



## Research Paper

# Unpacking healthy landscapes: Empirical assessment of neighborhood aesthetic ratings in an urban setting

E.D. Root<sup>a</sup>, K. Silbernagel<sup>b</sup>, J.S. Litt<sup>c,\*</sup><sup>a</sup> The Ohio State University, Department of Geography & Division of Epidemiology, 1036 Derby Hall, 154 North Oval Mall, Columbus, OH 43210, United States<sup>b</sup> Environmental Services Division, Pitkin County, CO, United States<sup>c</sup> University of Colorado Boulder, Environmental Studies Program, Sustainability, Energy and Environment Complex, 4001 Discovery Drive, Boulder, CO 80303, United States

## ARTICLE INFO

## Keywords:

Aesthetic ratings  
 Neighborhood environment  
 Healthy landscapes  
 Spatial regression  
 Health behavior change

## ABSTRACT

**Introduction:** Past research has demonstrated the powerful role of neighborhood aesthetics in shaping health-promoting processes and health behaviors.

**Methods:** Using a cross-sectional, population-based sample of Denver residents participating in the 2007 Neighborhood Environments and Health Survey (NEHS), we applied spatial regression models to examine the relationship between perceived aesthetic ratings and individual and neighborhood measures of the social and physical environment.

**Results:** Perceived and observed incivilities, perceived walkability, area-level poverty, foreclosures, and greenness were significantly associated with neighborhood aesthetic ratings. In the presence of race/education interaction effect, college educated Hispanics had significantly different aesthetic ratings when compared to non-Hispanic Black/Other and non-Hispanic Whites.

**Conclusion:** Interventions which promote active and healthy lifestyles should consider both structural and perceived measures of the built environment, and recognize that interventions should be customized to reflect community-level differences in perceptions and experiences of place.

## 1. Introduction

### 1.1. The neighborhood environment and its role in shaping health behaviors and health status

Rising rates of obese and overweight populations and the concomitant rise in related chronic diseases are transforming current perspectives on the role of the environment and lifestyles in shaping health behaviors and health status. Epidemiologic data suggest that our environment and related lifestyles account for the majority of premature deaths worldwide (Bauer, Briss, Goodman, & Bowman, 2014; World Health Organization, 2009). For decades, major government entities have invested in studies examining the role of the structural environment in obesity, diabetes, and other chronic diseases. The emphases of many of these projects aim to determine which physical characteristics of the environment – sidewalks, parks, trails, and food outlets – relate to an individual's choices around food and exercise and, ultimately, their health status. Community projects, and the associated empirical research, are based on the belief that “if you build it, they will come,” assuming that if structures that promote healthy behaviors exist, people

will use them.

Mounting evidence, however, suggests that understanding the meaning and use of nearby environments requires a deeper understanding of people's experience of place, how they interact with everyday landscapes and the agency needed to negotiate barriers and opportunities within proximal residential settings (Blacksher & Lovasi, 2012; Gobster, Nassauer, Daniel, & Fry, 2007; Heft, 2010). Landscape quality represents one facet of everyday environments that may influence health behaviors (Daniel, 2001; Gobster et al., 2007; Jorgensen, 2011).

Consideration of landscape quality requires recognition of the biophysical features of the environment and human landscape perceptions and experiences (Daniel, 2001; Jorgensen, 2011). Furthermore, understanding visual aesthetic quality helps us recognize how people engage with, or react to, different behavioral settings across different contexts and how these landscape experiences influence human behavior (Gobster et al., 2007; Ward Thompson, 2013). Specifically, within the neighborhood context, visual aesthetic quality assessments can generate knowledge about how people perceive visible features of everyday landscapes and perceptual, cognitive, and emotional processes

\* Corresponding author.

E-mail addresses: [root.145@osu.edu](mailto:root.145@osu.edu) (E.D. Root), [silbernagel.kara@gmail.com](mailto:silbernagel.kara@gmail.com) (K. Silbernagel), [jill.litt@colorado.edu](mailto:jill.litt@colorado.edu) (J.S. Litt).

they experience in the presence of these landscapes (Daniel, 2001). This conceptualization of aesthetics is well aligned with public health interests in the natural and built environment and understanding the factors that influence landscape perceptions and experiences and how they influence, for example, physical activity (Saelens, Sallis, Black, & Chen, 2003) and eating behaviors (Omitted for review, 2011, 2015; Ward Thompson, 2013). By exploring these connections, practitioners and policy makers can make informed decisions about neighborhood-level landscape changes that address health-promotive social and emotional processes such as improvements to streets, boulevards, vest-pocket and larger parks, plazas, gardens, and home landscapes (Jorgensen, 2011; Sullivan, Frumkin, Jackson, & Chang, 2014; Ward Thompson, 2013).

### 1.2. Neighborhood aesthetics and health

Social and emotional processes are critical to the production of good mental, physical, and cognitive health (Berkman & Glass, 2000; Charles & Carstensen, 2010; Kawachi, 1999). Perceived neighborhood aesthetics represents a socio-emotional process that can catalyze other important proximal social and emotional processes that lead to changes in health behaviors and health status (Omitted for review, 2015). Importantly, contact with nature and people's experiences with green space can serve as important levers in activating residents' engagement in health promoting processes such as attachment and social cohesion (Omitted for review, 2015). The aesthetics of landscapes, including natural environments, must accommodate people who are *in* a setting, not external to it—moving through space and encountering the setting with all their senses as they engage in both practical pursuits and leisure (Berleant, 2004). This perception-based approach to landscape aesthetic quality (Daniel, 2001) has informed recent public health research that aims to quantify the quality of nearby neighborhood-based natural and physical spaces at the residential street-level (Cattell, Dines, Gesler, & Curtis, 2008). Both objective measures of the quality of the nearby natural and physical environment (Caughy, O'Campo, & Patterson, 2001) and subjective quality ratings of street-level natural (e.g., nearby nature) and physical amenities (e.g., attractive buildings) have been assessed and analyzed as correlates of an array of health behaviors and health outcomes (Cerin et al., 2013; Henderson, Child, Moore, Moore, & Kaczynski, 2016; Omitted for review, 2011; Saelens et al., 2003). Neighborhood aesthetic ratings have been used to capture people's ratings of neighborhood quality and landscape appearance. For example, a perceived neighborhood aesthetic 6-item scale, developed and validated by Saelens and others, assessed whether people agreed or disagreed about the presence of trees, shade, litter, attractive natural sights, attractive buildings and homes (Saelens et al., 2003). Other studies used questions about neighborhood friendliness, local area attractiveness, and whether the walking experience near home was pleasant to assess "aesthetic quality" (Ball, Bauman, Leslie, & Owen, 2001). Studies have found that environments that were perceived to be physically or naturally attractive (e.g., positive "aesthetic" ratings) were positively correlated with walking (Humpel, Marshall, Leslie, Bauman, & Owen, 2004), and glycemic control (Smalls, Gregory, Zoller, & Egede, 2014). Moreover, street-level greening (e.g., objectively measured using the Normalized Difference Vegetation Index (NDVI)) (Pereira et al., 2013), and neighborhood attractiveness (e.g., objectively measured by assessing the presence of sidewalk cafés, landmark buildings, street level density, and streets rated as acceptably clean) (Lovasi et al., 2013; Stark et al., 2014) have been used as proxies for "neighborhood aesthetics" and have been found to be associated with body mass index (BMI).

Studies have also shown statistical relationships between neighborhood perceived aesthetic ratings (as described above and developed by Saelens and others) (Saelens et al., 2003) and positive perceptions of neighborhood green space and proximal emotional and social processes that are important for health. For example, collective efficacy, a

measure of informal social control and social cohesion, is an important process for strengthening neighborhood health and influencing self-rated health (Browning & Cagney, 2002; Omitted for review, 2015). Perceived neighborhood aesthetics, using the 6-item scale described above, was positively correlated with people's reports of collective efficacy, and in turn, more positive ratings of self-rated health (Omitted for review, 2015). Moreover, others found that perceived presence and quality of green space were strong predictors of community attachment (Arnberger & Eder, 2012).

### 1.3. Variation in aesthetic experiences by race/ethnicity and education

The development of landscape preferences reflects a process that is determined by socially differentiating factors in addition to physical aspects of the landscape (Lyons, 1983). In looking more broadly to environmental perceptions and preferences, studies have shown that people from different racial and ethnic groups and different levels of socioeconomic status (SES) show different preferences (Gobster, 2002; Kamphuis, van Lenthe, Giskes, Brug, & Mackenbach, 2007; Lovasi et al., 2012; Roe, Aspinall, & Thompson Ward, 2016). Understanding such differences can inform the selection and design of structural interventions to address health-related outcomes (Carlson, Brooks, Brown, & Buchner, 2010; Kaplan & Talbot, 1988). Research has shown that while African American and White residents share a high regard for nearby nature, differences in preferences and perceptions persist. For example, African Americans, when compared to White residents, preferred public areas with walkways and benches, open with a few large trees, mowed or manicured and institutional and residential areas visible beyond the natural setting. Areas of agreement included sidewalks along residential streets and scenes with attractive individual trees (Kaplan & Talbot, 1988). In a qualitative study of correlates of physical activity among a small sample of Dutch residents, Kamphuis and others found that respondents of lower SES, as measured by educational attainment, rated their neighborhoods poorly on aesthetic quality. They also reported feeling unsafe in their neighborhoods and that this barrier kept them from walking during the evening hours. These findings are consistent with past research in Australia, which found that low SES residents perceived neighborhood aesthetics, attractiveness, and safety more negatively than their higher SES counterparts (Giles-Corti & Donovan, 2002).

### 1.4. Theoretical context: aesthetic experience and the therapeutic landscape

We apply a multi-theoretical framework to explore the relationships between people and place that give rise to people's aesthetic experience of neighborhood and health behaviors. The theoretical underpinnings include ecological systems (Stokols, 1996) and therapeutic landscape theories (Conradson, 2005; Gesler, 2005; Kaplan & Kaplan, 2005), which collectively recognize the range of influences on health at the intrapersonal, interpersonal, cultural, organizational and environmental levels.

Health geography has a long history of examining the relationship between perception of environment and health. Much of this work has been framed using the therapeutic landscape concept, which recognizes that sense of place is central to positive health experiences. Sense of place "connotes the meaning, intention, felt value, and significance that individuals and groups give to places" (Gesler, 1992). It is a multi-directional and dynamic construct because the very nature of a place varies over time as a function of changes in an individual, the community, or both. Furthermore, an individual's sense of place is a complex combination of awareness of community characteristic (e.g., do they even know something exists), the importance of an individual place on those characteristics (e.g., is it important enough to elicit a reaction), and the individual's subjective reaction to those characteristics (e.g., do they want to interact with it) (Eyles & Williams, 2008). How an individual perceives place, and ultimately interacts with their

Download English Version:

<https://daneshyari.com/en/article/7460200>

Download Persian Version:

<https://daneshyari.com/article/7460200>

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