

kayla de la haye

challenges & opportunities for precision & personalized nutrition

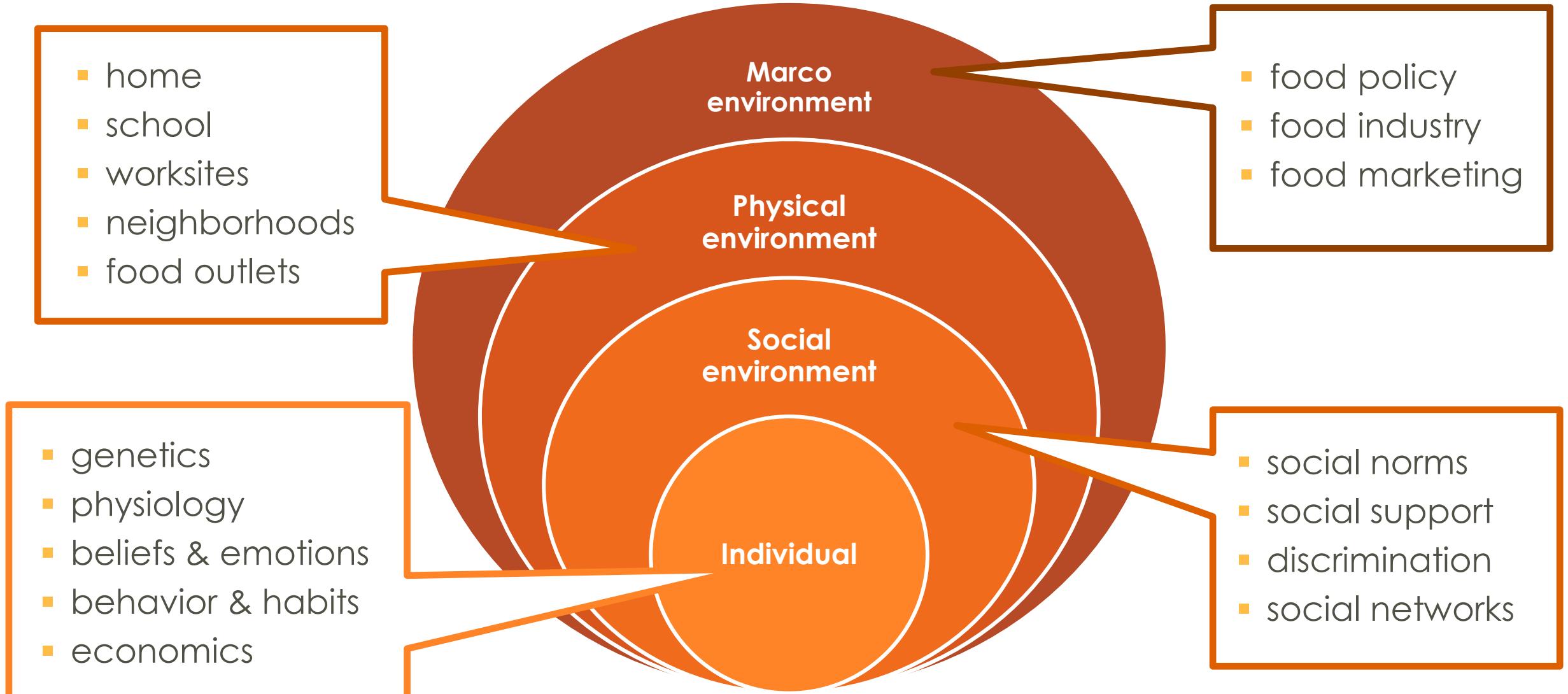
august 11 2021

social-ecological settings in
which people access &
consume food



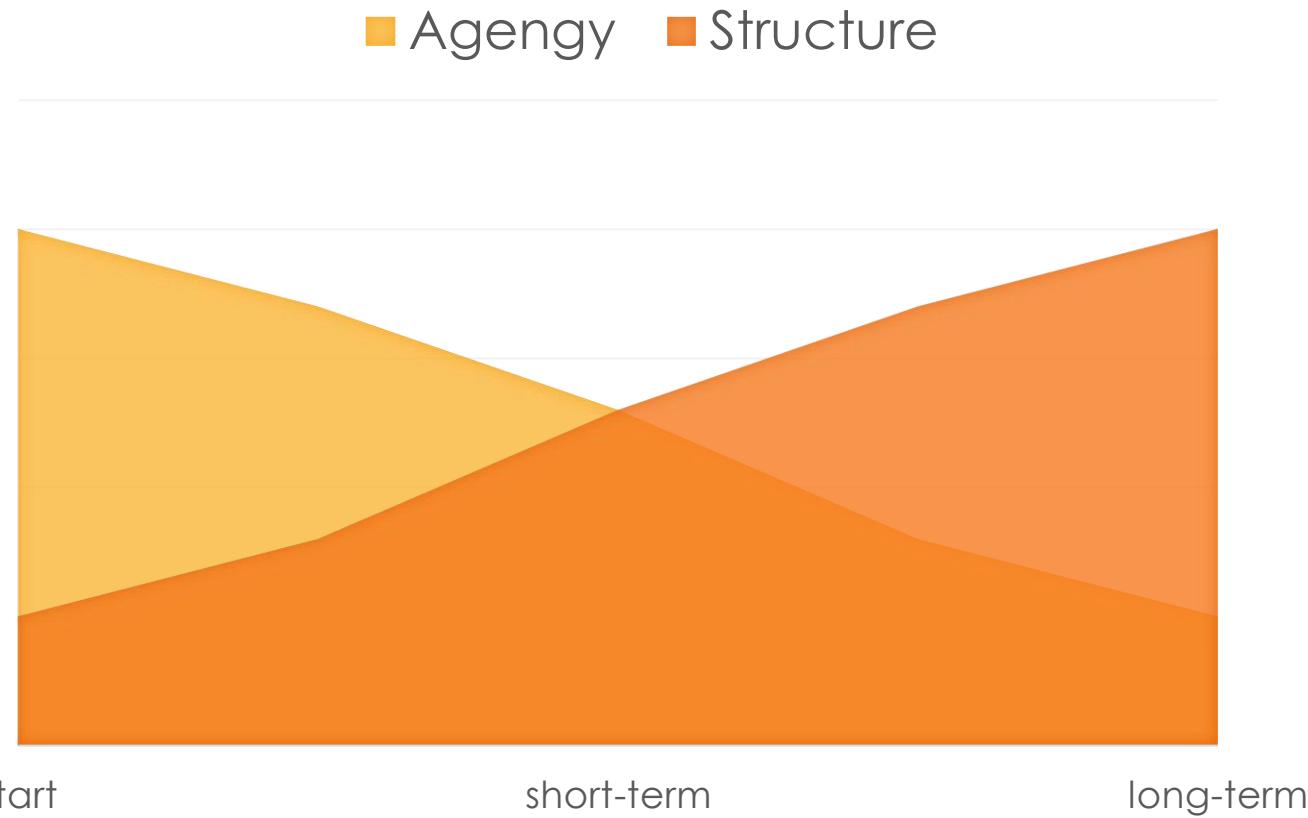
No conflicts to disclose

eating is shaped by ecological factors



Adapted from: Story, Kaphingst, Robinson-O'Brien, Glanz. (2008). Creating healthy food and eating environments: policy and environmental approaches. *Annu. Rev. Public Health*, 29, 253-272.

dietary change depends on agency & structure



short-term change: individual agency & choice

long-term change: structural (social & environmental) influences

social environments

Eating is a **social practice**.¹

“...social rules and resources enable or constrain food choices...



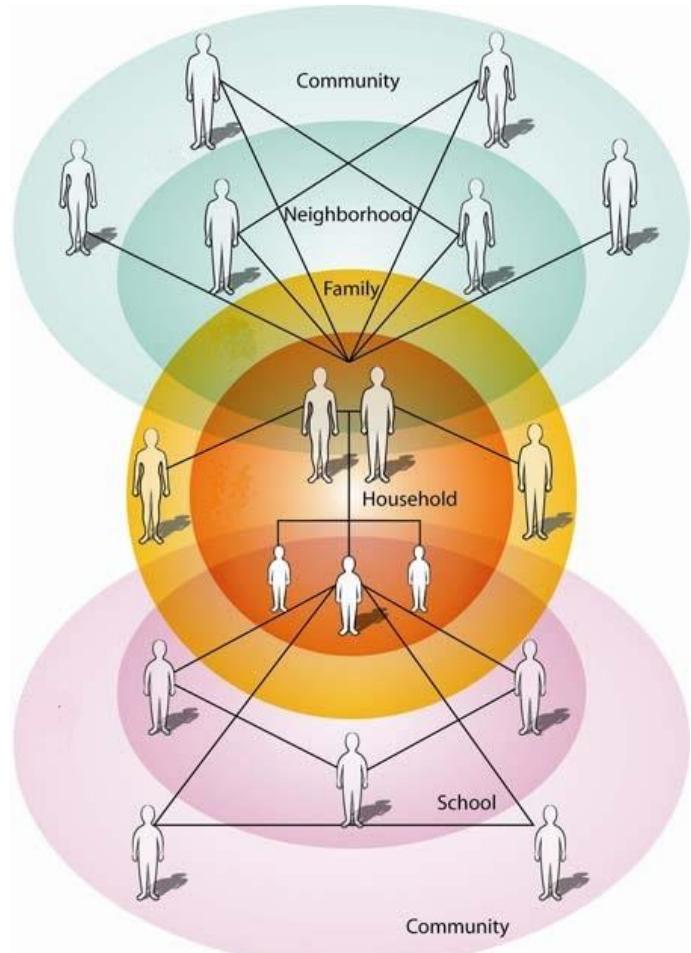
Health Matters. Obesity and the food environment.

¹ Delormier, Frohlich, Potvin (2009). Food and eating as social practice – understanding eating patterns as social phenomena and implications for public health. *Sociology of Health & Illness*, 31, 215-228.

who we *eat with*

We eat in **diverse settings**,
with **diverse eating partners**.

- more food away from home
- fewer family meals
- varied people we eat with in our social networks

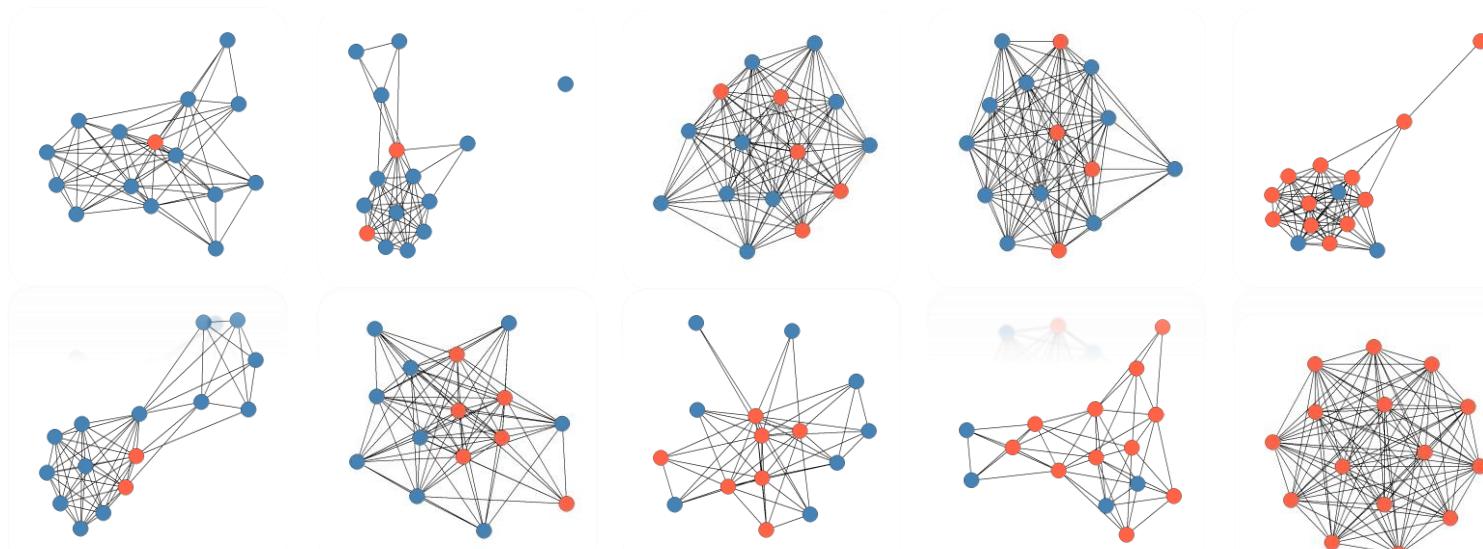


Koehly & Loscalzo, 2009

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≈ 25% of egonet

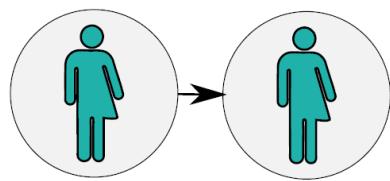
- nuclear family
- extended family
- friends and others

- eat with
- don't eat with

eating & social networks

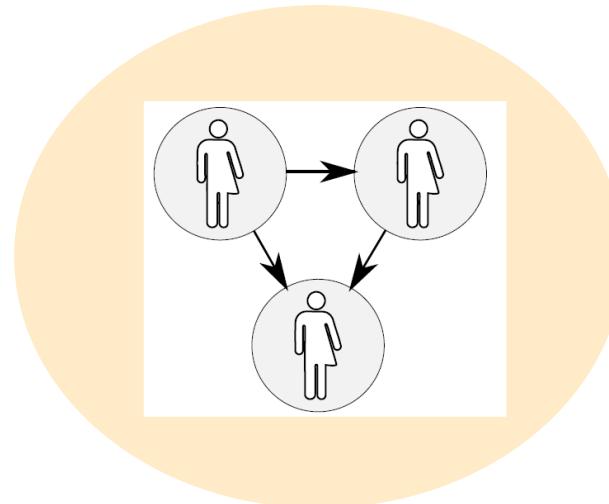
Nutritional health & networks: an **interdependent** system

- people '**select**' **social ties** with similar health risks (Centola 2011; de la Haye 2011; Schaefer et al. 2015; Valente 2009)



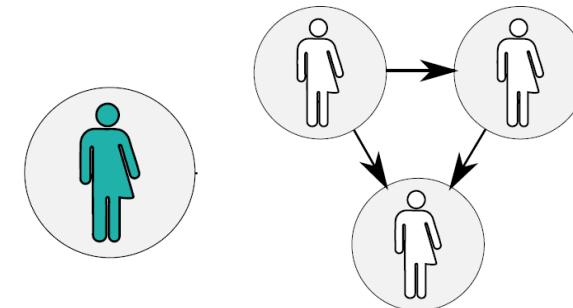
homophily

we connect with similar others



propinquity

we connect with people who are geographically close



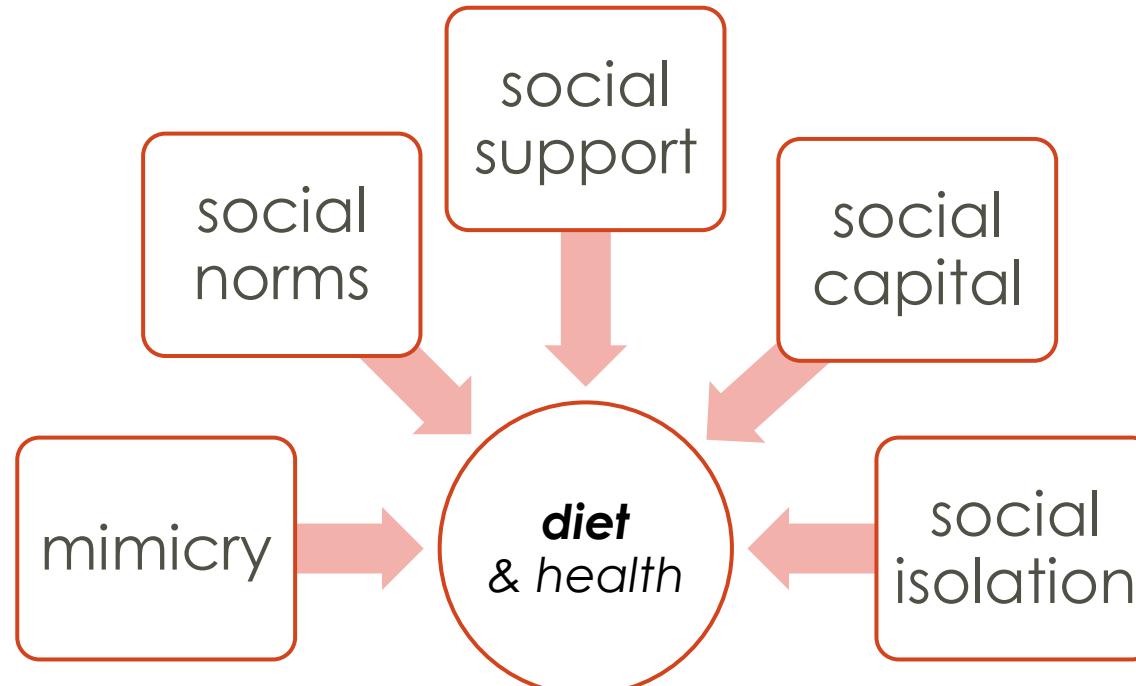
stigma

we exclude groups of people based on stigmatized traits

eating & social networks

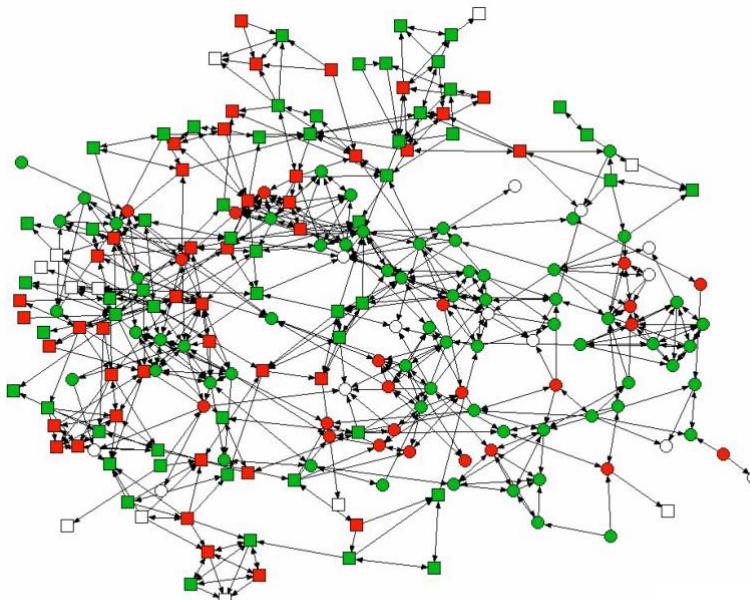
Nutritional health & networks: an interdependent system

- people '**select**' **social ties** with similar health risks (Centola 2011; de la Haye 2011; Schaefer et al. 2015; Valente 2009)
- social ties **influence** lifestyle behaviors [eating] and related disease (Aral & Nicolaides, 2017; de la Haye 2011; Hammond 2012; Simpkins 2011; Trogden 2008; Valente 2009; Zhang, de la Haye et al, 2018)

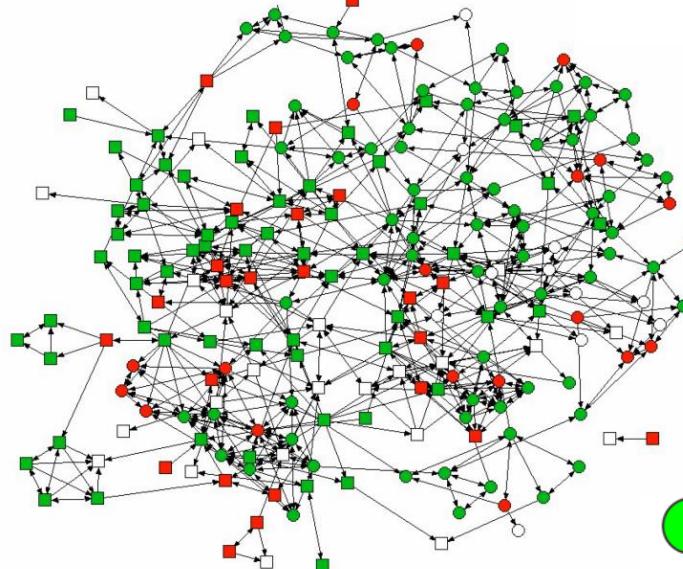


social network influences

Among adolescents, peer networks influence intake of low-nutrient energy-dense foods



Fall

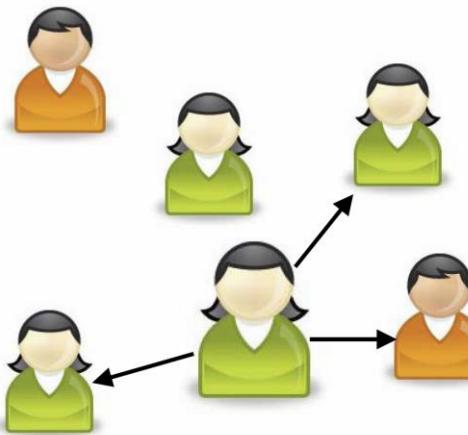


Spring

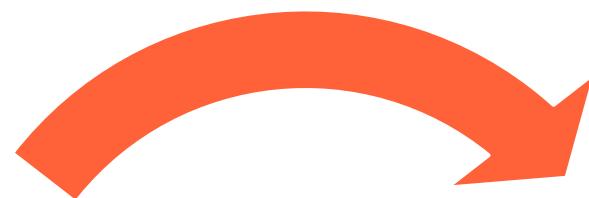


- low to moderate LNED food intake
- highest LNED food intake
- male
- female
- best friend nomination

social network dynamics



social
network



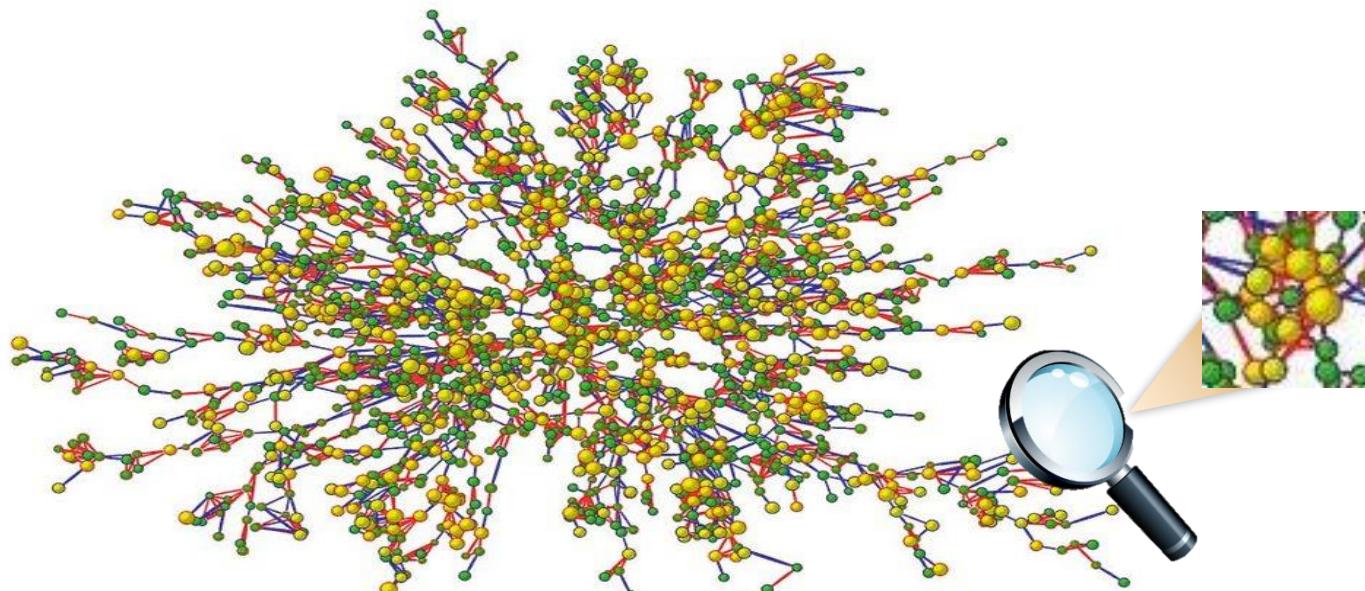
dietary
health



social network interventions

Segmentation: target at-risk social groups

- **Example:** peer and family-based interventions for group-level change

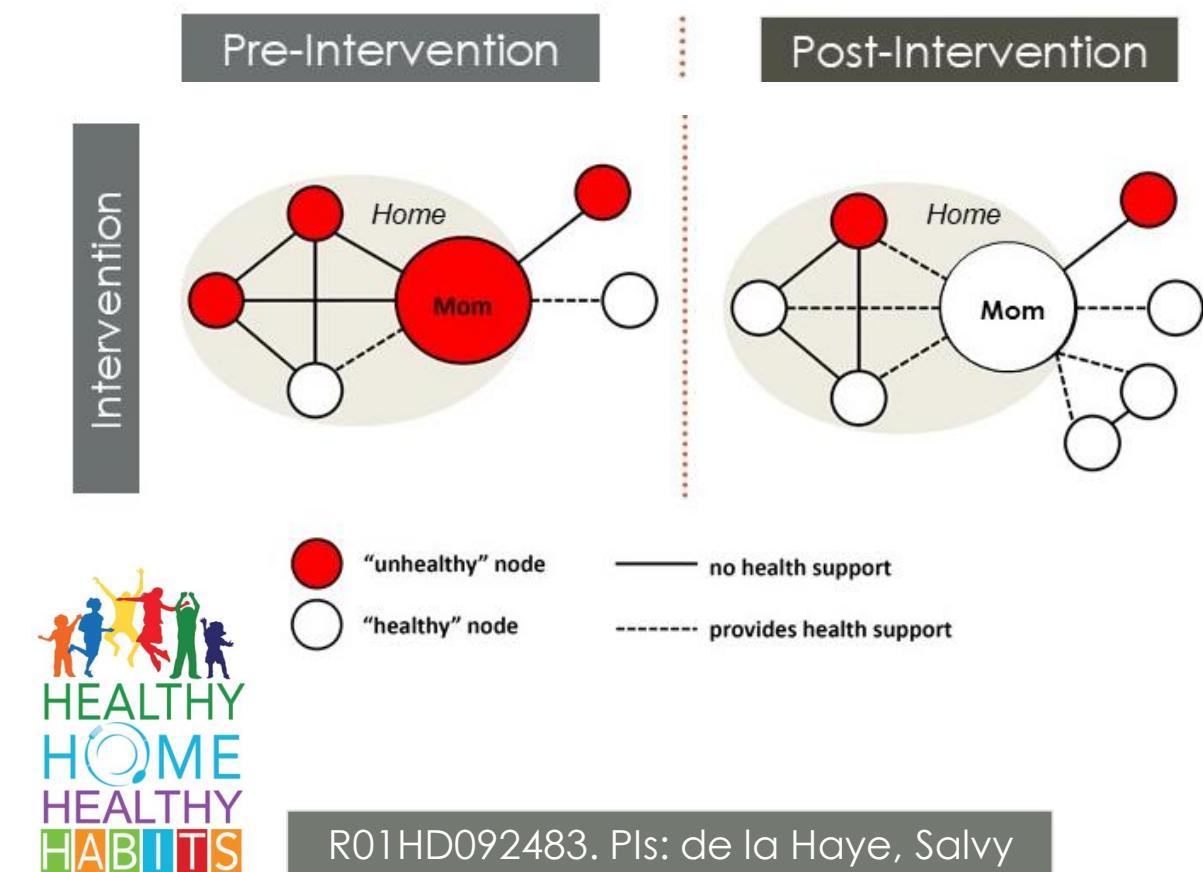
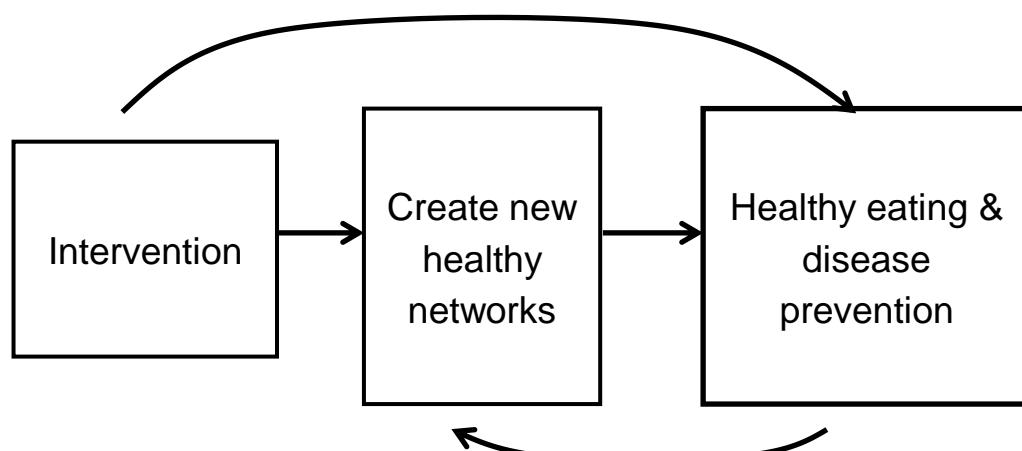


Christakis and Fowler, 2007

social network *interventions*

Alteration: Promote “healthy” social selection

- Example: build adjacent social networks that support healthy eating

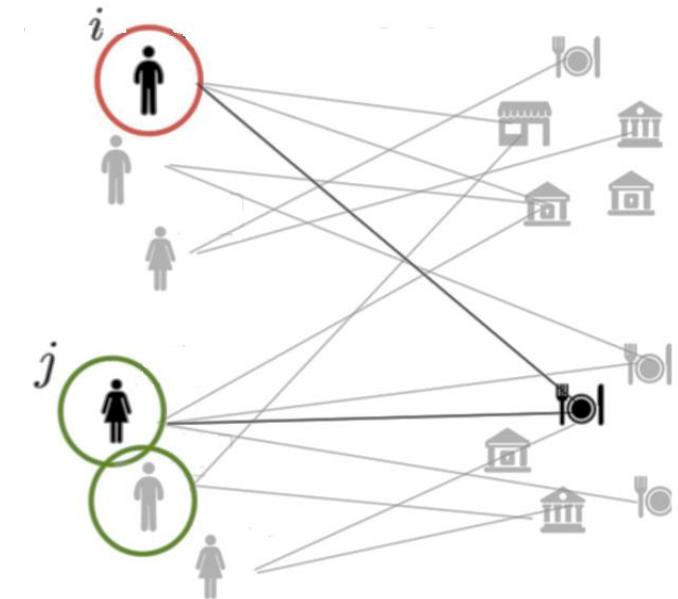
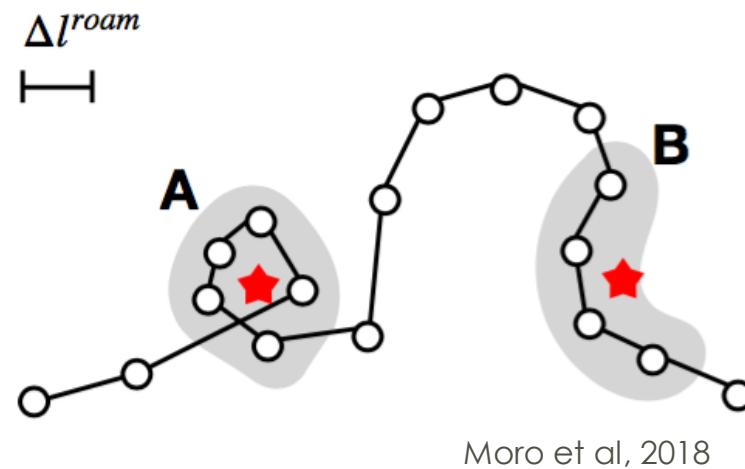


food & eating environments



Grid Magazine, 2009

food & eating environments

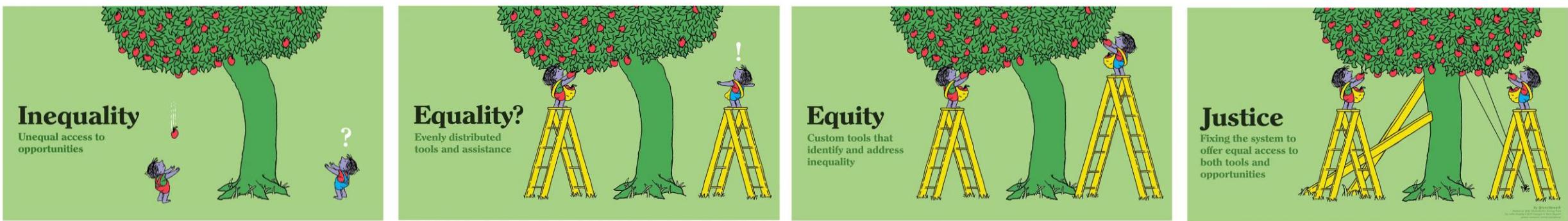


- big data from mobility traces
- patterns of exposure to **mobile food environments & visits to food outlets**

precision & personalized nutrition for all

Opportunities

- Use innovations in data, data science, & behavioral/social science to gain more ***precise insights into the social-ecological mechanisms*** that influence diet & nutrition
- Develop precision nutrition knowledge & interventions that will be ***effective, actionable, and equitable***



Tony Ruth, 2019

Kayla de la Haye, Ph.D.

Associate Professor of Population and
Public Health Sciences

Co-Director, Center for Applied Network Analysis

Co-Director, Research Development, SC CTSI

Keck School of Medicine, University of Southern California

delahaye@usc.edu

 @kayladelahaye

Keck School of Medicine of USC

Department of Population and
Public Health Sciences

Thank you.