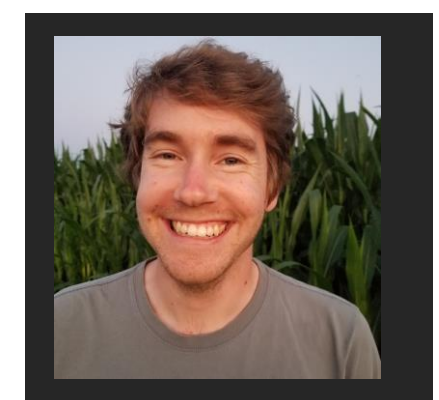


A Network Visualization of Sustainable Consumption Corridors



PRESENTER:

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WITH:

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BACKGROUND: The sustainable development and ecological economics communities have called for research into representing “sustainable consumption corridors,” which are intended to represent lifestyles at both the upper and lower bounds of sustainability. Here we present an intra-individual network conceptualization, and corresponding network visualization strategy, to capture and communicate the ways in which individuals experience need and satisfaction.

PROPOSED METHODOLOGY

1. Develop an interface for systematically collecting information about individual need and satisfaction (relationships between needs and satisfiers, perceived need and satisfaction, financial/environmental cost of satisfaction, etc.).
2. Represent needs and ‘satisfiers’ in a bipartite network structure.
3. Aggregate individual ‘need nets’ into a multi-layer network at the desired level of analysis (household, school, city, state, country, planet).
4. Identify patterns of unsatisfied need, and discover solutions by comparing networks from different regions of the world.

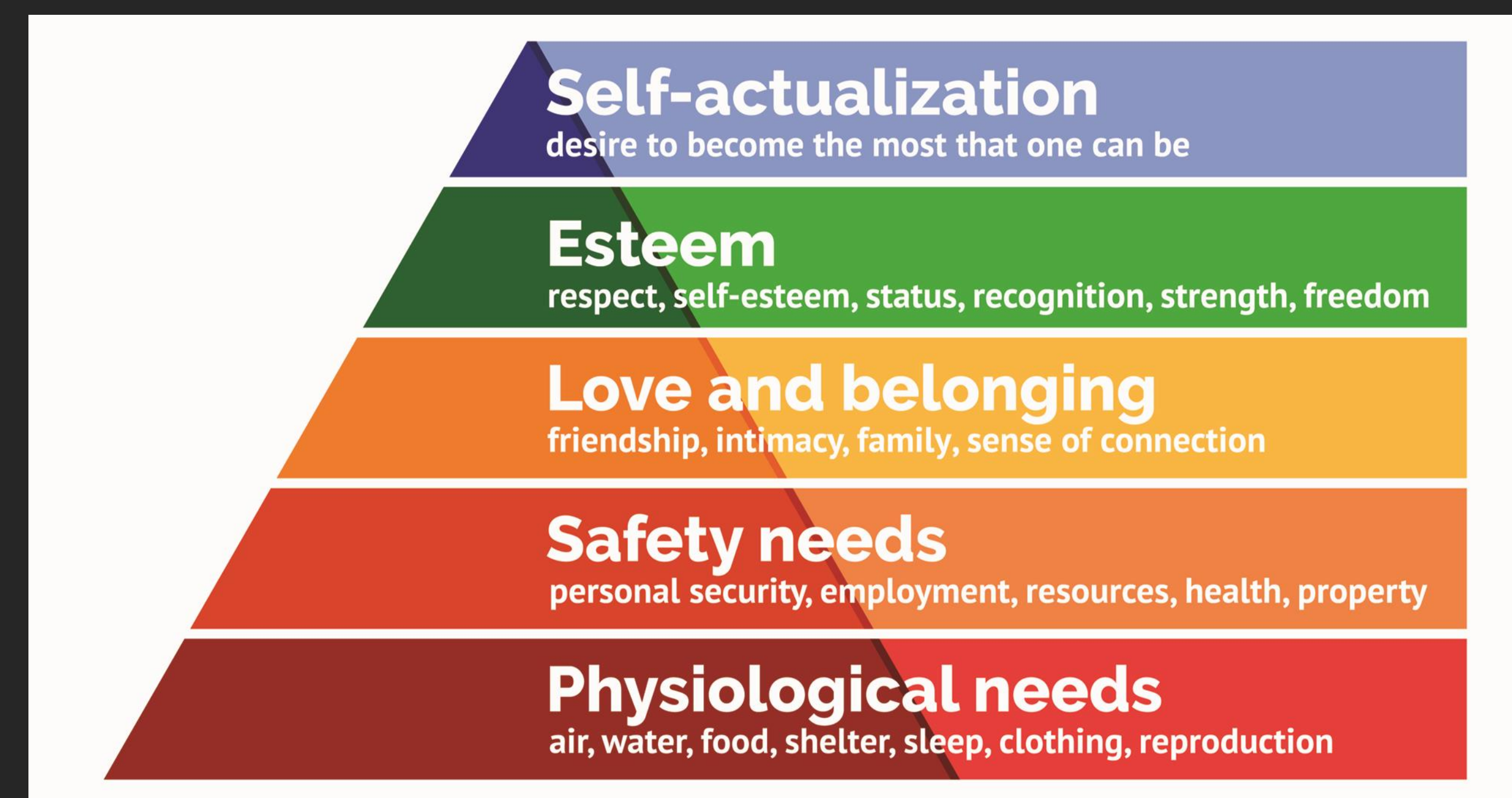
OTHER POTENTIAL USES

- Improve need-literacy in a society, providing a system for reflection on life improvement and behavior change to better satisfy individual need in a community.
- Map out dependencies between organizational membership and need satisfaction.
- Unify existing theories of need with empirical data

How can we represent and visualize systems of need and satisfaction?

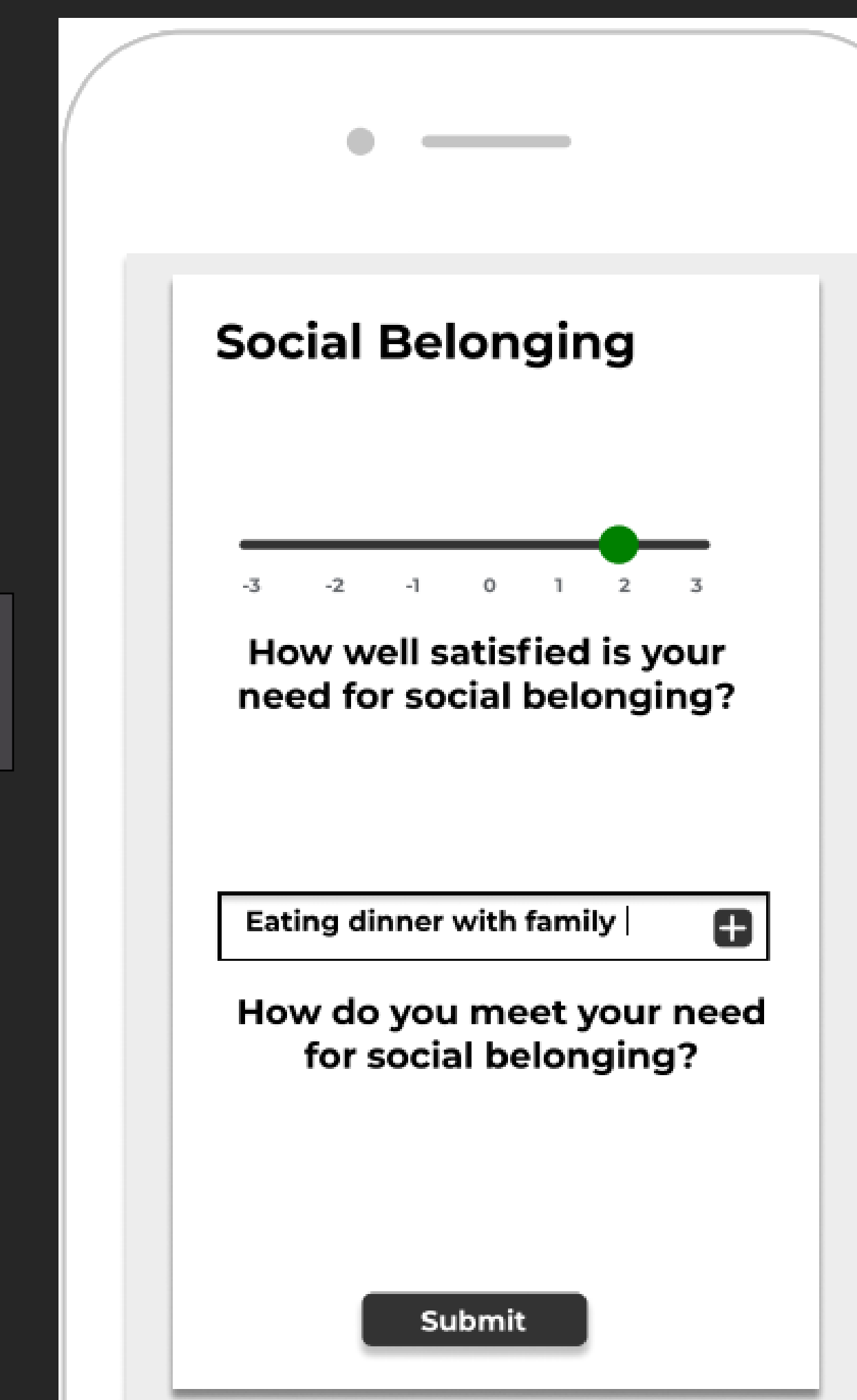
Combine three elements:

1) Psychological theories of need



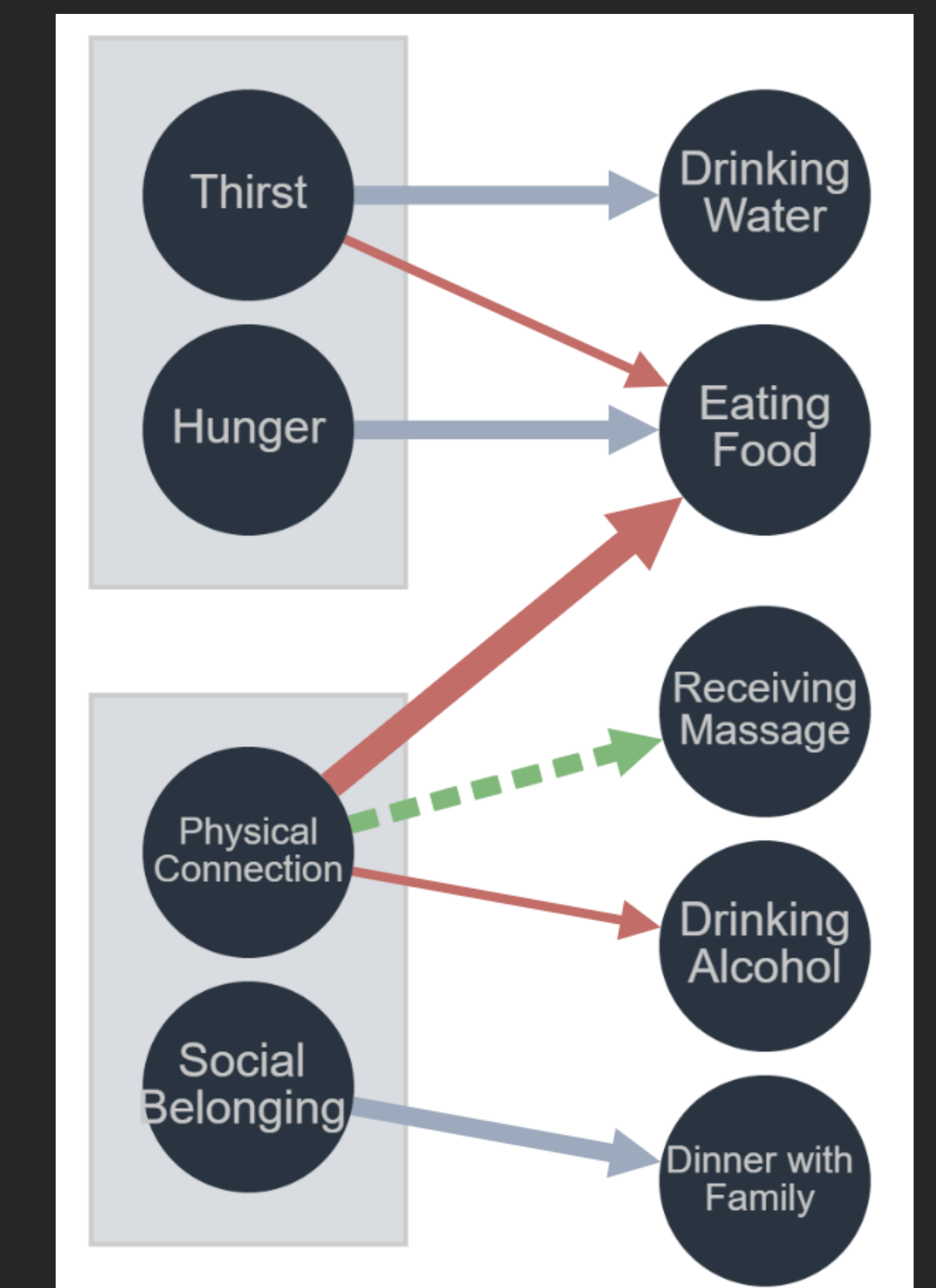
Maslow's Hierarchy of Needs (one of many theories of need)

2) Personal Visual Analytics Interfaces



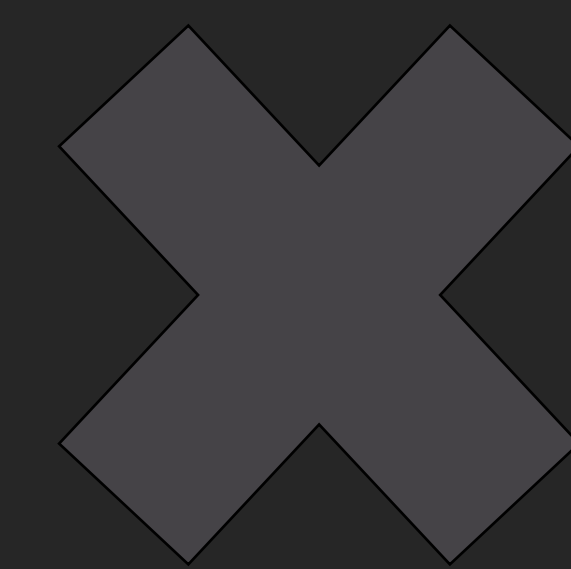
Application for experience sampling

3) Intra-individual ego network data visualizations

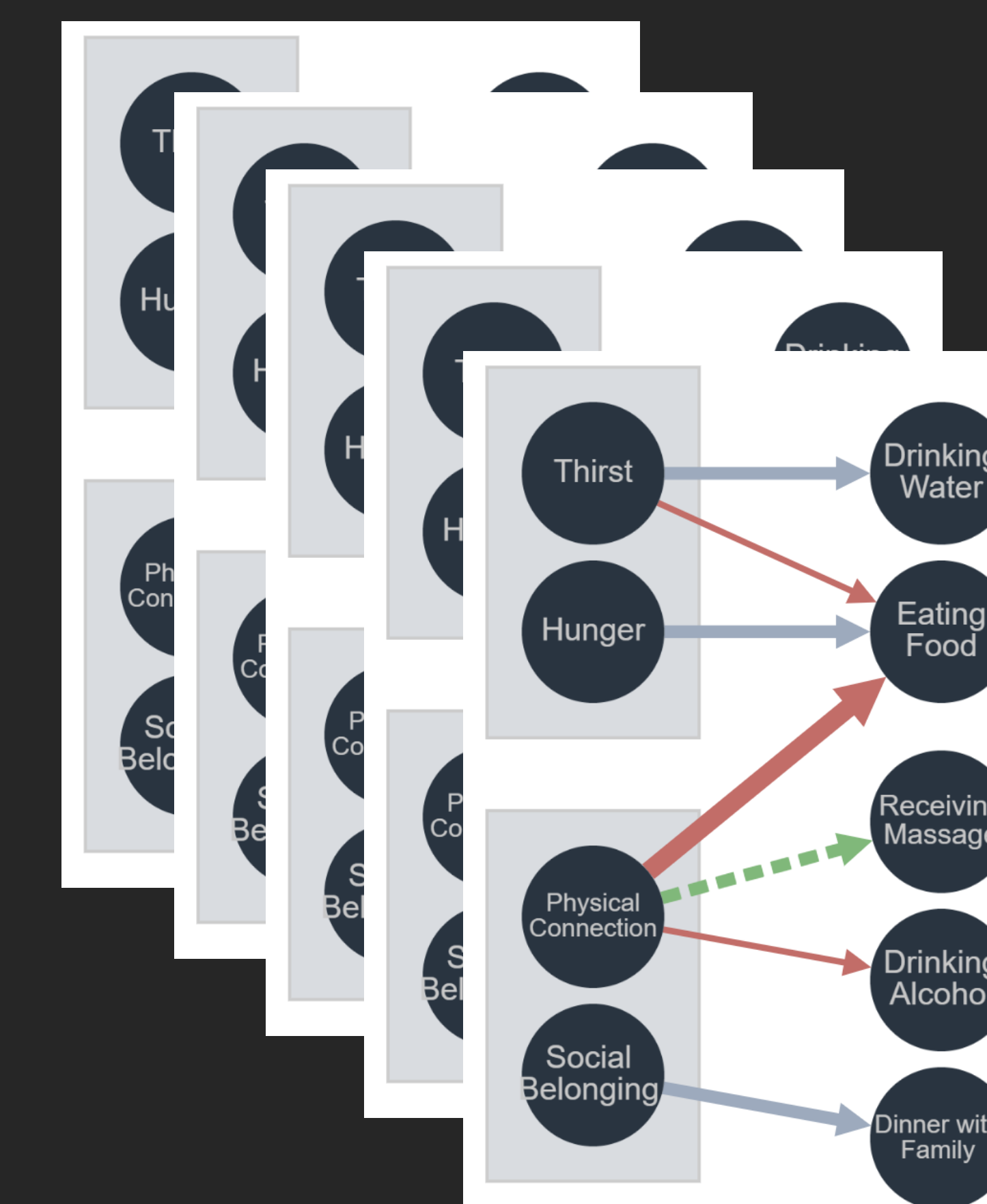


Bipartite network structure enables aggregation into a multi-layer network

And scale!



Collect need and satisfaction information from diverse groups



Aggregate network layers and analyze to improve policy

