



Pedestrian Activity and the Built Environment

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Introduction

Walking is important for the health and well being of all people. Previous studies have shown that there are certain characteristics of the built environment that have a direct impact on the pedestrian activity of its citizens. The actual physical makeup of a community including its streets, sidewalks, street lamps, the usage of buildings, landscape and trees all interact with the views of a pedestrian as having an effect on the "walkability" of a neighborhood. Twenty respondents in Houston, Texas (an auto-centric modern city) were asked to rate their neighborhood's pedestrian friendly qualities as well as report their pedestrian activity levels. Through this research a correlation was found between the built environment and personal levels of pedestrian activity. Research such as this in comparison with past studies enables one to have a better understanding of which characteristics result in higher reported rates of pedestrian activity in a community. Results such as these can also inform urban planners and community leaders on better ways to create a healthier, sustainable, pedestrian-friendly community.

Motivation and Background

Objectives	Previous Studies
<p>Pedestrian activity and overall physical activity in the United States has become a popular topic of conversation amid the "obesity epidemic" being reported in the media. Sedentary lifestyles and overconsumption have been pointed out as the culprits of the fattening of America where fast food drive-throughs and expansive parking lots rule the land. In response to this problem, an increasingly popular idea in the arena of urban design and city planning is an interest in pedestrian-friendly developments. In response to this problem, in the arena of urban design and city planning, there has been a growing interest in pedestrian friendly developments. Regional, state, and local planning departments continue to promote "walkable" developments not only to increase recreational physical activity but also to encourage pedestrian activity as a valid mode of transportation and, in return, create a healthier population.</p> <p>The demand for pedestrian-friendly communities is rising and its benefits have been reported in multiple studies. But what exactly makes a community "walkable"? While mixed-use projects are in vogue, does simple proximity to retail establishments, restaurants, and work places lead to higher levels of pedestrian activity? What key features do walkable communities hold that non-walkable communities lack?</p>	<p>Salt Lake Body Mass Index (Smith et al. 2008) Demographer Ken Smith tracked the BMI of nearly 500,000 residents of Salt Lake County, Utah. Neighborhoods built before 1950 were more pedestrian friendly and were made up of a mix of residential and commercial buildings. Residents who lived in neighborhoods built before 1950 walked more and weighed 6-10 pounds less.</p> <p>Attractiveness of Walking (Borst 2008) Elderly Dutch citizens were asked to grade their neighborhood streets on several aesthetic variables as well as to keep a diary of how often and how long they walked in their communities. Attractive characteristics of streets that resulted in an increase in pedestrian activity included street crossings, bus and train stops, plants and trees, store fronts, and outdoor cafes.</p> <p>Physical Activity and the Environment (Panter 2008) English citizens were asked to grade the attractiveness of their streets as well as report their physical activity on the street and in community centers. Data was then collected on proximity to recreational facilities. An important finding of this study was that the attractiveness of the street was found to be more important than the actual proximity of community centers in determining one's willingness to engage in recreational activity.</p>

Techniques/Approach

Research Methods	Variables
<p>During the spring of 2009 in Houston, Texas a quantitative survey of 20 residents was taken in hope of providing insight into the pedestrian activity of the citizens of this auto-centric modern city.</p> <p>This survey asked respondents to report their personal views of their neighborhood as well as their personal pedestrian activity.</p> <p>The dependent variable of walking was measured by the frequency of walking both for leisure and towards a destination. Respondents were asked if they walked for leisure and if so did they walk alone, with friends, with a pet, or to a park. Utilitarian walking (walking to a destination for a purpose) was measured by how often a respondent reported walking to a store, restaurant, school, or church.</p> <p>Sample Demographics:</p> <p>75% Caucasian 15% African American 5% Hispanic 5% Indian</p> <p>Ages range 19-48 Mean Age 29</p>	<p>The independent variables included the aesthetics of one's neighborhood. Respondents were asked if their neighborhood was plagued with graffiti, the condition of the sidewalks, the presence of street lamps, and the amount of automobile traffic. For example, Approximately how often do you see graffiti in your neighborhood? (Never, Very Rarely, Rarely, Occasionally, Frequently).</p> <p>The second independent variable measured was an overall sense of safety in relation to pedestrian activity. Respondents were asked if they felt safe during the day or during the night in their neighborhood. They were also asked about the presence of street lamps, automobile traffic, and stray dogs. For example, Are most of the streets of your neighborhood properly lit by street lamps? (Yes or No)</p> <p>The third independent variable was proximity to destinations. Respondents were asked if several common destinations were within reasonable walking distance of their home. For example, How often do you walk to a park? (Frequently, Occasionally, Rarely, Very Rarely, Never).</p>

Results and Analysis

Walking for Leisure	Proximity to Destinations
<p>Of the 20 respondents,</p> <ul style="list-style-type: none"> 30% reported frequently walking for leisure. 30% reported rarely walking for leisure. The final 40% never or very rarely walked for leisure. 	<p>Proximity to parks had the most substantial influence on the pedestrian activity of the respondents. 100% of respondents who frequently walked for leisure lived within walking distance of a park.</p>
Aesthetics of the Environment	Safety of the Neighborhood
<p>100% of those who frequently walked for leisure never saw graffiti in their neighborhoods.</p>	<p>Safety both during the day and night was found to be important in the overall pedestrian activity of respondents. 100% of respondents who frequently walked for leisure felt safe during the day and 75% of these groups felt safe at night.</p>

Conclusion

Summary of Findings	Directions for Future Research
<p>The findings of this study support the general feelings of the pedestrian-friendly design movement. It was observed that those who saw their neighborhoods as aesthetically pleasing, who felt safe, and who had a mixture of pedestrian-friendly destinations within reasonable proximity to their home were also more willing to walk to said destinations and to walk for leisure. This is important because it shows a relationship between the built environment and one's pedestrian activity. As community leaders look for ways to enhance the lives of their citizens they will look to urban planners and architects for new and innovative approaches to design. This study is just a small view into the lives of those who live in the inner-loop of Houston and the design and neighborhood elements that affect the quality of their lives and pedestrian activity.</p>	<p>Future studies would be improved by evaluating a much larger sample size of residents of several communities for which to draw comparisons from. This study focused on the inner-loop of Houston which is a more urban environment than outlying suburbs. Suburban pedestrian activity in comparison would be beneficial to study.</p>
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