicit in the research design yet could have implications for successful transfer of

this policy framework to other cities.

5.1. Policy implications for land vacancy

Municipal policies to address land vacancy have experienced various degrees of success. Ganning and Tighe (2015) identified several barriers that often prevent municipal policies from being effective in transferring ownership, including inconsistent or unpredictable pricing, clouded title, lack of government capacity due to staffing or recording-keeping, and pricing including title and closing expenses placed on the buyer. Although Chicago had a small number of instances with cloudy title and confusion over property records, most barriers were resolved prior to offering any lot for sale.

Re-purposing vacant land came with transfer of ownership from the municipality to residents. The positive influence of Chicago's Large Lot Program on current residents appears to challenge the well-accepted assumption that neoliberal policies – those that outsource public services to the private sector – usually have a negative impact on low-income communities of color (Hackworth, 2014). Although the long-term impacts of the program are still an open question, the results of our focus groups and survey show that Chicago's Large Lot Program has had significant individual and community benefits for the long-term residents of several low-income communities of color. In addition, the program shows promise to revitalize neighborhoods without displacing the long-term residents because it includes provisions to ensure that the benefits of vacant lot re-purposing primarily go to long-term residents. First, only current property owners were allowed to purchase property on their block, which prevented outside corporations from entering the market who would use the property strictly for financial investment. Second, new owners needed to hold on to the lot for at least five years, which prevented the flipping of lots and its potential for outside investors to affect the outcomes. Third, the vision of the program that was generated through strong outreach efforts in several affected neighborhoods, ensuring that such vision centered on investing in the current residents and improving their welfare. Although neoliberal in that government is "using" private sector services to achieve public sector outcomes, the public sector has played an important role by defining those three provisions for the program, which can help limit gentrification and displacement that are often associated with neighborhood greening and beautification (Curran & Hamilton, 2018; Rigolon & Németh, 2018). We believe that those three provisions adopted by Chicago's Large Lot Program provide a useful blueprint for similar vacant lot re-purposing initiatives that aim to improve the welfare of long-term residents of high-vacancy neighborhoods.

6. Conclusion

All urban greening is not equal. This study shows the efficacy of resident-led programs and advances the body of evidence on what contributes to the success of urban greening initiatives. Some policies encourage urban greening using a top-down framework (e.g., city tree planting, smart growth, large-scale flood prevention), but the social meaning of these greening projects are not associated with the residents' sense of place nor would they necessarily foster place attachment. The participants of this study framed urban greening as "beautification," as they were strongly motivated to improve the quality of their neighborhood places. They took ownership of the beautification process and embraced the array of outcomes associated with it. Distinct from other frameworks to understand landscape aesthetics, the urban vacancy context and its connection to a larger system of social meaning are crucial in understanding the effectiveness of Chicago's Large Lot Program.

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