Intro to Foodscape Studies

POLARIS Network meeting
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Metropol UC
Bent Egberg Mikkelsen

Researchgroup:
Meal Science & Public Health Nutrition (MENU)

Abstract: Foodscape studies are an increasing field of study. New devices for tracking consumer behaviour and location of food outlets has made such studies simple. Such approaches are increasingly used within health promotion and public health nutrition as an analytical tool to assess the “obesogenity” of our food environments and to pinpoint associations between environment, behaviour and health outcome. This paper introduces foodscape for the study of out of home eating and discusses the applicability for the development of interventions in captive eating out-of-home eating environments (OHEE)
Food environment studies are booming

USDA Food Atlas data from Peco, TX
Food environment studies are booming

Map courtesy of Centers for Disease Control and Prevention
Food environment studies are booming
Density of BMI-healthy food outlets (supermarkets, fruit and vegetable markets, and natural food stores) was inversely associated with BMI. Mean adjusted BMI declined across the three higher quintiles and was 0.80 units lower in the fifth quintile (10.98 stores/km²) than in the first. These associations remained after control for two neighborhood walkability

<table>
<thead>
<tr>
<th>Table 3. Adjusted mean BMI by food density quintiles.</th>
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<td>Food density category</td>
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<tr>
<td>BMI-healthy</td>
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<tr>
<td>Median density (stores/km²)</td>
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<tr>
<td>Adjusted mean BMI&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>95% CI</td>
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<td>p-Value&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
<td>BMI-intermediate</td>
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<td>Median density (stores/km²)</td>
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<td>Adjusted mean&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>95% CI</td>
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<td>p-Value&lt;sup&gt;b&lt;/sup&gt;</td>
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<tr>
<td>BMI-unhealthy</td>
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<td>Median density (stores/km²)</td>
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<td>Adjusted mean&lt;sup&gt;a&lt;/sup&gt;</td>
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<td>p-Value&lt;sup&gt;b&lt;/sup&gt;</td>
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<sup>a</sup>Adjusted for age, sex, race/ethnicity, education, neighborhood sociodemographic characteristics, and population density. Results for each food outlet category were also mutually adjusted for the other two food outlet categories. <sup>b</sup>p-Value for difference in BMI comparing each quintile to the first quintile.
Mapping access to foods – data from UFL

Legend
Number of Fast Food Rest Per Mile
- 2.83
- 1.0
- 0

Source: Drewnowski, A
1. Increased recognition of ecological models
2. Increased interest in non reflexive pathways (behavioral nutrition)
3. Simple devices for monitoring environment AND movement are readily available

• Behavioural tracking studies at the micro, meso and macro level becomes turnkey
Social Cognitive Theory

Environment
(physical, organisational, cultural, social)

Individual
Bandura, A

Behaviour
Socio Ecological Models (SEM)

Bronfenbrenner’s Socio Ecological Models (SEM)
Ecological Systems Theory (EST) (1979)
Obesogenicity

“an environment that promotes gaining weight and one that is not conducive to losing weight”

“Leptogenic” (promoting leanness).

Dissecting obesogenic environments: the development and application of a framework for identifying and prioritizing environmental interventions for obesity.

Swinburn B, Egger G, Raza F
Does environment matter?

Source: Pekka Puska
Meso foodscape around school
Micro foodscape at the buffet
• Media ethnographic video hat
  http://gopro.com/
The captive foodscape

“the physical, organizational and socio-cultural captive space in which individuals encounters meals, food, food related issues and intermediaries”
The -scape way of thinking

Phenomena that are:

“unevenly distributed in space and appear in a variety of shapes and contexts”

qualify in particular. (Brembeck & Johansson, 2010)
What’s wrong with settings?

• traditionally used by health promotion professionals and planners in a wide range of health contexts

• the settings approach assumes a professional “backstage” view rather than a daily life perspective.

• Food and eating is embedded in our daily life and that we relate explicitly to the act of eating several times a day as opposed to health which is a much more abstract notion.
Foodscapes as foodsources

"the actual sites where we find food"
Freidberg (2010)

“the ‘foodscape’, or the food environment, incorporates all opportunities to obtain food within a given region“
Burgoine (2010)

"the spatial distribution of food across urban spaces and institutional settings”
Johnston et al (2009)
Foodscapes as eating opportunities

‘the multiplicity of sites where food is displayed for purchase, and where it may be consumed’.

"signifying all the places where one comes into contact with food and eating"
Brembeck & Johansson (2010)

"designates a population of eating practices, hence the spatial flow of local sites where some actors become eaters and other actors become food"
Wenzer (2010)
Foodscapes as ideas and habits
How it should be – the normative view

“foodscape implicates the multiple informative historic and contemporary personal, social, political, cultural, and economic forces that inform how people think about and use (or eschew) food in various spaces they inhabit“

Adema (2009)
Foodscape Studies are about

• Seeing relations
• Getting the big picture (webs)
• Having a single word
• Analysing associations
• Making predictions
The scape way of thinking is about

• Taking a viewpoint
• Defining the viewer
• Looking at interrelations
• Looking at tangibles as well as intangibles
• Creating sense of coherence
  (Tangible, Comprehensible, Meaningfull)
Example: hospital

- Food service and Catering (kitchen)
- Procurement (policies)
- Clinical nutrition (ward)

- But it does not give the whole picture
Example: Whole School Approach

School ethos

Curricula/class room

Food Service
A practical approach:
How can we analyse relations

<table>
<thead>
<tr>
<th>Eater/Mediator</th>
<th>Eater</th>
<th>Mediator</th>
<th>Food</th>
<th>Environment</th>
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Theoretical frameworks are plentiful..

- Health Belief Model
- Stages of Change
- Preceed/Proceed
- TBP
- SCT
- Locus of Control
- Self Determination Theory
.. but tend to assume humans as econs

- Assume reflexive and cognitive pathways
- Overlook autonomous ones
- Mental scapes
- What others are doing
- What environment do with you
Social environment
Women eat less when with men

Short communication
Food for thought. What you eat depends on your sex and eating companions
Meredith E. Young, Madison Mizzau, Nga T. Mai, Abby Sirisegaram and Margo Wilson

Department of Psychology, Neuroscience and Behaviour, McMaster University, 1280 Main Street West, Hamilton, Ontario L8S 4K1, Canada
Cultural environment:
Americans eat more than the Frenchs

Rozin and his colleagues weighed portions at 11 comparable pairs of eateries in Paris and Philadelphia, including fast-food outlets, pizzerias, ice cream parlors and a variety of ethnic restaurants. They found the mean portion size across all Paris establishments was 277 grams, compared to a mean in Philadelphia of 346 grams - 25 per cent more than in Paris.

The ecology of eating: Smaller portion sizes in france than in the United States help explain the French paradox
Rozin P.[1]; Kabnick K.[1]; Pete E.[1]; Fischler C.[2]; Shields C.[2]
Nudging – the third way?

Libertarian

Paternalistic
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<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<tbody>
<tr>
<td><strong>Individual</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>No family history</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<tr>
<td>Motivation</td>
<td>0</td>
<td>5</td>
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<td>Knowledge</td>
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<tr>
<td><strong>Behaviour</strong></td>
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<tr>
<td>Comply with guidelines</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<tr>
<td><strong>Environment</strong></td>
<td></td>
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<tr>
<td>Social Supportive friends</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<tr>
<td>Organisational Food &amp; Nutrition Policy at school</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<tr>
<td>Physical FV outlets</td>
<td>0</td>
<td>5</td>
<td>10</td>
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<tr>
<td><strong>Health outcome</strong></td>
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Methodsss in FoodScape Studies

How to assess foodscapes

• GPS/GSM/WiFi/BT technology
• Qualitative illustrative methods
• Food ethnographic methods
• Go along interviews
• Observations
Conclusion: foodscapes are well suited

• for capturing relations in complex webs
• for seeing the big picture
• for analysing associations between elements
• in making predictions (probably) about health outcome in nutri-spatial ensembles
• in capturing both human and non-human agency
• In assessing informants sense of coherence
Thanks for your attention

Thanks to my co-workers

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Sascha Qvortrup
Dwi Budiningsari
Sofia Lourenço

Read more on

www.menu.aau.dk/