Demographic Trends of Walkable Cities in the United States

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Demographic Trends of Walkable Cities
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Abstract
Walkable cities have become attractive places to live in recent years as they benefit resident’s well-being. Walkable cities have a positive correlation with a population that is healthy, educated, safe, and young. In cities with high-walkability, residents are encouraged to walk more, rather than use a car for each outing, which counters obesity and a sedentary lifestyle, a grim atmosphere, and unsafe surroundings. Making cities walkable and putting pedestrians first is part of designing smart cities, which helps to improve a city’s economy and safety, and make them more sustainable. Most research on walkability and demographics is limited to case studies comparing a demographic between city neighborhoods, whereas this research encompasses 108 United States cities with a population over 200,000 people. This research goes beyond a city’s walk score, established by Walkscore.com, and finds who lives in the city, if it is safe to walk, and other factors which may determine a person’s willingness to walk. Walk scores and data on crime rates, obesity rates, age, and educational attainment were collected and tested to find how each correlates with their respective city’s walk score. Results will show that Walkscore.com data does not account for anything but how many errands can be accomplished without a car. Walkscore.com does not account for the characteristics of a walk, such as how interesting, comfortable, safe, or convenient it is to walk. Walkable cities are in demand and as people search for housing they must consider more than the walk score to truly understand the scope of the city.

Methods
Location: 108 United States cities with a population of 200,000 +
• Acquire data for each city’s walk score (walkscore.com), median age (US Census), educational attainment for residents age 25 and above with a bachelor’s degree or higher (US Census), crime rate (FBI), and obesity rate (CDC).
• Perform a regression analysis with walk scores as the constant and median age, educational attainment, crime rate, and obesity rates as the variables.

Results & Discussion
Obesity rate and educational attainment showed marginally significant correlations with higher walk scores; median age and crime rates did not show significant correlations. The significance of the correlations is measured by p-value in the regression analysis test results.
• Obesity rate p-value = 0.049. R squared = 0.036.
• Median age p-value = 0.11. R squared = 0.023.
• No significant correlation with crime rates or median age. Some regression showed that the factors are related in other ways. Walk score effects obesity rate when controlling for crime rate, median age, and educational attainment.
• Walk score has a p-value of .032
• The whole model has a F-test p-value of 2*10^-16

Conclusions and Recommendations
The option to walk may not imply people walk rather than drive. Walk scores account for the number of errands accomplishing without a car, but they do not account for a walk’s characteristics. Sidewalks and crosswalks require other elements to encourage walking:
• safety,
• accessibility measures,
• green space,
• an interesting atmosphere.
A “walk leisure” score would complement walk scores to tell the characteristics of the walk because people searching for a home in a walkable place may assume the place already possesses these elements. This research is helpful to understand trends of walkability in the United States. It may encourage city planners to implement walkability strategies and motivate people to move to walkable areas.