

# Influence of Demographics on Use and Understanding of Urban Green Spaces in Los Angeles, CA

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## Abstract

Urban ecology is the study of how humans interact with their built surroundings, particularly in cities, which are densely populated and have significantly altered natural environments. Urban green spaces are vital areas that support community health and environmental benefits. In this study, residents from Inglewood, Santa Monica, and Culver City, California were surveyed to determine how demographics affect their use and understanding of green spaces in their neighborhood. Data was collected from 98 individuals at parks, libraries, and farmers' markets to best represent each city's known demographics. Statistical analysis was done to determine the differences between these cities and the measured demographic variables of gender, race or ethnicity, income, and age.

## Introduction

### Background

- Urban green spaces promote social cohesion and engage communities (Peters et al., 2010; Sullivan et al., 2004)
- Lower income groups and minorities tend to have less access to green spaces (Heynan et al., 2006)
- Women tend to use green spaces more than other groups (Caula et al., 2009)

### Hypothesis

- Income and gender will play greater roles in use and appreciation of green spaces than other variables
- Higher income neighborhoods will have more access to green spaces (Figure 1)

## Methods

### Study Location

- Santa Monica, Culver City, and Inglewood (Figure 2)
- Parks, libraries, and farmers' markets in each location

### Data Collection

- In-person surveys with questions on use and understanding of green spaces; surveyed 98 individuals

### Data Analysis

- Multiple linear regression
- Summed Question 4 (Q4 Sum): importance of green spaces
- Summed Question 5 (Q5 Sum): perceived connection to green spaces
- Question 8C: within walking distance (10-15 minutes) of a green area in their neighborhood

### Limitations

- Time collected: all residents not accounted for
- Language barrier: Spanish version needed

## Data

	Santa Monica	Culver City	Inglewood
Median per capita income	\$56,911	\$44,580	\$19,825

Figure 1: average median per capita income for the three survey locations

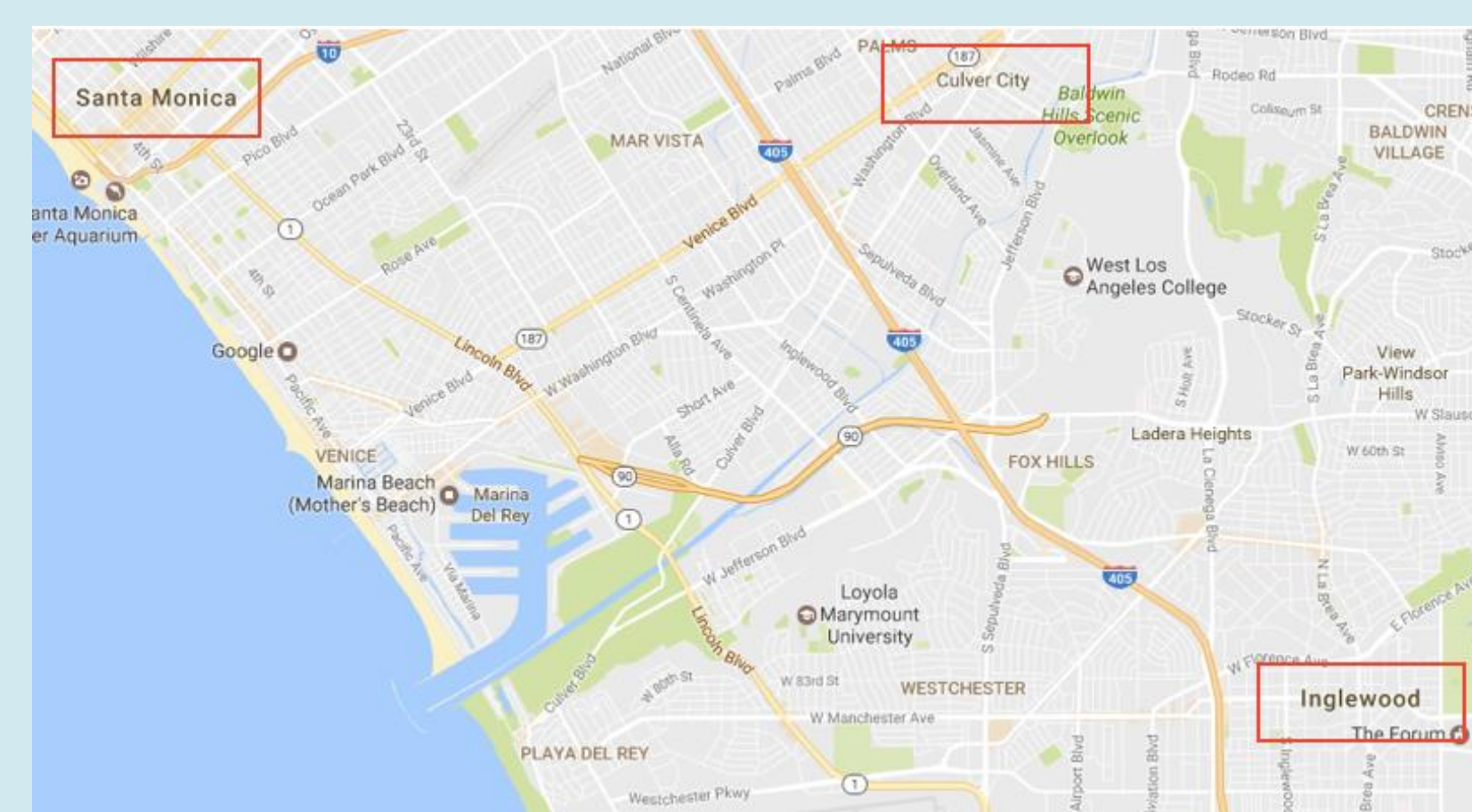


Figure 2: map showing location of three cities surveyed; image adapted from Google Maps

	All Neighborhoods		
	Q4 Sum	Q5 Sum	Q8C
R	0.1366	0.19877	0.17803
R-square	0.01866	0.03951	0.03169

Figure 3: multiple linear regression analysis; R values for Q4 Sum (importance of green spaces), Q5 Sum (connection to green spaces), and Q8C (ability to walk to green spaces) using all resident data; no significance

	All Neighborhoods		
	Q4 Sum p-level	Q5 Sum p-level	Q8C p-level
Age	0.81478	0.301	0.70337
Gender	0.69996	0.38319	0.66867
Race	0.27885	0.81086	0.34675
Income	0.92265	0.47905	0.25684

Figure 4: multiple linear regression analysis; p-values for demographic information using all resident data regarding analyzed questions; no significance

	City Dependent		
	Q4 Sum	Q5 Sum	Q8C
R	0.19649	0.04032	0.16221
R-square	0.03861	0.00163	0.02631

Figure 5: multiple linear regression analysis; R values for analyzed questions dependent on city and survey location (park, library, or farmers' market); no significance

	City Dependent		
	Q4 Sum p-level	Q5 Sum p-level	Q8C p-level
City	0.09495	0.91265	0.26589
Location	0.39462	0.71392	0.23485

Figure 6: multiple linear regression analysis; p-values for analyzed questions based on city and survey location; no significance

## Results

- No significance for demographics
  - Do not have an impact on responses
- No significance for city or survey location
  - Do not have an impact on responses
  - Neighborhood average income does not play a role

## Discussion

- Results did not support the hypothesis that income and gender would play more significant roles in determining responses rate
- Urban green space use and understanding not influenced by demographics, city, or survey location
  - All residents are getting similar level of benefits
- Cities may have accounted for differing demographics when creating green areas
- Important parameters may have not been accounted for (Van Herzele and Wiedermann, 2003)
- Future work will look at:
  - Other demographic indicators from survey
  - Additional survey questions not analyzed
  - Other neighborhoods in Los Angeles

## Literature Cited

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