Understanding drivers of food choice in diverse and dynamic settings: Conceptual and methodological innovations

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Associate Professor
What is Food Choice?

The overarching question addressed in studies of food choice is, “why do individuals eat the foods they do?”
Food choice
Conceptual Model of Food Behaviors
A representation of the relationships among the many types of food behaviors that may be involved from the acquisition of food to its consumption and disposal.

The Food Choice Process Model

Micro-contexts (families, friends, school, work, community, etc.)

Macro-contexts (society, culture, economy, government, etc.)

Earliest transition

Earliest turning point

Earlier transition

Food Choice

Later turning point

Later transition

Current thoughts, feelings, actions

Food Choice Trajectory

The Food Choice Process Model

LIFE COURSE EVENTS & EXPERIENCES
- Trajectories
- Transitions
- Turning Points
- Timing
- Contexts

INFLUENCES
- Ideals
- Personal Factors
- Resources
- Social Factors
- Present Contexts

PERSONAL FOOD SYSTEM
- Develop food choice values
- Negotiate & balance values
- Classify foods & situations
  - Form & revise strategies, scripts & routines

FOOD BEHAVIORS
- Acquire
- Prepare
- Serve
- Eat
- Store
- Give away
- Clean up
Understanding food choice

• “If it is not available, it will not be eaten...
• Behaviour tends to be stable...
• If learning can take place, it probably will...
• Context is as important as content”

Presented at the CAB International The 3rd French–British Meeting on Nutrition, a joint meeting of the Nutrition Society, Association Française de Nutrition and Société de Nutrition et de Diététique de Langue Française was held at Nancy, France on 30 September–2 October 1998 as part of the Symposium on ‘Functionality of nutrients and behaviour’
The Food Choice Process Model

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- **Present Contexts**
Managing Relationships

Health

Cost

Taste

Convenience

Other

Negotiate and balance values

Food Choice Value Negotiation

Adapted from: NS2450 Social Science Perspectives on Food and Nutrition

Cornell Food Choice Research Group, 2012
www.human.cornell.edu/dns/foodchoice/index.cfm
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### Classifying foods in contexts: How adults categorize foods for different eating settings

C.E. Blake*, C.A. Bisogni, J. Sobal, C.M. Devine, M. Jastran

<table>
<thead>
<tr>
<th>Classification Categories</th>
<th>Food Card Sort Label examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Personal-Experience-Based</strong></td>
<td></td>
</tr>
<tr>
<td>Routine</td>
<td>“I’d eat most often”, “hardly ever”, “once a week”, “staples”</td>
</tr>
<tr>
<td>Well-being</td>
<td>“healthy”, “bad for you”, “mood foods”, “allowed on my diet”</td>
</tr>
<tr>
<td>Preference</td>
<td>“favorite”, “I like it”, “I don’t like it”, “I hate”, “treat”</td>
</tr>
<tr>
<td><strong>Context-Based</strong></td>
<td></td>
</tr>
<tr>
<td>Meal/Time</td>
<td>“breakfast”, “dinner”, “snack”, “stuff in the evening”, “summer”</td>
</tr>
<tr>
<td>Meal component</td>
<td>“main dish”, “side dish”, “condiment”, “goes together”</td>
</tr>
<tr>
<td>Convenience</td>
<td>“quick and easy”, “logistically difficult”, “not available”</td>
</tr>
<tr>
<td>Person</td>
<td>“foods for my child”, “company food”, “my boss’ food”</td>
</tr>
<tr>
<td>Location</td>
<td>“eat at home”, “at work”, “restaurant food”, “road food”</td>
</tr>
<tr>
<td>Source</td>
<td>“homemade”, “stop by <strong>Food Category Types</strong>”</td>
</tr>
<tr>
<td></td>
<td>store and get”, “get out of the machine”</td>
</tr>
<tr>
<td><strong>Food-Based</strong></td>
<td></td>
</tr>
<tr>
<td>Food Group</td>
<td>“breads and grains”, “vegetables”, “dairy”, “meats”, “candy”</td>
</tr>
<tr>
<td>Physical Characteristics</td>
<td>“sweet food”, “cooked”, “processed”, “cold”, “finger food”</td>
</tr>
<tr>
<td>Nutrient Composition</td>
<td>“starches/carbohydrates”, “proteins”, “fats”, “calorie”</td>
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</tbody>
</table>

*Appetite, 49(2), 500-510.*
The Food Choice Process Model

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Strategy: “[I think] ‘what are we gonna eat and how can we do it without causing a battle?’… There’s enough foods out there that all four of us can be happy at the same time…”

“if it’s just, my wife and the boys, we keep it pretty simple. we know they’re not vegetable eaters so, we don’t, elaborate on vegetables… Almost all of our dinners are a protein based meal….and there’s some fast foods in here, we do eat fast food sometimes…. [protein food] is our main meal. … And then we build around it….Dessert, for us is something that, we do have a couple hours later…beverages varies…”
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Why study food choice?

- Food choice behaviors are integral to social and economic expression of identities, preferences, and cultural meanings and ultimately influence nutrient intake and health
- Understanding the drivers of food choice is imperative for successful programs and policies
Nutrition in the developing world

• Global commitment to improving nutrition

• Attempts to achieve ambitious goals hindered by limited knowledge of drivers of food choice among the poor in low- and middle-income countries (LMIC)
Undernutrition contributes to nearly half of all deaths in children under 5 and is widespread in Asia and Africa:

Percentage of children under 5 who are stunted, 2010–2016

*Data are the most recent available estimate between 2010 and 2015; exceptions where older data (pre 2010) are shown are denoted with an asterisk (*)

Undernutrition and Obesity

- Double burden of undernutrition and increasing prevalence of obesity
- 76% of all overweight children live in LMIC
- Maternal overweight
- Improving nutrition across the life course from conception through adulthood is essential for the well-being of families and communities and for successful economic and social advancement
Nutrition interventions

• Scaling up of successful nutrition-specific interventions
• Delivery requires use of innovative strategies and often relies on the structure of nutrition-sensitive development programs
  – Targeted agriculture programs
  – Social safety nets
  – Early child development
  – Schools/education
• Some evidence for impact of targeted agricultural programs on nutrition outcomes but conclusive evidence lacking
• In part due to **limited understanding of how these programs impact food choice**
• Food assistance programs may alter food choices
• Factors driving decisions regarding food acquisition, preparation, and consumption in the context of food aid not well understood
• Objective: Understand how PROCOMIDA, a food-assisted maternal and child health and nutrition program in rural Alta Verapaz, Guatemala, altered household food choices
• Methods
  – Semistructured interviews and focus groups with 63 households in 3 participating (n = 32 households) and 3 control (n = 31) villages.
  – Food recall and food-frequency questionnaire
PROCOMIDA and Food Choice

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• PROCOMIDA changed household food choices through
  – providing food resources (with monthly food rations)
  – new and reinforced knowledge and skills related to health and food
• PROCOMIDA families consumed rice, red beans, and oil more frequently than did control families (differences of 2.20 (P < 0.001), 2.68 (P < 0.001), and 1.64 (P = 0.038) times/wk, respectively)
• PROCOMIDA families also ate chicken, local plants, and some vegetables more frequently
• Well-designed behavioral change communication in conjunction with food aid may be important to improve household food choices
Funded by the Bill & Melinda Gates Foundation and UK Department for International Development and Managed by Drs. Blake and Frongillo at the University of South Carolina, Arnold School of Public Health
The DFC Team

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• **Shilpa Vimalananda, MPH**
  Program Coordinator
  Research Assistant, Department of Health Promotion, Education, and Behavior, Arnold School of Public Health.
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**Daniel Sellen**, Ph.D, Professor and Associate Dean Research, Dalla Lana School of Public Health, University of Toronto
Purpose

• Gain a deep understanding of the drivers of food choice among the poor in developing countries in South Asia and Sub-Saharan Africa, many of which are experiencing rapid urbanization and changes to agriculture and markets
  – in order to guide on-going and future programs and research activities to improve food and nutrition security in poor countries
  – and to foster a community of practice in food choice research in developing countries
DFC Competitive Grants Program
Priorities Round 1

1. Develop conceptual understanding of factors that influence food choice in lower wealth quintiles to inform policy and practice

2. Investigate how changes to traditional food environments and food systems influence food choice

3. Evaluate of the impact of nutrition-sensitive agricultural interventions on food choice behaviors
Currently funded projects

• The program will fund up to 15 projects in LMIC pursuing a diverse set of questions about environmental and individual drivers of food choice using both established and innovative methods

• First 8 projects are currently underway...
DFC Round 1 Projects
Lead and Partnering Institutions

- London School of Hygiene and Tropical Medicine (LSHTM), UK
- University of Sheffield, UK
- University of London, UK
- Emory University, USA
- Pennsylvania State University, USA
- RTI International, USA
- Wageningen University, Netherlands
- Harvard University, USA
- Loughborough University, UK
- University of Liverpool, UK
- The French Agricultural Research & International Cooperative Organization (CIRAD)
- Trocaire (Uganda), Ireland
- Fresh Studio Innovations Asia Ltd.
- International Rice Research Institute (IRRI)
- Center for International Forestry Research (CIFOR)
- Bioversity International
  - KIIT University, India
  - Makerere University, Uganda
  - University of Malawi
  - University of Ghana
  - University of Health and Allied Sciences, Ghana
  - University of Brawijaya, East Java, Indonesia
DFC Round 1 Projects

- 3 Rural only
  - Pastoralists changes in livelihood in Tanzania
  - Rapid Agrarian change in Indonesia
  - Land Impermanence in Uganda

- 2 Urban only
  - Transforming urban food retail environment in Vietnam
  - Adolescent EDNP food consumption in urban Ghana

- 3 Urban and Rural
  - Impact of change in agricultural subsidies in Malawi
  - Application of the Gastronomic Systems Framework in India
  - Overweight mothers and/or children in Malawi
Food Choice Drivers Assessed

• Changes in livelihoods/ agricultural work/ agricultural production
• Changes in agricultural subsidies
• Perceptions of land permanence/ changes in land use policies
• Food systems changes/ Food environments
• Changes in retail environments
• Food access
• Food valuation/ Value chain modification
• Changes in traditional practices
• Intergenerational shifts/difference
• Gender norms/ Gender differences
• Identity
• Cultural views on overweight status of mother or child or both
• Household food providers
• Cultural aspects of meal construction/ Changes in ingredients, meals, foods
• EDNP foods
Food Choice Behaviors Assessed

- What to grow, gather, sell
- What, where, how much, how often to buy
- How to prepare
- What, how much, and how often to provide to different household members
- What, how much, where, and how often to eat
- Trade-offs
Retail diversity for dietary diversity: Vietnam

Pis: Sigrid Wertheim-Heck, PhD and Peter Oosterveer, Wageningen University; Gina Kennedy, Bioversity International

Objectives:

1. Understand how, why, in what way and to what extent transformations in the local food system impact the dietary intake of the urban poor

2. Providing policy recommendations and solutions to improve the inclusiveness of urban food retail systems
Retail diversity for dietary diversity: Vietnam

• Conceptual Innovations:
  – Food systems transformations and food choice of urban poor
  – Linking food retail infrastructures with food choice behaviors in urban settings
  – Intergenerational perspective on food choice

• Methodological Innovations:
  – Sequential mixed-methods design
  – GIS mapping of food outlet utilization in conjunction with work and home locations
  – Drivers of choice for multiple food choice behaviors across household members and over time
    • Acquire, serve, consume
Dietary transitions in Ghanaian cities

Pls: Michelle Holdsworth, Uof Sheffield, UK, Amos Laar, Uof Ghana, Francis Zotor, Uof Health and Allied Sciences

Objectives:

1. To identify how social and physical environments drive consumption of EDNP foods and beverages throughout the reproductive life course

2. To identify, prioritize and encourage scaling up of context-relevant gender interventions to reduce consumption of EDNP foods and beverages throughout the reproductive life course
Dietary transitions in Ghanaian cities

• Conceptual Innovations:
  – Individual and environmental drivers of choice of EDNP foods
  – Life course approach with adolescents/young women

• Methodological Innovations:
  – Longitudinal qualitative interviews
  – 24-hr situational food recalls to assess drivers of choice
  – GIS data linked to Photovoice on perceptions of the food environment
  – Photography exhibition to advocate for action
Behavioral Drivers of Food Choice in Eastern India

PI: Matty Demont, PhD, International Rice Research Institute

Objectives:

1. Providing a thorough understanding of the current drivers of food choice of urban and rural households in lower to middle socioeconomic classes in eastern India

2. Testing new behavioral drivers that may influence food choice of the target population after nutrition-sensitive interventions designed for the poor

3. Assessing the ex ante impact of those nutrition-sensitive interventions on nutrition security and health of the poor in eastern India (Odisha and West Bengal)
The gastronomic systems research (GSR) framework

Matty Demont, PhD
Behavioral Drivers of Food Choice in Eastern India

• Conceptual Innovations:
  – Application of a context- and culture-specific framework of “gastronomic systems research” to Eastern India

• Methodological Innovations:
  – GSR framework applied through expert elicitation and consumer surveys to obtain detailed information on current food choice
  – Development of an interactive tablet application
  – Behavioral experiments to elicit and study food choice change in response to nutrition-sensitive information and interventions within the GSR framework
DFC Round 1 Project Summary

- 8 projects in 7 countries in Africa and Asia
- Collaborative teams
- Diverse populations
- Individual to policy drivers
- All aspects of the food choice process model
Next steps...

DFC Competitive Grants Program: Round 2

• Same General Research Topics
  1. Develop conceptual understanding of factors that influence food choice in lower wealth quintiles to inform policy and practice
  2. Investigate how changes to traditional food environments and food systems influence food choice
  3. Evaluate of the impact of nutrition-sensitive agricultural interventions on food choice behaviors

• Complementary to Round 1 projects
  – Labeling and retail markets
  – Program and policy relevance

• In-Country Institution Leadership

• RFP to be released in February 2017!
Next steps...

• Building a community of LMIC food choice researchers
  – Like us on Facebook
  – Follow us on twitter
  – Watch for announcements

http://www.driversoffoodchoice.org/
THANK YOU!!