Child-Led Tours to Uncover Children’s Perceptions and Use of Neighborhood Environments

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Abstract
This pilot study tested a child-guided protocol integrating qualitative field techniques with spatial analysis tools to explore children’s neighborhood perceptions and use. Sixteen children aged 7–9 in London, Canada led researchers and city planners on guided walks of their school neighborhood to document and discuss places of significance to them. Children were equipped with digital cameras and maps to record neighborhood features, while adult facilitators recorded the ongoing dialogue and tracked the routes taken with GPS units. Children’s photographs from the walks supported a group photo-elicitation exercise that further probed and clarified the children’s community perspectives. Location data from the GPS and narratives allowed for the analysis of children's comments and photographs within a geographic information system (GIS). Thematic and spatial analysis of narratives and photographs revealed significant but complex patterns of neighborhood perception and use, suggesting that this child-led protocol is an effective tool for engaging children in community assessment and for revealing their local lived experience.

Keywords: neighborhood environment, environmental perceptions, GIS, qualitative methods, photovoice, child photography
Increasing recognition that children’s everyday environments play a role in their activities, health, and well-being has provided the impetus for delving deeper into the spatial context of children’s activities, and for exploring more directly the lived experience of children in their local environments (Cummins et al. 2007; Gilliland et al. 2006; McMillan 2005; Srinivasan, O’Fallon and Deary 2003; Matthews 2003; Jackson 2003; Dannenberg et al. 2003; Morrow 2001; Sallis, Prochaska and Taylor 2000; Spencer and Woolley 2000). Greater attention has been focused in recent years on neighborhood settings in particular, and the impact of their physical and social conditions on children’s health and behavior (Carpiano 2009; Weden, Carpiano and Robert 2008; Cummins et al. 2007; Christensen and O’Brien 2003; Beauvais and Jenson 2003). This paper presents results from a pilot study designed to test a child-guided protocol that pairs qualitative field techniques with digital and spatial analysis tools to better explore children’s neighborhood perceptions and use. Our objectives for this pilot study were threefold. First, to field test the effectiveness of our selected tools for capturing children’s neighborhood perspectives and experiences, and their suitability for both behavioral research and community participatory planning. Secondly, we aimed to identify patterns in resident children’s environmental perceptions and behavior within the study neighborhood. Our third objective was to actively involve local children in an evaluation of their community environment, and provide the opportunity to convey their perceptions and priorities directly to local planners, who served as field facilitators. Following a review of key literature and the justification for this study, this paper outlines the combination of methods and tools utilized, and reflects on key findings from thematic and spatial analyses. We conclude by considering the effectiveness of the methodologies for uncovering children’s neighborhood perceptions and use, as well as their suitability as tools for participatory community assessment and design.

The Role of the Neighborhood Environment in the Life of the Child

The neighborhood has traditionally been a critical arena where children learn about themselves and their environments by negotiating social, cultural, and physical worlds beyond their home. It serves as one of the first public platforms where children explore burgeoning interests and capabilities, experiment with new roles and realities, and begin to build relationships with and within their community (Loukaitou-Sideris 2003; Churchman 2003; Christensen and O’Brien 2003; Sutton and Kemp 2002; Clark and Uzzell 2002; Spencer and Woolley 2000; Matthews and Tucker 2000). Independent exploration of their neighborhood environment, and the carving out of meaningful places for activity and interaction within this setting, are also crucial steps in the development of children’s self-identity and environmental competence (Woolley 2006; Weller 2006; Rissotto and Guilani 2006; Churchman 2003; Hart 1979). Recent research exploring neighborhood-level effects on health and behavior suggests that although individual-level factors remain most influential, children are also impacted by the collective characteristics of their community, such as its socioeconomic circumstances, the availability and quality of its resources, the nature of its built form, and the perceived level of neighborhood safety (Cummins et al. 2005; Ross, Tremblay and Graham 2004; Chawla and Malone 2003; Beauvais and Jenson 2003; Leventhal and Brooks-Gunn 2000; Jencks and Mayer 1990). These conditions can either cultivate or impede
children’s activity and mobility, as well as their overall physical and psychological health (Tucker et al. 2009; Frank et al. 2005; Chawla and Malone 2003; Spencer and Woolley 2000; Sallis, Prochaska and Taylor 2000). A neighborhood with the social and physical resources to support rich interactions can scaffold children’s skill and confidence development, and encourage healthy behaviors and attitudes that can carry through to adulthood (Darbyshire, MacDougall and Schiller 2005; Chawla and Malone 2003; Churchman 2003).

The nature and scope of children’s activities within their neighborhood environments have changed over the last several decades in ways that may be detrimental to their health and development (McMillan 2005; Darbyshire, MacDougall and Schiller 2005; Burke 2005; Valentine 1997b). Unstructured outdoor play, considered critical to physical and psychological development, has given way to more structured and privatized forms of recreation (Darbyshire, MacDougall and Schiller 2005; Rasmussen 2004; Buckingham 2000). Children’s independent exploration of their neighborhoods has also sharply declined, primarily undermined by increasing parental restrictions due to a perception of danger or risk inherent in unsupervised activity (Rissotto and Guiliani 2006; Dennis 2006; Burke 2005; Sutton and Kemp 2002; Valentine 1997a; 1997b; Moore 1986). Outdoor neighborhood activities must also increasingly compete with the appeal of sedentary indoor pursuits such as television, video games and computers, which now comprise 20 hours per week within the recreational life of the typical Canadian child (Shields 2005). However, when children and youth are outside and utilizing public spaces, they are now more likely to be considered “out of place” by adult residents, who often oppose the presence of youth, assuming they are engaging in disruptive or delinquent behavior (Weller 2006; Darbyshire, MacDougall and Schiller 2005; Morrow 2001; Matthews, Limb and Percy Smith 1998). As a result, use of public places by children has become increasingly monitored and controlled, further restricting opportunities for interaction and learning in community spaces (Frank 2006; Weller 2006; Woolley 2006; Collins and Kearns 2001; Matthews and Limb 1999).

**Integrating Children’s Voices into Community Research and Planning**

Despite increasing recognition of its influence on the health and development of children, we still know very little about the precise nature of the relationship between the characteristics of the neighborhood environment and children’s associated perceptions and behaviors (McMillan 2005; Clark and Uzzell 2002). This gap in knowledge is due in part to the historical exclusion of children’s voices from both research and planning processes (Frank 2006; Knowles-Yanez 2005; Churchman 2003; Francis and Lorenzo 2002). Positioning children as “less than” adults, lacking the capacity to articulate their needs and experiences, or the maturity to effectively contribute to research, planning or policy development (Chawla and Malone 2003; Matthews 2003; Sutton and Kemp 2002; McKendrick 2002; Holloway and Valentine 2000; Prout and James 1997; Hart et al. 1997), researchers and planners often relied instead on observation or the use of adult proxies, such as parents, teachers or professionals, to speak to the child’s perspective (Rasmussen 2004; Darbyshire, MacDougall and Schiller 2005; Matthews and Limb 1999; Heft 1988). These approaches failed to acknowledge
that children, by virtue of their differing skills and interests, view, experience and value their environments in fundamentally different ways than do adults, and consequently require different environmental conditions to support their primary activities (Burke 2005; Rasmussen 2004; Jones 2001; Matthews and Limb 1999; Heft 1988; Hill and Michelson 1981). Adults, therefore, cannot presume to understand children’s needs or preferences simply because they were once children themselves (Darbyshire, MacDougall and Schiller 2005; Churchman 2003; Chawla 2002b; Bartlett et al. 1999; Talen and Coffindaffer 1999; Matthews, Limb and Taylor 1998). Earlier research “on” children has also been criticized for its lack of critical consideration of the power-laden and interpretative role of the adult researcher in data collection and analysis (Matthews 2003; Jones 2001; Holloway and Valentine 2000; Aitken 2001). Children alone can speak to the experience of the child, and their understanding of the world cannot be accurately filtered through an adult lens. These acknowledgements highlight the necessity of utilizing participatory frameworks that directly solicit children’s voices, and that facilitate greater integration of children as partners in research and community planning.

The path to this improved integration has been paved in part by the work of researchers like Hart, Chawla, and Lynch who have demonstrated that children possess the cognitive, spatial, and communication skills to make participation both feasible and valuable (Hart 1979; 1992; Hart et al. 1997; Chawla 2002a; 2002b; Lynch 1979). When given the opportunity, children have shown themselves capable of delivering perceptive and ardent appraisals of their environments (Rasmussen 2004; O’Brien 2003; Sutton and Kemp 2002; Driskell 2002; Spencer and Woolley 2000; Lynch 1979). The experience of participation itself further fosters the development of children’s participatory skills and can set them along a path of lifelong community engagement (Knowles-Yanez 2005; Checkoway and Richards-Schuster 2004; Chawla and Malone 2003; Sutton and Kemp 2002; Sanoff 2000; Mullahey, Suesskind and Checkoway 1999; Hart 1997). Youth participation in community evaluation and research still presents a number of challenges, but these are outweighed by the substantial benefits for both the child and community (Knowles-Yanez 2005; Checkoway and Richards-Shuster 2004; Hart 1992).

The challenge then lies in employing methodologies that can tap into the child’s experience of the world and position them as empowered agents, and that are better tailored to their strengths and interests than traditional tools. The use of techniques such as drawings, maps, diaries, story-telling, and auto-photography in several key environment-behavior studies in the 1970s and 1980s demonstrated that such expressive tools may be more in keeping with how children naturally conceptualize and interact with their environments and better able to extract a slice of their lived experience (Hart 1979; Lynch 1979; Moore 1986). Contemporary investigators attempting to engage children as co-researchers are increasingly turning to such visual and experiential methods, which sport fewer embedded assumptions than fixed format methodologies and are less dependent on verbal and language skills, allowing the child’s distinctive reality to surface more readily (Dennis et al. 2009; Burke 2005; 2007; Kofkin Rudkin and Davis 2007; Darbyshire, MacDougall and Schiller 2005; Chawla and Malone 2003; O’Brien 2003; Driskell 2002; Morrow 2001; Mullahey, Susskind and Checkoway 1999). A number of child
and youth researchers have also begun to capitalize on advancements in digital tools, such as GPS units and digital cameras, to underscore such methods (Walker et al. 2009; Dennis et al. 2009; Travlou et al. 2008; Kofkin Rudkin and Davis 2007; Mackett et al. 2007; Burke 2005; Strack, Magill and McDonagh 2004). The increase in prevalence and decrease in cost of such tools has helped researchers put them in the hands of children, while benefitting from the increased ease of data collection, analysis and synthesis when more of the data is available within a digital medium. Hands-on, child-directed methods and tools also tend to generate more enthusiasm and skill development among children, and serve as instruments of empowerment by shifting full or partial control into their hands (Darbyshire, MacDougall and Schiller 2005; London, Zimmerman and Erbstein 2003; Chawla 2002b; Matthews and Tucker 2000).

**The Child Guides Methodology**

This paper presents experiences from a pilot study undertaken in London, Ontario, Canada to test a particular combination of methods and tools for understanding children’s perceptions and use of their neighborhood environments. Inspired by the methods of participatory action research initiatives such as UNESCO’s *Growing Up in Cities* (Chawla and Malone 2003; Cosco and Moore 2002) and the highly experiential nature of the approach, we adopted child-led neighborhood walks as the foundation for this pilot study. Though highlighted in the literature as one of the most effective methods for exploring children’s environmental perception and use (Chawla 2002a; Driskell 2002; Sutton and Kemp 2002; Bryant 1985), child-guided walks are still seldom employed in research or participatory planning processes.

Local planners had expressed an interest in collaborating with researchers on World Town Planning Day (WTPD) activities in local elementary schools to explore issues related to neighborhood use and planning, and eight planners from the City of London and the County of Middlesex volunteered their time to participate in the two days of exercises proposed by the research team. Involving city planners directly in field exercises also provided them with an opportunity to become acquainted with new participatory planning tools, and to witness first-hand the children’s ability to provide competent and insightful appraisals of their environments.¹

On World Town Planning Day 2007, 16 Grade 3 children (aged 7 to 9) from a local elementary school led researchers and city planners on guided walks of their neighborhood to document places of significance to them. We also incorporated an auto-photography element into the guided walks as such visual methods often elicit different insights from children than verbal means (Darbyshire, MacDougall and Schiller 2005; Foster-Fishman et al. 2005; Morrow 2001; Matthews, Limb and Taylor 1998), and thus has an enhanced ability to capture a child’s perspective of a particular environment. Auto-photography, often referred to as “photovoice,” has become increasingly common in behavioral and health research as an effective means for documenting and communicating an individual’s unique experience of

¹ Approvals for this study were obtained from University of Western Ontario’s Non-medical Research Ethics Board.
place (Wilson et al. 2007; Kofkin Rudkin and Davis 2007; Dennis 2006; Darbyshire, MacDougall and Schiller 2005; Wang et al. 2004; Strack, Magill and McDonagh 2004; Rasmussen and Smidt 2003; Morrow 2001; Matthews, Limb and Taylor 1998). We also anticipated that both the visual and narrative outputs from these tools would serve as powerful and informative means for conveying the children’s perspectives and priorities directly to the participating planners (Dennis 2006; Knowles-Yanez 2005; Halseth and Doddridge 2000).

The participating school was located in East London, a historic urban neighborhood within London’s inner city well-defined by distinct morphological, political and psychological boundaries. Bordered by a rail line to the north and east, and busy commercial corridors to the west and south, the community contains a diverse mix of residential, commercial and industrial land uses upon a traditional gridiron street pattern from the late-nineteenth century. Considered one of the most socio-economically distressed areas in London, the East London neighborhood has median household incomes well below the city average (Table 1). Furthermore, the neighborhood is centered on a commercial corridor that, despite ongoing revitalization efforts and a burgeoning artistic community, suffers from the presence of prostitution, drug dealers, and empty storefronts. Compared to other London neighborhoods, this area has few publicly designated outdoor play areas: one small park and the school playground (Table 1). On the other hand, given its nineteenth-century origins, the area has a strong neighborhood character, with a well-connected street and sidewalk network, a high density of old-growth trees, and a large repertoire of well-maintained historical structures, which all contribute to its high level of “walkability” (Larsen, Gilliland and Hess 2009) and strong sense of place among its residents.

Table 1. Profile of East London census tract versus average city census tract

<table>
<thead>
<tr>
<th></th>
<th>East London Census Tract</th>
<th>Average London Census Tract</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total population</strong></td>
<td>4,107</td>
<td>4,377</td>
</tr>
<tr>
<td>Youth population (5-14 yrs old)</td>
<td>8.9 %</td>
<td>12.1 %</td>
</tr>
<tr>
<td>Median annual household income</td>
<td>$37,732</td>
<td>$56,051</td>
</tr>
<tr>
<td>Proportion of lone parent households</td>
<td>22 %</td>
<td>18 %</td>
</tr>
<tr>
<td>Unemployment rate</td>
<td>9.5 %</td>
<td>6.3 %</td>
</tr>
<tr>
<td>Proportion of multi-family dwellings</td>
<td>52 %</td>
<td>46 %</td>
</tr>
<tr>
<td>Area of park space per youth</td>
<td>348 ft²</td>
<td>5014.7 ft²</td>
</tr>
<tr>
<td>Residential break &amp; enters (5 yr period)</td>
<td>482</td>
<td>166</td>
</tr>
</tbody>
</table>

* data from 2006 Census and City of London

Child participants were all from the same Grade 3 class in the only elementary school located within the study neighborhood, and all of the students in the class who were present on the day of the exercises participated (16 out of 20 total
students). Fourteen out of the 16 children who participated lived within the boundaries of the study area and regularly walked or bicycled to school. The remaining two children lived just at the borders of the study area, and though they were typically driven to school, still identified East London as their neighborhood. We therefore assumed that the study included the majority of the neighborhood children of this age, and that most of the child participants were well acquainted with the neighborhood environment around the school. The 16 participating children were paired by the teacher, based on existing friendship ties, into eight groups; pairs of children tended to be of the same gender.

On the first day of exercises, the student pairs led two trained adult observers, one city planner and one university researcher, on self-selected walks around their neighborhood to highlight the students’ “favorite” and “least favorite” community places and features (Table 2). Each group of children was outfitted with a digital camera to document these settings, as well as an aerial photograph of the neighborhood on which they marked their overall routes and locations of their photographs. Both child and adult participants were advised that the children were in charge of all decisions, including routes to be taken, places to visit, and the content and composition of all photographs. The children were also encouraged to follow the routes that they would normally take through the neighborhood, including shortcuts and informal paths.

Table 2. The Child Guides protocol
In each group, one adult observer hand-recorded the running narratives and observations of the child guides, verbatim when possible. They also documented the routes and locations of photographs via their own copy of the neighborhood aerial photograph. The research team also used the opportunity to test the use of handheld GPS units for recording the routes taken during the exercise as a future supplement to, or substitute for, the aerial photo maps. Adult observers in each group therefore carried a GPS unit that passively recorded the route taken; recorded routes were later compared to the children’s hand-drawn routes to test GPS accuracy and reliability for logging the spatial movement of each group. Observers in some of the groups also chose to use the GPS unit to actively mark the locations at which the children took photographs. These were subsequently compared to the locations marked on the photo maps by the child guides, and used to clarify photo locations when necessary.

The second adult observer was charged with engaging the children in detailed discussions of their neighborhood activities and perceptions, particularly in relation to the environments they chose to highlight on the walk. Adult observers were advised that their primary role was to document the observations expressed by the children rather than soliciting responses to prescribed or leading questions. However, they were also given a list of potential probing questions that they could use to clarify or gain additional information related to the children’s comments or photographs, such as: “What is it about this place that you like?,” “What is it that you like to do here?” or “Can you tell me what you were taking a photo of?” Our approach gave children the lead in opening a dialogue and in choosing what to discuss or document, but we took the opportunity while in the field to explore the children’s perceptions of the specific environments they chose to highlight. This folded the act of photographing a place of significance and the follow-up discussion into a single *in-situ* process, unlike typical “photovoice” approaches that solicit captions or narratives at a time and place removed from the field context (Wilson et al. 2007; Wang et al. 2004).

One week after the child-led tours, during Geography Awareness Week, the research team returned to the school to conduct a photo elicitation exercise with the aim of clarifying information gathered during the guided walks and eliciting new details related to the children’s use and impressions of their neighborhood (see Table 2 above). In the intervening week, the two authors independently reviewed all of the children’s recorded narratives and photographs and developed a list of possible emerging themes and patterns. Sixteen photographs were then selected that the researchers felt might confirm the validity of these detected themes, or clarify the meaning of images for which there was little corresponding narrative. We projected the photographs one by one, or in small collages, before the entire group and asked the children to comment on whether the photograph depicted something that they liked or disliked about their neighborhood, or whether it was associated with a “favorite” place or a “least favorite” place. We assured the children that they could hold opposing views to those of their classmates, and that the same child could refer to both positive and negative aspects represented in a single image. We recorded all of the comments on large flip charts set up at the front of the room. The exercise was also videotaped and later transcribed.
After the photo elicitation exercise, we revisited the initial themes derived from the guided walks based on clarifications and revelations uncovered by this follow-up activity. All of the narrative comments, along with their associated photographs, were then coded by the authors according to the revised themes. Where appropriate, we coded a single comment or photograph for more than one theme. To minimize undue interpretation on the part of the researchers, only photographs that had an associated narrative were considered in the derivation or analysis of themes. By combining the annotated aerial maps of both the children and observers with the narrative records and GPS readings, a high proportion of the children’s photographs and comments could be pinpointed to specific locations in the neighborhood. Chosen routes and places of interest could therefore be geocoded and mapped within a geographic information system (GIS), allowing us to analyze the spatial relationships between children’s perceptions, activities and mobility within this environment.

Following a review of the children’s narratives from the guided walks and photo elicitation exercise, the researchers identified ten prominent themes associated with neighborhood perception and use. We subsequently coded all narrative comments and associated photographs by one or more of these ten themes, for a total of 194 coded mentions (Table 3). Of these comments, 169 (87 percent) could be tied to a specific neighborhood location and integrated into a GIS. The ensuing thematic and spatial analysis of the narratives and photographs reveal a number of insights regarding children’s environmental behaviors and perceptions within this neighborhood. Four of the themes were considered especially revealing and will be discussed here in some detail, followed by a short review of the remaining six themes. Our attention will then turn to the additional perspective gained from the spatial analysis of the children’s neighborhood activities and perceptions.

Table 3. Group narrative comments coded by theme

<table>
<thead>
<tr>
<th>Narrative Themes</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
<th>Total Number</th>
<th>% of Total</th>
<th>Median %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of Ownership / Belonging / Pride</td>
<td>12</td>
<td>10</td>
<td>33</td>
<td>0</td>
<td>44</td>
<td>0</td>
<td>16</td>
<td>35</td>
<td>34</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Sites of Recreational Activity</td>
<td>27</td>
<td>5</td>
<td>40</td>
<td>8</td>
<td>6</td>
<td>25</td>
<td>16</td>
<td>15</td>
<td>32</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>Proximity / Orientation</td>
<td>20</td>
<td>13</td>
<td>7</td>
<td>0</td>
<td>17</td>
<td>17</td>
<td>5</td>
<td>15</td>
<td>24</td>
<td>12</td>
<td>14</td>
</tr>
<tr>
<td>Good Community Design / Aesthetics</td>
<td>5</td>
<td>18</td>
<td>0</td>
<td>33</td>
<td>0</td>
<td>33</td>
<td>0</td>
<td>4</td>
<td>22</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Sense of Fear / Danger / Annoyance</td>
<td>12</td>
<td>21</td>
<td>0</td>
<td>21</td>
<td>6</td>
<td>8</td>
<td>5</td>
<td>4</td>
<td>22</td>
<td>11</td>
<td>4</td>
</tr>
<tr>
<td>Sites of Commercial Services</td>
<td>12</td>
<td>3</td>
<td>13</td>
<td>0</td>
<td>22</td>
<td>0</td>
<td>32</td>
<td>8</td>
<td>20</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Accessibility / Mobility</td>
<td>7</td>
<td>18</td>
<td>0</td>
<td>4</td>
<td>0</td>
<td>8</td>
<td>26</td>
<td>8</td>
<td>19</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Poor Community Design / Aesthetics</td>
<td>5</td>
<td>10</td>
<td>7</td>
<td>21</td>
<td>6</td>
<td>0</td>
<td>0</td>
<td>4</td>
<td>14</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Nature or Natural Elements</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Environmental or Community Advocacy</td>
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<td>0</td>
<td>0</td>
<td>8</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>
Results of Thematic and Spatial Analysis

Prominent Narrative Themes
Sense of Ownership, Belonging or Neighborhood Pride
The theme that emerged as the most prominent, garnering the most mentions within the children’s narratives, was that related to the sense of ownership, belonging or pride experienced by the child residents of this neighborhood. The tour narratives suggest that the children are well attuned to potentially “dangerous” areas or elements in their neighborhood, whether related to “creepy” people, “scary” places such as abandoned houses, or to heavy traffic on local streets. However, comments that revealed a perception of fear or danger were always related to specific places or areas, and did not seem to permeate their overall impressions of the neighborhood. In fact, an overwhelming feeling of pride in their neighborhood emerged from the children’s narratives, and a sense that they identified strongly as being part of this particular community. This was reflected in the high degree of proprietary language in the narratives; children spoke of “our neighborhood,” “our variety store,” and “my park.” The walks also revealed extensive social and familial networks within the community. Over half of the children made it a point to visit their individual homes, and most highlighted the homes of extended family and friends. Several children revealed ties to the neighborhood that extended back generations; one child enthusiastically pointed out a local rooming house because “my grandmother used to sleep there.” A number also pointed out their parents’ places of work that were also located within the area, further demonstrating that the children’s own lives and those of their family and friends were deeply embedded in the neighborhood. These deep, long-term connections seemed to instill in the children a strong sense that they belonged to, and were a part of this community.

The photo elicitation exercise revealed an additional facet of this neighborhood pride and belonging that was not entirely clear from the guided walks. Comments with respect to several photographs made it apparent children were often fond of certain places or features particularly because they were located close to the child’s home, regardless of whether it had other redeeming characteristics. For example, the photographs of a graffiti wall and an unkempt yard, for which there were no other positive comments, yielded many remarks similar to: “I like it because it’s close to my house” (Figures 1 and 2). The same reasons were given for liking a particular “really old” dilapidated building, and a “weird” ornamental lawn sculpture. These elements held some intrinsic value for children simply because they perceived them as being a part of their immediate and familiar world, their neighborhood. Despite an acknowledgement of dangerous or offensive places or characteristics, the children’s pride in and identification with their community remained fiercely intact.
Figure 1. Graffiti on local building

Figure 2. Overgrown front yard
Sites of Recreational Activities
A large proportion of children’s comments were play- or activity-focused, comprising almost a fifth of all mentions in the guided walk narratives (see Table 2). The one small park located within the neighborhood, Boyle Park, was high on the list of most of the children, and garnered the greatest number of mentions of all the activity sites highlighted during the walks. Four of the eight groups led their observers directly to this park when the walks commenced. Though there were many general, favorable comments about the park in the walk narratives, many children considered it a favorite place because of specific features that supported play activities, such as: “the big fun tree” or “the baby swings... I like hanging upside down in them.” For one child, it was the basketball court that made the park a favorite place despite the bare bones nature of this facility, and she was eager to photograph it (Figure 3). Further discussion revealed that this place was special to her because, as it was close to her house, she was allowed to go to play at the courts on her own. The school playground, the local library, and a skatepark located beyond the railroad tracks on the northern edge of the neighborhood comprised the remainder of the key year-round sites of activity highlighted by the children.

Figure 3. Basketball court as a favorite place

Since the local park figured so prominently in the tour narratives, we chose to revisit it during the photo elicitation exercise, utilizing a collage of photographs taken by children during the walks to solicit additional details on their activities.
(Figure 4). Many of the comments reiterated that children liked the park because it possessed specific amenities that supported their play: “I like it because you can go down the slide”; “I like to go there because [the other] park doesn’t have swings and this one does”; and “[the open space] is a good place to play tag.” However, the elicitation exercise also yielded negative perceptions related to the park that were not evident in any of the guided walk narratives. One young girl admitted, “I don’t like the park because there are too many creepy people there.” Another child disliked the fact that “there’s [often] broken glass” and other dangerous debris. Though many children considered the park to be one of their favorite neighborhood places, the group discussion revealed that a number in fact avoided the park as a result of their concerns. This supplemental information helped to paint a fuller, more accurate and nuanced picture of the children’s perceptions of the park and disposed of the notion that it was uniformly favored within the neighborhood.

**Figure 4. Park collage used in photo elicitation exercise**

On the whole, the range of sites for recreation highlighted by the children appeared to be quite narrow. Most activities were confined to a few formal play facilities, such as the local park and the school playground, confirming our initial contention that there were few publicly provided amenities in the neighborhood that supported children’s play. Despite the bare and run-down nature of some of these facilities, most neighborhood children still gravitated to these places for the few play opportunities provided; however, few choices seemed to be left for the children too afraid to play in these spaces.
Sites of Commercial Services
Another pattern that surfaced in the narratives was children’s connections with commercial service sites. Categorized as a specialized type of activity site, local services such as restaurants and retail stores were highlighted as meaningful neighborhood places by all but one group. Convenience stores were by far the most prominent of this type in both the narratives and photographs, and seemed to elicit the strongest and most positive responses. Many groups pointed out several convenience stores around their neighborhood, but marked one as their “favorite store” (Figure 5). Children also demonstrated proprietary feelings towards certain stores, proclaiming, for example, “this is our variety store,” and often were well acquainted with the owners. It was clear that children regularly frequented these places, often without a parent present, on the way to or from school or a favorite activity site. The stores were particularly valued for their proximity to these locations and for the opportunity to buy food or treats: “I like Mini Mart for food, [video] games and toys”; “I like that if you’re going to the skateboard park and you’re coming back and if you’re really hungry you can get food.” Several children also revealed that they are often sent to these convenience stores on errands for their parents, such as: “[to buy] smokes for my dad” or “bread and salamis.” They especially liked that they were allowed to go to these stores on their own. The presence of a responsible, often well-known, adult may have contributed to their sense of comfort and safety in these community places. Convenience stores seemed to serve as important neighborhood nodes for many children, and facilitated opportunities to explore and build relationships in the neighborhood beyond their home environment.

Figure 5. A “favorite” convenience store
Retail stores in general attracted many fervent responses from children, both positive and negative. One child enthusiastically led observers to a particular bicycle store in order to take several pictures of both the bike on display that she liked and the proprietor’s dog in the window. Conversely, another child took a photograph of a particular clothing store to document his passionate dislike for the place because it didn’t sell either food or toys (Figure 6). However, some of the highlighted establishments seemed to hold little personal meaning: “the Palace Theatre... has shows”; “we just passed the police station”; and “Tim Horton’s [coffee shop] is right there.” Though aware of the nature of the service provided, these were not places that they utilized; children seemed to point them out more as a way of orienting the observers to the neighborhood, and demonstrating their knowledge of the area. In general, the sites of commercial services that proved meaningful to the children were those that catered to their interests, providing treats, toys and games, or that facilitated their development of a sense of neighborhood competence and independence.

Figure 6. Clothing store “detested” because it does not sell toys or food

Sense of Fear, Danger, or Annoyance
Sites of activity and services generated mostly positive comments from the children, but neighborhood places that elicited a sense of fear or danger were also prevalent in the narratives. Children in many of the groups identified specific houses of which they were scared, sometimes for qualities such as the “creepy back yard,” or due to past experiences with the inhabitants: “the people are mean there” and “the people just have parties and they shoo me away with paintball guns... I don’t even know what [the inhabitants] look like.” In several cases the fear was
related to the presence of dogs: “the house with the scary dog... sometimes I’m scared to pass it,” or the house with the “big, mean pit bull.” However, some fear-related comments reminded us that these children contend with more dangerous conditions and events as well; one young boy was scared of a particular house because “my sister’s friend got killed there... don’t know how... some guy killed her.”

Places that generated feelings of annoyance were grouped together with those that elicited a sense of fear as the two appeared highly intertwined. Most sources of annoyance related to noise or heavy traffic, each of which was also associated with places the children considered dangerous or scary. For example, many children intensely disliked the railroad tracks because the trains were “so noisy!,” but were also nervous about the general area around the tracks, noting that they felt unsafe around the trains and that there were “a lot of bad people around here.” They also expressed frustration with a number of specific streets around the neighborhood, finding them “too noisy.” The same streets also felt treacherous because of the heavy traffic and “fast cars,” and many avoided activities in these areas: “it feels unsafe with all the business and trucks” (Figure 7). Many of these frightening and frustrating places had also been designated as “off limits” by their parents: “I’m not allowed to play here [by the tracks]” and “my mum doesn’t like me walking down here [on Dundas Street].” On the whole, many of the places children considered scary also brought up feelings of annoyance and frustration, perhaps in part because their fears, and those of their parents, created barriers to neighborhood activities and mobility.

Figure 7. “It feels unsafe with all the ... trucks”
We chose several photographs for the photo elicitation exercise to further gauge perceptions of dangerous, scary or annoying places in their neighborhood (see Figures 1, 8, and 9). Graffiti was of particular interest as it figured prominently in the collection of children’s images, but had no accompanying comments from the guided walks. The elicitation exercise revealed that, rather than being viewed as “cool” urban artwork, many children agreed the graffiti was “kind of tacky,” and that it spoiled the community’s efforts to create a clean and pleasant neighborhood. One child concluded: “I don’t like it because lots of people worked hard on [the building] and then someone just goes out there and sprays on it.” Some children related the prevalent neighborhood graffiti to crime and danger: “I don’t like it because... usually gangsters make those signs and it makes me feel unsafe.” The elicitation exercise confirmed that the graffiti was considered a blemish on their local landscape that undermined both their sense of neighborhood pride and of safety. Overall, the elicitation exercise echoed and clarified comments related to fear and annoyance the children mentioned during the walks. Scary and annoying places or conditions within their neighborhood frustrated not only the children’s activities and movement through the community, but also their determination to maintain a sense of pride in their neighborhood.

**Figure 8. Busy neighborhood streetscape**
Other Narrative Themes

Proximity / Orientation

Proximity to the child’s home was revealed as playing a part in the child’s sense of neighborhood belonging or pride, but the importance of proximity to home also surfaced in other ways in the narratives. Distance stood out as a significant factor not only in adding value to nearby places or features, but in influencing which places were considered favorite or meaningful. For example, one girl commented that Boyle Park was a particular favorite place because it was close to her house and therefore she was allowed to go to it on her own. In several cases, proximity was tied to the ability to play or explore independently, which could turn a neighborhood site into a favorite place.

Proximity to home or common routes and landmarks also played a role in the degree to which the children were oriented within particular areas. Most children were generally very familiar with the neighborhood at large and navigated well along its streets and paths, however they also tended to lead the observers along the routes they used regularly: “my babysitter walks me this way to school,” and exhibited a higher level of orientation and comfort with these paths. Their strong overall orientation and spatial cognition skills were likely facilitated by the well-defined neighborhood edges and grid street pattern, and also by the intimate knowledge of this environment most would gain during their regular wanderings through the neighborhood, including their daily walk or bike to school (Rissotto and Guiliani 2006). Regular, intimate exposure to places, particularly those proximate
to home, seemed to increase the child’s sense of orientation, competence, and ease in those settings.

**Accessibility / Mobility**

Despite the children’s apparent ease of movement in and around in certain neighborhood settings close to home and along common routes, access to further flung places or services, as well as the children’s mobility within the neighborhood as a whole, was often frustrated by a series of barriers. Both the tour narratives and the group discussion revealed that, in addition to “scary” places, there were other impediments to safe and easy travel through the neighborhood such as heavy traffic: “you can’t ride bikes on [Queens Avenue] because there’s too much traffic... and fast cars.” The railroad tracks, and the long slow trains that traverse them, also made it difficult and frustrating to reach amenities located beyond. One child vehemently exclaimed: “I hate train tracks! I have to go around them [to get to the skatepark]. I wish they were in the air!” Another child confirmed: “I don’t like [the trains] because you have to wait like an hour for it to be done.” For these children, the environment presented a number of physical obstacles that hindered their neighborhood activities and movement.

As noted earlier, the exercises also provided evidence that neighborhood use by children of this age is also heavily influenced by parental restrictions, particularly with respect to independent mobility, motivated mostly by parents’ fears of injury or abduction. One child confirmed he is not allowed to walk to school on his own “so [he] doesn’t get stolen.” The influence of these restrictions, and their associated fears, were evident when children were visiting places normally deemed off-limits. Many reacted nervously in response to either the inherent “dangers“ or to the notion that they were disobeying their parents’ wishes. Though not a physical barrier to mobility, parental perceptions of danger and their associated restrictions effectively limited children’s choices with respect to activity and exploration within the neighborhood.

**Community Design and Aesthetics**

A surprisingly high proportion of the children’s narratives spoke to the aesthetics of neighborhood spaces and features, or provided critiques of local community and architectural design (see Table 3). The children expressed strong preferences for specific houses, building styles, ornamentation types, and even building materials. One girl led her observers to her “favorite house” in the neighborhood, chosen for both its “pretty” style and its flowering front garden (Figure 10). Another child declared a particular dwelling to be “a nice house,” discussing and taking several photos of its well-kept front yard and some decorative elements placed in the trees and gardens of the home.
However, the narratives also revealed that children were both aware and critical of signs of decay, vandalism and lack of care in their neighborhood. Many specifically drew attention to buildings that were abandoned, or in a state of disrepair, expressing primarily distaste, rather than fear, in relation to signs of decay such as peeling paint, broken windows, and untidy front yards: “I don’t like this house ... [it] looks ugly” and “we don’t like this place... it has cracked windows and no one lives there.” This common view was strongly reinforced during the elicitation exercise, where over a third of all comments spoke to the children’s dislike of what they considered to be poor aesthetics or conditions. For example, photographs of wild, overgrown spaces, rather than suggesting a place to explore or play, were uniformly perceived as neighborhood blight. They condemned such places for having “too much litter,” “too many plants and weeds,” and for being “all dirty” (see Figure 2). The children’s consistent aversion to ugly, broken down or unkempt places came across as a challenge to their sense of neighborhood pride; they recognized the value of clean, pleasing, well-kept places in making their neighborhood an appealing place to live and demonstrated consistent preference for these conditions.

**Nature / Natural Elements**
Pictures of nature and natural elements were prevalent in the overall collection of images. Many children took photographs of animals in the neighborhood, as well as natural elements such as trees, flowers, bushes, and rocks. However, the accompanying narratives did little to clarify the significance of these elements for
the children’s neighborhood perceptions or use; a strong preference for “clean” yards, as well as streets with trees, bushes, and grass, seemed solely related to their effect on the general aesthetic appeal of the area. The significance of these features came across much more strongly during the photo elicitation exercise. A tree-lined streetscape yielded strong preferences for routes with natural elements present including “colorful leaves” and “many trees that shade” (Figure 11). A manicured front garden was highly valued by the children (Figure 12), whereas their reaction was uniformly negative to an image of a large front yard that had been allowed to grow wild: “I don’t like it because there [are] too many plants and weeds” and “I don’t like it because it’s all dirty” (see Figure 2). The elicitation exercise helped to clarify that children’s preference was not just for nature in general, but rather for tidy, colorful, well-kept landscapes. The value of a particular place or route in turn increased when these natural elements were present.

**Figure 11. A valued, tree-lined streetscape**
Figure 12. A prized, “colorful” front yard

Community or Environmental Concern / Advocacy
The children’s strong sense of pride in the neighborhood translated in some cases to a display of community and environmental advocacy. A number of the groups marked the local library branch as an important site of recreational activity, but one group in particular used the exercise to document their concern for the reduction in hours faced by the library due to funding cuts. One of the children proclaimed: “I’m taking a picture [of the library] because I don’t want it to close” (Figure 13). The other child agreed it was important to document and added that they should “take, like, three pictures of Carson [library] because they are shutting it down.” The same group also discussed the wisdom of photographing cars on the street. One child suggested that: “we shouldn’t take pictures of cars... they are polluting our area.” Her partner replied: “we want to take pictures of cars because they are polluting.” Such comments and actions divulge an awareness of threats to the health of both their community and environment, though it was difficult to determine if this awareness was widespread. Perhaps even more important than what they revealed about their neighborhood needs and perceptions, these dialogues demonstrated that the exercise itself was viewed as an opportunity to document their concerns, and seemed to instill a sense of empowerment and a means of advocating on behalf of their community.
Mapping and Spatial Analysis of Perceptions and Use
In addition to the preceding thematic analysis, the data from the neighborhood walks and elicitation exercise also lent themselves well to a spatial analysis of neighborhood perception and use. The children’s photo maps, supplemented by specific place references in the narratives and the GPS unit logs, allowed a high proportion of the children’s narrative comments, over 87 percent, to be tied to specific locations in the community, and could therefore be overlaid on the aerial photograph of the neighborhood in a GIS. As a result, we were able to consider spatial patterns with respect to individual group walks and narratives, as well as neighborhood-level patterns in perceptions, activity, and mobility. The narrative data could also be isolated and compared in the GIS by theme, allowing spatial relationships within and among the themes to surface that would not have been clear from the thematic analysis alone. This GIS-based qualitative analysis yielded another valuable layer of insight regarding children’s neighborhood perceptions and use.

The first pattern evident from mapping all the children’s guided walks was the degree to which their selected routes were dispersed throughout the neighborhood. Though there was some overlap with respect to streets and destinations, and some of the group’s routes were more limited than others, the children generally chose varied locations and routes through the neighborhood and collectively covered most of the area (Figure 14). The master route map also illustrates that despite the widespread coverage of the neighborhood within its major boundaries, few children, despite permission to do so, ventured beyond these edges. When considered in
conjunction with the narratives, this map supports the notion that these implicit boundaries, whether due to parental restrictions or the children’s own fears or lack of comfort, act as systemic barriers to the mobility and activity of these children beyond the borders of this neighborhood.

**Figure 14. Map of neighborhood guided walk routes**

A closer look at the route map of each individual group of children clearly reveals that the favored places the children chose to highlight were primarily clustered in the immediate area surrounding their own homes. (The maps showing the location of the children’s homes cannot be shown here in order to preserve their anonymity). This revelation was aided by the fact that, quite coincidentally, the children paired together in most groups were found to live quite close to one another, and so had a shared “close to home” environment in which a high proportion of their favorite places for play and social activity were located. As the children were paired together by the teacher based on existing friendships, we might infer that these friendships are in part a result of, or are reinforced by, the close proximity of the homes of the children in each pair, and help to define the activity or social range of individual children. Together, the route maps suggest that, for children of this age, the neighborhood environment in which they typically range is still fairly limited and is generally centered on their homes.

Collectively mapping the four most prominent themes yielded a number of spatial relationships both within and between the themes (Figure 15). The location of “sites of recreational activities” reinforced that outdoor recreational pursuits were,
in fact, clustered in the local park and the school playground, and supported our earlier assessment that there were few publicly-provided places for recreation in the neighborhood. It was often the favored “sites of commercial services” that seemed to provide the greatest number of informal activity opportunities beyond the home environment and represented the majority of the attractions that enticed children furthest from their homes. Many of the highlighted commercial sites tended to be located toward the borders of the neighborhood, acting perhaps as bases for exploration, particularly when the presence of a familiar, responsible adult might provide an element of security or comfort at these community edges. However, when we consider the location of these activity sites against neighborhood places that elicit a sense of fear or danger, we see a competing force that perhaps quells exploration beyond community boundaries. Places that children feared or considered dangerous also tended to be grouped along the peripheries of the neighborhood, forming “borders” that coincided with the train tracks, industrial areas and the busiest commercial streets. Though only a few children explicitly mentioned these elements as deterrents to their activity or mobility, the map revealed that very few children frequented activity sites beyond these “dangerous” borders. The narratives clearly revealed that fears and restrictions were influencing children’s activity and movement, but the spatial analysis was critical in pinpointing “scary” places on the community edges as most problematic, collectively acting to confine activities to places or amenities contained within these boundaries.

**Figure 15. Collective map of prominent narrative themes**
Despite the presence of these frightening places and signs of urban distress within the surrounding community, neither the narratives nor the photo elicitation comments suggested a pervasive or universal sense among the children that they lived in a dangerous or unpleasant neighborhood. The spatial analysis helped to reinforce this notion, illustrating that places that instilled a sense of pride or belonging were extremely prevalent and dispersed fairly evenly through the neighborhood, not just coinciding with favored sites of activity or services (see Figure 15). For example, the street that elicited the most negative comments in the narratives, Dundas Street, had almost as many pride-related comments as Lorne Avenue, on which both the popular park and the school playground were located, and which was traversed by six of the eight groups on their walks. In fact, the analysis of both the children’s individual and collective maps revealed that positive and negative neighborhood elements were often intertwined along their preferred routes and even within places highlighted as favorites, such as Boyle Park.

Discussion

Reflections from Thematic and Spatial Analyses
The child-guided walks and succeeding photo elicitation exercise, combined with our thematic and spatial analyses, uncovered a number of patterns in the participant children’s perceptions and use of this neighborhood. The narrative themes and spatial maps exhibit a high level of agreement across the group of children, suggesting that we can draw some tentative conclusions despite the small number of children participating as they represent the majority of children of this age in the East London community. These children are well-oriented and enmeshed within their community, facilitated in part by their extensive social and familial networks. A number of common neighborhood places were identified that were meaningful for recreational and social activities for most children. Though few publicly provided recreation places are available, the children used the local park and school playground, as well as commercial establishments such as convenience stores, as important nodes of community activity and interaction. The participating children also demonstrated a clear preference for clean, well-kept, and natural places in their local environment, which also tended to be perceived as “safe” and which served as sources of collective community pride. However, the exercises also uncovered evidence that the children do not always feel welcome or safe in the neighborhood, even in their favorite places or along preferred routes. Perceived dangers, on the part of either the child or their parent, impacted their exploration and use of the neighborhood and its facilities, as well as the scope of their ranging beyond their home. On the whole, both the thematic and spatial analysis suggest that these children have a complex relationship with their local neighborhood that cannot be easily separated into “good” and “bad” areas, characteristics or experiences. Despite conditions or events that may have challenged their sense of safety, belonging or respect, the children exhibited a resilient sense of pride and ownership with respect to this local environment. It was clear that for many child participants this neighborhood is a distinct and fundamental part of their individual and community identity.
The results of this pilot project are highly congruent with findings from other studies of children and their neighborhood environments. Children have consistently highlighted heavy traffic, noise, violence, evidence of decay and neglect such as graffiti and abandoned buildings or lots, and a shortage of safe and attractive places to gather or play as the biggest challenges to their activities, their security, and their sense of pride in their community (Dennis 2006; Knowles-Yanez 2005; Chawla and Malone 2003; Chawla 2002a; Spencer and Woolley 2000; Woolley et al. 1999; Horelli 1998; Moore 1986). Similarly, features or characteristics that children typically highlight as valuable include clean, quiet, safe places to play and hang out with friends, as well as nearby stores, parks and community centers that facilitate social interaction and play activity (Chawla and Malone 2003; Loukaitou-Sideris 2003; Woolley et al. 1999; Talen and Coffindaffer 1999; Matthews and Limb 1999). Parental fears, perhaps grounded in real concerns about neighborhood safety but magnified by community design and the media, have also been shown in other studies to restrict the location and range of these neighborhood activities (McMillan 2005; Valentine 1997b; Moore 1986). Previous studies with children have also found they have a strong affective sense of their environment and are very appreciative of its aesthetic and sensual aspects (Matthews and Limb 1999), including a clear preference for places and routes featuring beautiful plants, shading trees, flowers and well maintained green spaces (Larsen, Gilliland and Hess 2009; Chawla and Malone 2003; Rasmussen and Smidt 2003; Woolley et al. 1999; Matthews and Limb 1999). Neglected, overgrown or abandoned places on the other hand have been regularly disparaged and rejected by children (Dennis 2006; Chawla and Malone 2003). The degree to which the results from this pilot are compatible with previous studies suggest that the child guides protocol can effectively solicit rich and relevant information on children’s neighborhood perceptions and experiences.

Lessons from the Child Guides Methodology
A primary goal of this study was to pilot the effectiveness and complementarity of our chosen methodologies for uncovering children’s perceptions and use of their neighborhood. The two methods, both on their own and in combination, effectively engaged the children and elicited rich and enlightening narratives that provided a window into their lived experience in the neighborhood. This pilot study, however, also revealed that the tools are not without their challenges and pointed towards ways to improve their individual and collective efficacy.

Child-Guided Neighborhood Walks
On their own, the neighborhood walks presented both benefits and challenges. As predicted by the literature (Frank 2006; Driskell 2002) the children responded enthusiastically to the exercise, particularly its child-led nature. Despite initial skepticism among the children that the decisions, and the use of the camera, would be under their jurisdiction with little to no interference from the adult observers, they quickly and enthusiastically adjusted to being in charge. Many of the adult observers, on the other hand, noted that they struggled against a tendency to steer the children’s actions.
Pairing children up for the guided walks was necessary to ensure that no child was sent out alone with an adult, but we also recognized that this might make it more difficult to hear individual voices. However, the partnering also produced a dialogue among the children that generated richer and more detailed information than may have surfaced during an adult-child exchange. The contradictions were especially enlightening, and served to reinforce that children of similar age and background can have differing and even conflicting experiences of the same environment.

Conducting the neighborhood walks simultaneously with a large group of adult facilitators made for some variation in the degree and consistency with which children’s narratives were probed and recorded. As a result, there was significant variation in the level of detail included in the transcripts and direct quotations could not always be attributed verbatim to the children. Hand-recording of the narratives is essential to match narratives to specific actions and photographs, but a supplementary audio recording could help to provide a more complete transcript and reduce discrepancies among note-takers.

Handheld GPS units were included in the protocol to test their effectiveness for recording the routes chosen by the children, and in some cases, locations at which photographs were taken, in order to consider them as a supplement to or substitute for the hand-notated aerial photo maps in future work with this protocol. The GPS units, however, showed a high degree of inconsistency among the various units; some recorded the true routes of the children quite well, while others exhibited quite poor records of the routes, indicating in some cases a path that was several streets away from the true route. These erroneous records could be a result of faulty units or due to clouds, tree canopies or buildings causing satellite interference that prevents the units from logging precise locations. Advancements in technology, however, are increasing the consistency and reliability of portable GPS receivers, and GPS could be a valuable supplemental tool in such an exercise for locating routes and points of interest. Though carried by the adult observers during this pilot study and primarily used to passively log the spatial movement of the walking groups, these units in future studies could be operated by the child guides themselves, and more actively integrated into the methodology. The hard copy aerial photo maps remain necessary, in our opinion, as they served as a tangible and invaluable tool around which group discussion and orientation centered.

**Group Photo Elicitation**

The group photo elicitation exercise also proved valuable for uncovering children’s neighborhood perceptions, particularly as a supplement to the guided walks. The children really enjoyed seeing their photographs projected back to them, and both the photos and the group setting prompted animated discussion with and among the children. This exercise particularly helped to clarify when perceptions differed among children in the overall group, which was more difficult to derive strictly from the narratives. This proved especially true with respect to places children associated with negative experiences or perceptions. Since children were not pressed to visit their “least favorite” places in the neighborhood, they might have avoided these uncomfortable places on their walks and their negative impressions
might not have surfaced. In this way, the group elicitation exercise yielded a number of new, and often contradictory, perspectives from those common in the narratives. These revelations particularly speak to the value of combining these methods in order to generate a fuller picture of patterns of perceptions than each might reveal operating on their own.

One potential drawback to the group discussion is that children were not necessarily given the opportunity to discuss the personal significance of their individual photographs. Though this limitation was offset to some degree by the in-depth field discussions of photographs, it may be beneficial, given additional time and resources, to supplement these exercises with individual post-walk interviews.

**Suitability and Complementarity of Methods**

Both the child-guided walks and the group photo elicitation utilized for this pilot study demonstrate the value of more participatory, expressive methods for observing and understanding children’s behaviors. Though each yielded valuable perceptual and behavioral patterns, combining the two methods was essential for gaining a fuller, more accurate picture of children’s neighborhood perceptions and use. The new and contrasting comments from the group session prompted the researchers to revisit the themes and patterns detected in the walk narratives, which in turn became more representative of the broad range of experiences of the child participants. The facilitated group session also balanced the looser nature of the guided walks and allowed for more structured probing of the patterns arising from the walk narratives. The mix of both small and large group discussions provided the children with a range of opportunities for participation, and the presence of peers proved especially valuable for promoting an ongoing dialogue and for engaging more introverted children. These experiences are similar to those of other researchers utilizing photographs and group sessions to investigate children’s perspectives (Dennis et al. 2009; Burke 2005; Rasmussen 2004).

The incorporation of auto-photography directly into the methodology proved to be one of the most successful innovations, providing an alternative way for children to capture and convey their perspective. Though children were more limited in the places they could visit and document on the groups’ walks than in traditional solo auto-photography exercises, this protocol has the advantage of using the act of taking a photograph as a springboard for broader, *in-situ* discussions of children’s neighborhood perceptions and experiences.

Despite the complementarity of the methods and the rich information garnered, there may still be aspects of children’s neighborhood experiences that were not uncovered by this methodology. For example, the researchers were surprised by the lack of reference during the exercises to informal activity spaces, a possible indication that the tools do not lend themselves to unearthing these special or unstructured sites of play. Having more than one child per walking group meant that compromises might have been struck in the selection of places to visit, and groups may have missed some of those places meaningful to only one of the two children. Adding a component whereby individual children can write or draw about their neighborhood experiences could also help to ensure that individual voices are
heard, especially those of children less comfortable speaking up in the presence of other children or the adult observers. The presence of adults or another child may have also deterred children from showcasing their more private, special places for play or retreat. An increase in familiarity between the children and the adult observers, through more prolonged contact, could result in further divulging of these other, more private spaces and activities. The addition of a traditional auto-photography exercise or an activity diary may also be beneficial in this regard, to give children a chance to document these spaces on their own, in their own way, to better flush out the network of small spaces they use in their daily neighborhood interactions.

The exercises were effective in demonstrating to both the researchers and the urban planners that children are capable of shrewd and sophisticated evaluations of their neighborhoods, in addition to providing an evocative profile of their neighborhood perspectives and priorities. Both methods were well-received by the planners, but the intimate nature of their dialogue with the children during the guided walks made a particularly favorable impression for the rich picture of experience that they evoked. The exchanges with the children also highlighted for the planners the more localized nature of the children’s activities than those of adults, and the more personal and intimate relationships they have with their neighborhood spaces and places than is likely true for adult residents. Though these experiential, child-guided exercises demonstrated to the planners the value of utilizing more direct, participatory methods to better understand children’s environmental experiences and needs, integrating children as key informants into planning processes still holds a number of challenges. The planners felt that the community planning processes currently utilized within the local municipality, which typically involve presenting proposed plans at public meetings and fielding questions from community members, would not be suitable for engaging children, yet the time and human-resource intensive nature of the exercises and subsequent analysis were cited as obstacles to their widespread adoption in future community planning initiatives. The lack of political influence that non-voting children can currently wield means that few challenge these existing approaches, making for a planning environment, as is the case in many other cities across North America and Europe, that does not specifically support the allotment of time and resources to listen to children and actively involve them in community planning. The City of London, however, has recently adopted a Children’s Agenda and has established a Child and Youth Network to identify the most pressing needs of children and youth in the local community and address them through policy and environmental changes. This new concerted focus on children may help to change the political climate as it pertains to acknowledging children’s rights and needs, and direct more attention and resources to involving children more substantially in City and County infrastructures and initiatives, including community planning.

Condensed versions of this protocol may also help to alleviate the time and resource investment required of planners. Guided walks could be conducted with larger groups of children in order to include more in the process, in a shorter amount of time. Photo elicitation exercises could also be carried out within the existing infrastructure of public meetings, if an effort was made to solicit and
support the attendance of children and families rather than just adult residents. Photographs taken prior to the meetings by community children could then serve as valuable foci for needs assessment and discussion among all residents of a neighborhood.

Such abridged variations, however, risk the loss of children’s individual voices and the elicitation of rich narratives unless groups are skillfully facilitated. Children’s views could be lost altogether if they are merely folded into public meetings that include adults. Coordinating such neighborhood research and engagement efforts to coincide with community and educational events such as World Town Planning Day, as well as tying research activities to curricular goals, can be an effective way to garner the support of teachers or local planners, and allow for sharing of workload and resources. A city or community, however, that is dedicated to participatory planning must recognize that such processes are likely to take more time and resources than traditional approaches, and weigh this investment against the benefit of being better positioned to meet the needs of all of the community’s members, and to promote more engaged and informed communities, including their resident children.

Conclusion

Neighborhood environments are influential settings that play a critical role in the physical and psychological development of children, but research has only scratched the surface in terms of understanding the child-neighborhood relationship and children’s environmental needs and preferences. Fortunately, a growing body of research is working to employ children as co-researchers, consequently demonstrating that children are highly capable of participating in community evaluation and design, and that both the community and the children benefit significantly from the experience. The challenge lies in finding tools and methodologies that tap into children’s view and experience of their neighborhood and that can effectively communicate their needs and priorities directly to researchers, urban planners and policy makers.

This pilot study set out to field test a combination of research and analysis tools for uncovering children’s neighborhood perceptions, and for detecting discernable patterns in their use of the local environment. The engaging and expressive nature of the child-led walks, coupled with the photo elicitation exercise, yielded evocative narratives that spoke to the broad range of perceptions and spatial behaviors of children within a single neighborhood, and within this community in particular. Subsequent thematic analysis revealed significant yet complex patterns of neighborhood perception and use by these child residents, which echo those found by other recent studies. However, the GIS-based spatial analysis of the children’s routes and places of significance proved critical to providing a spatial narrative to complement those derived from the neighborhood walks and group photo elicitation, uncovering additional patterns in the children’s activities and perceptions.

The enthusiastic participation of the children and the rich profile of experience elicited confirmed that the tools are highly suited to children of this age. The
participating children also revealed their distinctive perspective, as well as their interest in and capacity for community evaluation. As anticipated, the narrative and visual outputs proved especially powerful for conveying perspectives to participating planners and demonstrated the value of such expressive, participatory tools for community planning processes involving children. The principal obstacles cited by the planners, lack of time and human resources, could be overcome by partnering with community or research institutions to share resources and workload.

Further testing will be conducted to address potential gaps in the experiences that surfaced, as well as to address the effectiveness of these tools for uncovering variations in the behaviors among children of different age groups within the same setting. The methodology will also be integrated into a larger study to compare the behavior and perceptions of children in neighborhoods with different environmental characteristics, and to investigate the influence of socioeconomic and other neighborhood-level factors.

Children have a legitimate role in shaping the environments in which they live, and are an essential source of information about their unique community experiences and needs. Our initial experience with this child-guided methodology suggests that the protocol is extremely valuable for engaging children in community assessment, opening a window into their lived experiences, and for flushing out trends and themes in their neighborhood activities and perceptions. It is expected that the voices of children that will surface from this protocol will provide an insightful and compelling snapshot of their neighborhood experiences, and serve as a valuable springboard for both behavioral research with children and community design and decision-making.

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