



Research Paper

Parks and young people: An environmental justice study of park proximity, acreage, and quality in Denver, Colorado



Alessandro Rigolon*

California State University, Northridge, United States

ARTICLE INFO

Keywords:

Urban parks
Environmental justice
Multi-method GIS analysis
Children and teenagers
Equity mapping
Denver

ABSTRACT

Young people – including children and teenagers – are spending less time playing outside in nature than previous generations. This decrease is problematic, as parks can provide young people with physical and mental health benefits. Also, growing health disparities exist between white and ethnic minority young people in the U.S. These concerns motivate an investigation into access to parks for young people of different ethnicity and socioeconomic status. Although several recent studies have focused on park quality, no previous inquiry has employed a youth-centered framework to measure access, nor has used an index of park quality describing young people's park needs. To address these gaps, I investigated access to parks in Denver, Colorado through a comprehensive geospatial approach – including park proximity, acreage, and quality – that models park and walkability features supporting frequent park use for children and teenagers. My findings show a multifaceted pattern of environmental injustice. Ethnic minority and low-income people have better access than other groups in terms of park proximity. High-income and white people, however, have access to significantly more acres of parks per youth, to more parks with excellent levels of quality, and to safer parks than other groups. The dramatic disparities in park safety might strongly limit park use among Denver's low-income young people of color. This analytical framework can help park planners identify specific gaps in park provision for youth and develop strategies to address quality and acreage disparities.

1. Introduction

Research in several developed countries has shown that children's and teenagers' outdoor play time and contact with nature have decreased significantly over the last few decades (Clemens, 2004; Karsten, 2005; Tandy, 1999), with children spending more free time in indoor sedentary activities than in active outdoor play (Wen, Kite, Merom, & Rissel, 2009). These trends are concerning for the multiple benefits of contact with nature for young people, including physical and mental health, overall well-being, and personal development (Chawla, 2015). Young people's increasing disconnection from nature, which Louv (2005) conceptualized as “nature-deficit disorder,” led to many initiatives that provide children with opportunities to access nature (e.g., No Child Left Inside, 2007).

In urban environments, children and teenagers generally depend on local parks to access nature, as their home range is often restricted to their neighborhood (Loebach & Gilliland, 2014). Urban parks, which I define as public green spaces for active and passive recreation managed by public park agencies, are places where young people can experience natural elements in cities, including lawns, trees, and water (Chiesura,

2004). Thus, urban parks – hence referred to as *parks* – can provide young people with some of the benefits that nature at large brings. In this paper, every reference to parks is also a reference to urban nature. Also, I use the phrase *young people*, or *youth*, to identify children and teenagers aged 0–17. Besides mental health and developmental benefits, nearby parks can also contribute to higher physical activity and lower obesity rates among youth (Cohen et al., 2014; Wolch et al., 2011).

Two recent reviews, however, highlighted that low-income young people of color might have even less contact with nature in parks than their white and more affluent counterparts due to the lack of usable parks in their neighborhood (Rigolon, 2016; Wolch et al., 2014). In particular, low-income ethnic minority young people in developed countries might live closer to parks than other groups, but they have access to fewer acres of parks, and to parks with lower quality and safety than wealthier and white young people (Rigolon, 2016). Park quality can influence young people's park visitation and the benefits associated with it (Loukaitou-Sideris & Sideris, 2009; McCormack, Rock, Toohey, & Hignell, 2010). Features such as park size, amenities, maintenance, and safety can considerably impact how youth use a park

* Correspondence to: Department of Urban Studies and Planning, 18111 Nordhoff Street, Los Angeles, CA, 91330, United States.
E-mail address: alessandro.rigolon@csun.edu.

including age, gender, and cultural preferences (Loukaitou-Sideris & Sideris, 2009; McCormack et al., 2010). For example, boys tend to use sport fields more often, while girls might be more likely to utilize playgrounds during park visits (Loukaitou-Sideris & Sideris, 2009). Thus, studying park quality matters when analyzing spatial access for young people.

Inequities in park provision are disturbing because low-income young people of color might rely on neighborhood parks for accessing nature more than other youth (Romero, 2005). This is due to fewer transportation options that limit their access to public parks in other neighborhoods or in wilderness areas and to inadequate access to private recreation opportunities such as sport clubs and backyards (Loukaitou-Sideris & Stieglitz, 2002; Romero, 2005). Nearby parks particularly matter for public health among ethnic minority young people, especially because Latino and African American children and teenagers have higher obesity rates than their white counterparts (Ogden, Carroll, Kit, & Flegal, 2014). Thus, when analyzing the spatial distribution of parks, considering equal access to parks as the desired planning outcome is problematic, as an equality-based approach does not recognize that some groups need parks more than others (Boone, Buckley, Grove, & Sister, 2009). Alternatively, planning for park equity more appropriately prioritizes the populations with higher park needs (Boone et al., 2009).

In this article, I present a study on access to parks for young people in Denver, Colorado, which relies on a geospatial analysis describing features that affect children's and teenagers' park visitation. After situating this investigation in the environmental justice literature, I discuss a recent promising trend in the scholarship on access to parks – a focus on park quality – and its limitations. I then present the methods, findings and implications of my study.

2. Parks and environmental justice

Disparities in park provision have been part of broader discriminations against people of color in the United States and elsewhere, including exposure to environmental hazard and access to housing, employment, and education (Boone et al., 2009; Wolch, Wilson, & Fehrenbach, 2005). Within this context, the environmental justice movement developed in the United States in the 1980s to illustrate that low-income communities of color often lived in closer proximity to polluting sites, including power plants and landfills, compared to whites (Boone et al., 2009; Schlosberg, 2004). More recently, environmental justice studies have centered on the geographic distribution of public services for different socioeconomic and ethnic groups, mainly green spaces (Boone et al., 2009; Rigolon, 2016; Wolch et al., 2014). Along with the equitable distribution of environmental hazards and amenities, the environmental justice movement also claims the necessity of fair decision-making processes to locate hazards and amenities and of acknowledging the needs of diverse communities (Schlosberg, 2004).

Safety issues and cultural mismatches in recreation might also contribute to park inequities. Young people living in low-income ethnic minority areas often perceive neighborhood parks as hazards rather than amenities due to crime issues and poor park conditions, which significantly limit their park visitation (Ries et al., 2008; Stodolska et al., 2013). Also, parks in the U.S. have frequently reflected European aesthetic canons, which have resulted in pastoral idyllic landscapes, and which might not serve appropriately ethnic minority park users (Byrne & Wolch, 2009). These issues reinforce environmental justice concerns related to access to parks for young people.

2.1. Park quality

A recent trend in the equity-mapping literature in the U.S. has been a focus on park quality, as a means to consider factors that contribute to park visitation. Quality was mostly assessed through geospatial ana-

lyses that included park amenities and hazards (Hughey et al., 2016; Jenkins et al., 2015; Rigolon & Flohr, 2014; Vaughan et al., 2013), with the exception of one study focusing on how different park types served ethnic groups with diverse recreational preferences (Ibes, 2015). The results of these investigations showed more inequities than encouraging news on park quality. Although such contributions on park quality have significantly advanced the literature on access to parks, a few aspects deserve further investigation: (1) park quality for young people; (2) comprehensive frameworks to describe access; and (3) geospatial methods that model walkability to nearby parks for young people. Details about these gaps are provided below.

Defining park quality in relation to young people is important because park features and conditions matter for young people's park visitation (Loukaitou-Sideris & Sideris, 2009; McCormack et al., 2010) and because of rising obesity rates among young people of color (Ogden et al., 2014). A couple of studies on access to parks used the Community Park Audit Tool (CPAT) to assess park features (Hughey et al., 2016; Vaughan et al., 2013), but the CPAT does not focus specifically on young people. Thus, no investigation integrated an index modelling park features that attract young people to parks into a geospatial analysis. Also, a recent literature review conceptualized access to parks through a comprehensive framework including three parameters: park proximity, park acreage, and park quality (Rigolon, 2016). Although several studies have used more than one variable to study park provision (e.g., Boone et al., 2009; Hughey et al., 2016; Wolch et al., 2005), no empirical inquiry has employed such framework to study how access to parks for youth in terms of proximity, acreage, and quality, varies across income and ethnic groups. This framework is also appropriate because park proximity, acreage, and quality influence young people's use of parks in different ways (see discussion section) and because various types of park disparities call for different planning efforts (Rigolon, 2016). Finally, many studies included variables describing access to parks for young people, who have been considered as a group with significant park need (Boone et al., 2009; Hughey et al., 2016; Sister, Wolch, & Wilson, 2010; Wolch et al., 2005). Several researchers have used the percentage of people under 18 years of age to describe park need, and acres of parks per 1000 people under 18 as a park congestion variable (Hughey et al., 2016; Sister et al., 2010). No study on access to parks, however, has employed geospatial methods that specifically describe walkability to local parks for young people.

2.2. Research purpose

Given these gaps, the purpose of this environmental justice study is to evaluate the spatial distribution of parks in Denver for young people of different socioeconomic status and ethnicity by examining three groups of variables: park proximity, park acreage, and park quality. In particular, data depicting these variables can help answer the following questions: How far is the closest park? (Proximity). How large and crowded are the parks within walking distance? (Acreage). And what is the quality of parks within walking distance? (Quality). Building on a pilot study (Rigolon & Flohr, 2014), I employed geospatial methods that model park and neighborhood walkability features that matter for young people's park usage.

This paper makes five contributions to the literature. First, it applies the Quality Index of Parks for Youth (QUINPY), a new youth-centered tool to describe park quality (Rigolon & Németh, 2016) in an environmental justice study. Second, the paper uses a comprehensive framework to define access to parks for young people (proximity, acreage, and quality) that provides valuable information for park planning (Rigolon, 2016). Third, its geospatial methods model walkable access to parks for young people by integrating a youth-targeted walkability index in a parcel-level network analysis. Fourth, this paper presents an analysis of data uncertainty that accounts for reliability issues with American Community Survey socioeconomic data (see below). And fifth, this investigation adds the case of Denver to the literature on

Download English Version:

<https://daneshyari.com/en/article/5115162>

Download Persian Version:

<https://daneshyari.com/article/5115162>

[Daneshyari.com](https://daneshyari.com)