

# Research on Measurement Factors of "Foodscape" Based on Foreign Literature Reviews

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Environmental structure

Social Structure

**Abstract:**  
In the context of the new coronavirus epidemic, it is found that the research on foodscape in various countries is still insufficient. The research screened out 40 documents from 265 documents, and summarized the existing foreign research on foodscape. And summarized two major types of influencing factors: environmental structure and social structure. The environmental structure includes six categories: location, quantity, density, distance, area and time. The social structure includes two categories: demographics and economic statistics. In each category, the specific measurement factors used in each article are described in detail. In the end, I was inspired by it and discussed that for Beijing, it can describe foodscape of Beijing from 2 large-scale measure factors and 84 small-scale measure factors.

**Keywords:**  
foodscape; measure factors; environment; social

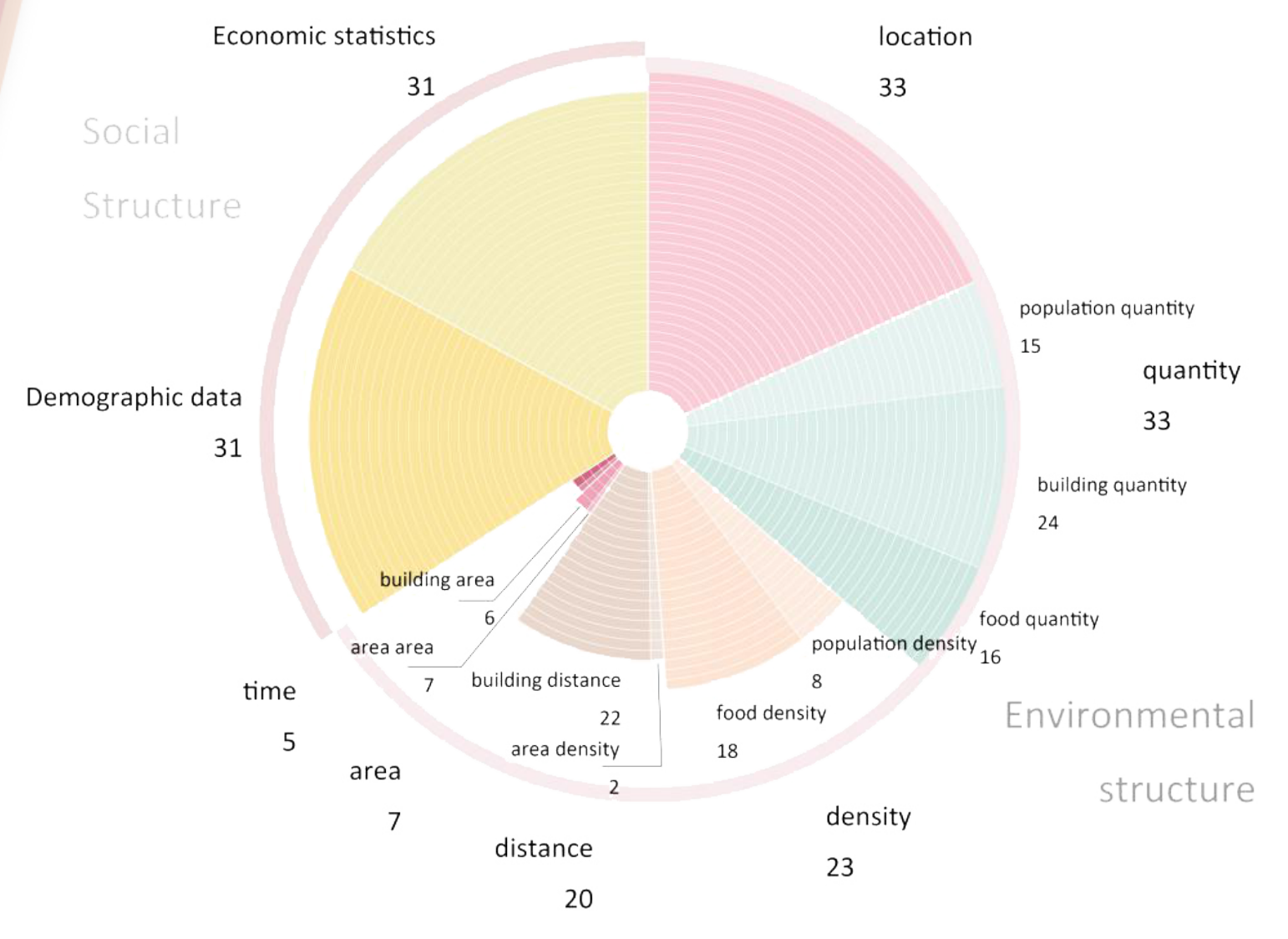
**Research background:**  
The term foodscape has been used in various studies since 1995 to address social and spatial differences in public health and food systems. The urban food scene, in a nutshell, is to study the relationship between food, urban space and related diseases; The relationship between food and disease: There are two types of relationship between food and disease. One is sudden disease. After ingesting toxic food, diseases that are not directly contagious will suddenly occur. The onset of disease is violent and concentrated. If rescue is not in time, it is easy to cause Casualties; one is chronic disease. Long-term intake of chronic poisonous food, such as high-calorie food, affects people's daily metabolism, leading to obesity and certain chronic diseases, such as obesity, hypertension, heart disease, etc; The relationship between food and urban space: The physical space of the city is an important carrier of food, such as restaurants, supermarkets, shops, wholesale markets, etc. The types of food sold or cultivated in different spaces are different; The relationship between disease and space: The relationship between disease and space is more complex, which is related to the location, quantity, and density of food distribution in space, and the distance between food and housing and many other factors; Studying the relationship between these three is the urban food scene.

**Research object:**  
Catering, supermarkets, stores, and wholesale markets are the four major physical environments that carry food, so this article studies the factors that measure the relationship between food acquisition and disease and health in the physical environment space.

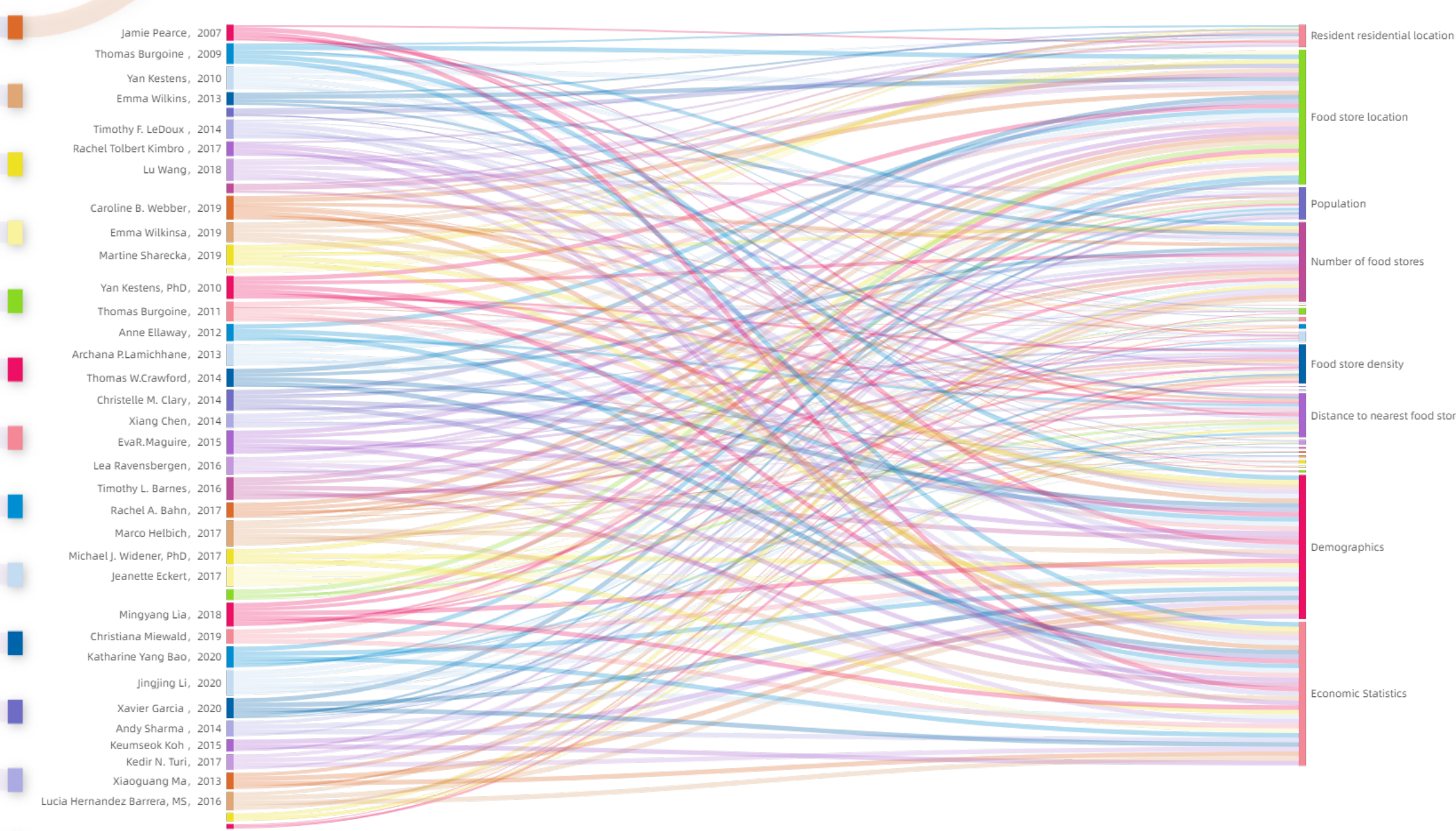
**Research method and purpose:**  
This paper adopts the research method of literature review to categorize and search the keywords related to "foodscape", and extract and sort out the content of the obtained effective literature; the purpose of the research is to analyze the foreign "foodscape". Relevant literature is reviewed to find out the measurement factors of the food environment's impact on diseases and health.

**Conclusion:**  
In summary, this study proposes a framework for measuring foodscape based on foreign literature, including two first-level measurement factors, 8 second-level measurement factors, 13 third-level measurement factors, and 84 fourth-level measurement factors (Table 5 ). Among them, the "environmental structure" in the first-level measurement factors mainly measures the urban food scene from factors such as location, quantity, density, distance, area, and time; "social structure" is divided into two categories: social demographics and socioeconomic statistics aspect.

Distribution of subcategories of each measurement factors



Literature measurement factors



- Environmental structure
- location
- Quantity
- Density
- Distance
- AREA
- Time
- Social Structure
- Demographics
- Economic Statistics
- Resident residential location
- Supermarket location
- Fast food restaurant location
- Fruit and vegetable shop location
- Full-service restaurant location
- Mobile store location
- Takeaway restaurant location
- Best storage location
- Number of black/white population
- Number of Hispanic/Non-Hispanic Population
- Latino population
- Dutch native population
- Number of immigrant population
- Urban population
- Suburban population
- Number of rural population
- Number of residents whose income is below the poverty line
- Number of people with a bachelor's degree
- Number of population with education level above high school
- Number of households lacking private cars
- Number of supermarkets
- Number of fast food restaurants
- Number of fruit and vegetable shops
- Number of full-service restaurants
- Number of mobile stores
- Number of takeaway restaurants
- Number of health food stores
- Number of unhealthy food stores
- Number of intersections
- Fast food/fried food intake
- Drinks/sweetened beverages and dessert intake
- Fruit and vegetable intake
- Organic food intake
- Total food intake
- Fast food exports per capita
- Per capita fruit and vegetable exports
- Total number of food exports
- Urban population density
- Suburban population density
- Rural population density
- Residential housing density
- Supermarket density
- Fast food restaurant density
- Fruit and vegetable store density
- Full-service restaurant density
- Takeaway restaurant density
- Intersection density
- Street network distance to the nearest supermarket
- Street network distance to the nearest fast food restaurant
- Street network distance to the nearest fruit and vegetable shop
- Street network distance to the nearest full-service restaurant
- Average street network distance to the nearest three different food stores
- Street network distance to the nearest street
- Average shape length of street network buffer
- Average shape length of active area
- Food store surface area
- Food store retail area
- Food store floor area
- Average shape area of street network buffer zone
- Average shape area of activity range
- Area of each administrative area
- Average Time from public transportation to the nearest food store
- Average Time from car to nearest food store
- Average Time to walk to the nearest food store
- Time to get food
- AGE
- Gender
- Race
- Family size
- Marital status
- Body mass index
- Prevalence of overweight and obesity
- Diabetes mortality
- Average annual household income
- Unemployment rate
- Education level
- Poverty rate/index
- Average home value
- Homeownership rate
- Motor vehicle ownership rate
- Degree of urbanization
- Townsend Index
- Deprivation Index
- Building location
- Population
- Number of buildings
- Food quantity
- The population density
- Building density
- Building distance
- Area distance
- Construction area
- Area area