ECONOMIC PATTERNING OF PARKS IN THE WASATCH FRONT: THE IMPORTANCE OF MEASURING QUALITY

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Introduction

Prior evidence has suggested that socially and economically disadvantaged neighborhoods tend to have poorer park access (Hill & Peters, 1998; Wolch et al., 2011). One reason for the mixed findings is prior failure to integrate measures of park quality and resources (Sugiyama et al., 2015). For this study, integrating measures of park quality into the research on the economic patterning of parks is key.

Aims

Our first aim for the Spring 2019 semester was to establish the validity of an online assessment of park quality by comparison to an established in-person assessment named the community park audit tool (Kaczynski et al., 2012). Our second aim was a preliminary analysis of the relationship between neighborhood characteristics and park quality, with the hypothesis that disadvantaged neighborhoods have poorer quality parks.

Methods

To complete our aims, we took a random sample of parks in Utah, Davis, & Salt Lake Counties (n=49). Parks were assessed using online and in-person standardized methods. Park subscales were broken down into activity spaces (9 items), amenities (12 items), attractiveness, and acres. Attractiveness indicators varied between online and in-person methods and included google user ratings (online) and park incivilities (in-person). Neighborhoods were defined using 2010 Census block group designations, and sociodemographic characteristics were derived from American Community Survey 2013-2017 estimates. Neighborhood sociodemographic characteristics included neighborhood deprivation (based on twelve indicators representing educational attainment, occupation, income, and housing characteristics); percent of population identifying as a non-white racial category; population density; and percent of population less than 18 years old (youth) (Kind et al., 2014).

For the analysis, bivariate correlations between park subscales were examined. Next, a park quality index was computed as the average of the four standardized online assessment subscales, coded as higher scores reflecting greater quality. Finally, correlations between sociodemographic characteristics and the park quality index were tested using correlation and linear regression analyses.

Results

Results from park subscale bivariate correlations showed moderate to strong correlations between online and in-person assessments. Subscales for activity spaces were correlated at $r = .72$; amenities at $r = .53$; and attractiveness at $r = -.58$. Using standardized indicators, we averaged the four online park subscales. The Cronbach's alpha of .61 for the park quality index is below the commonly used .70 threshold for a reliable assessment tool; however, we sought a multidimensional construct of park quality rather than an internally consistent measure, such that reliability was only one criterion to evaluate. In terms of predictive validity, we found that the

park quality index was correlated with sociodemographic characteristics. These correlations with sociodemographic characteristics included economic deprivation at $r = -.37$; population density at $r = -.33$; ethnic minorities at $r = -.41$; and percentage of youth at $r = .19$.

Conclusions

Through our initial findings we believe that we can tentatively claim that online assessment strategies provide a valid measurement of park characteristics, allowing for greater research efficiency and time management. Assessing parks accurately online would cut down a considerable amount of time and resources that would be spent commuting to each park individually. We also were able to note that park quality is correlated with neighborhood sociodemographic characteristics. Specifically, park quality is lower in neighborhoods with greater economic deprivation, higher population density, higher percentage of ethnic minorities, and smaller percentage of youth. Consistent with findings from prior research, including measures of park quality is important when understanding the social and economic patterning of parks and the potential benefits of park access. Our next step is to complete the online assessments of all ~900 parks in the Wasatch Front to better understand the relationships between neighborhood characteristics, park presence, and quality. We plan to eventually examine how economic patterning of parks contributes to obesity risk in socially and economically disadvantaged neighborhoods.

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