

# Who gets what it takes to be “culinary omnivores”? : A spatial analysis of race and cuisine diversity based on Yelp restaurants

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# Who Gets What It takes to be "Culinary Omnivores"?

## A Spatial Analysis of Race and Cuisine Diversity based on Yelp Restaurants

BC GIS Contest  
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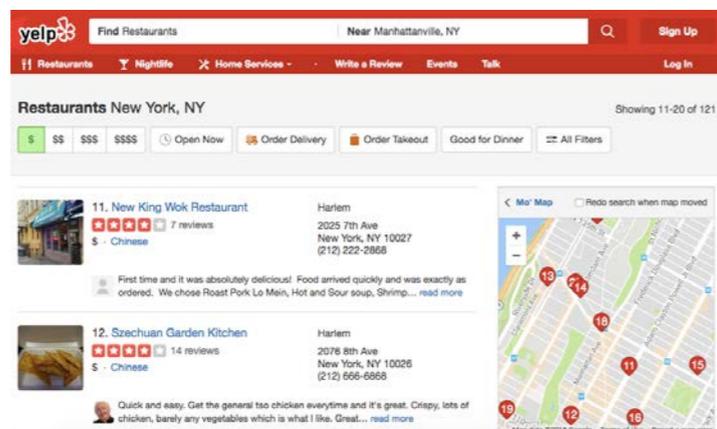
### Abstract

As one kind of cultural capital, people's familiarity with diverse restaurants and culinary forms can function as a symbolic resource to establish social boundaries. By looking at the geographical distribution of restaurants and cuisine types and examining how it is correlated with the spatial patterns of race and class, this study contributes to the ongoing discussion of inequality and consumption, revealing the mechanisms through which social stratification could be reproduced via consumption. I collected information about restaurants in New York City from Yelp.com, which was then paired with economic and social characteristics of people living in different regions of New York City, to test if certain social groups were more likely to have the luxury of "eating the world" in their neighborhood than others. We proposed two different measures of tract-level culinary diversity and regressed them against racial and class-related variables, from which we concluded that even after correcting for the spatial autocorrelation effect, Black/African American and Hispanic/Latino still have significantly less access to diverse culinary choices in their neighborhood, and that those who have the luxury of "eating the world" in their neighborhood are more likely to be single, and highly educated, with high household income. As many consumption choices as a consumer society offers, not all people get the same access to them.

### Data and Method

The information was collected with a snowballing strategy by searching for restaurants in different neighborhoods of New York State on [yelp.com](http://yelp.com). We have collected 257,256 restaurant entries, and from them, we have filtered out 39,682 restaurants that are unique with valid address, among which there are in total 20,444 restaurants that are located inside New York City.

In order to test if certain racial groups have significantly less access to more diverse restaurants, a measure of cuisine diversity in each tract is proposed and calculated, which will serve as the dependent variable of our regression model with spatial lags. All the regression coefficients are standardized to facilitate comparison.



### Results

This study tests if certain racial groups have significantly less access to more diverse cuisine choices in their neighborhood, defined as the Gini coefficient of the cuisine distribution in each tract. The cuisine diversity in one tract is expected to be affected by the cuisine diversity in its neighboring tracts, and that such a spatial dependence is non-trivial, so the spatial lag model is adopted. The independent variable of our regression model is racial composition. The regression model also includes control variables such as average income and the distribution of restaurant prices in each tract. All the neighborhood characteristics are obtained from American Community Survey. Table 1 lists the estimated coefficients for the selected variables using different regression models. The coefficient for the spatial lag in both Model I and III are significantly positive, suggesting that the number of different cuisines available in one tract is positively correlated with what its neighboring tracts have, which supports the spatially clustering patterns observed in Figure 2. It is also found that certain racial groups including Black/African American and Hispanic/Latino have significantly less access to diverse cuisine choices in their neighborhood.

Table 1 Standardized Coefficients

	Model		
	I	II	III
Spatial lag	.82***	x	.50***
Race			
Black %	x	-.26***	-.13***
Hispanic %	x	-.17***	-.10***
Asian %	x	.09***	.05***
Other controls	x	✓	✓

Asian American, on the other hand, tend to experience the opposite. Their neighborhoods are likely to have both diverse cuisine choices and uniform cuisine distribution, closer to being culinary omnivorous.

Fig 2 Segregation of Restaurants in New York City

