

FLORIDA ATLANTIC UNIVERSITY

Complexity Theory & the Importance of Networks

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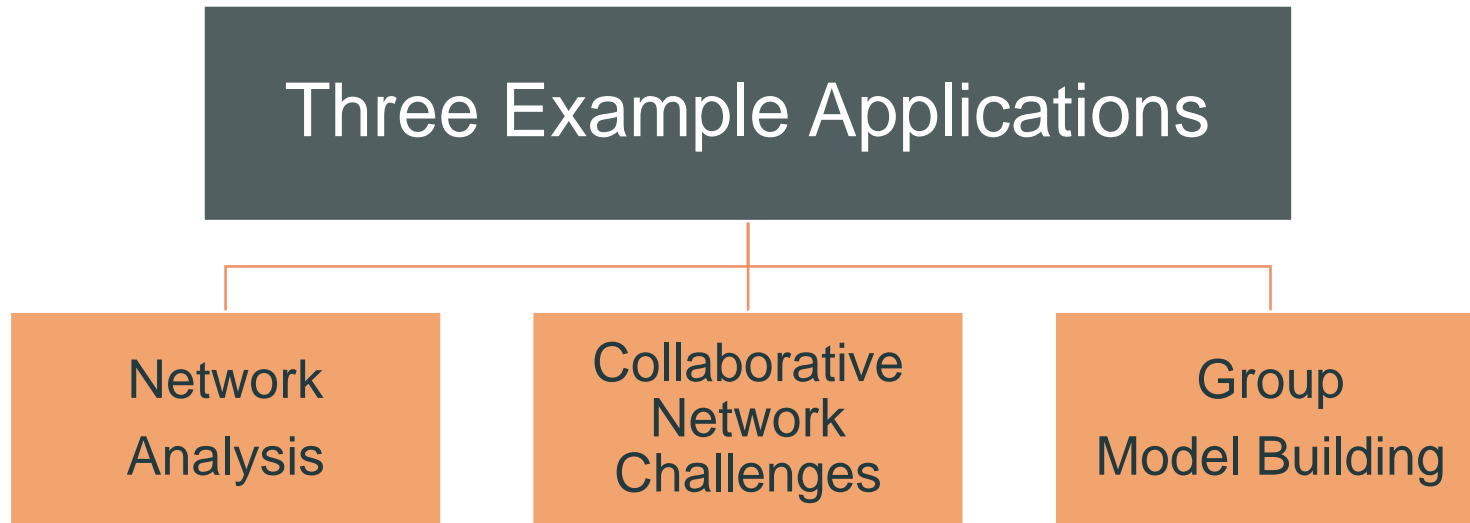
Agenda

- My Background
- The Role of Complexity Theory and Network Analysis for Child Welfare Practice



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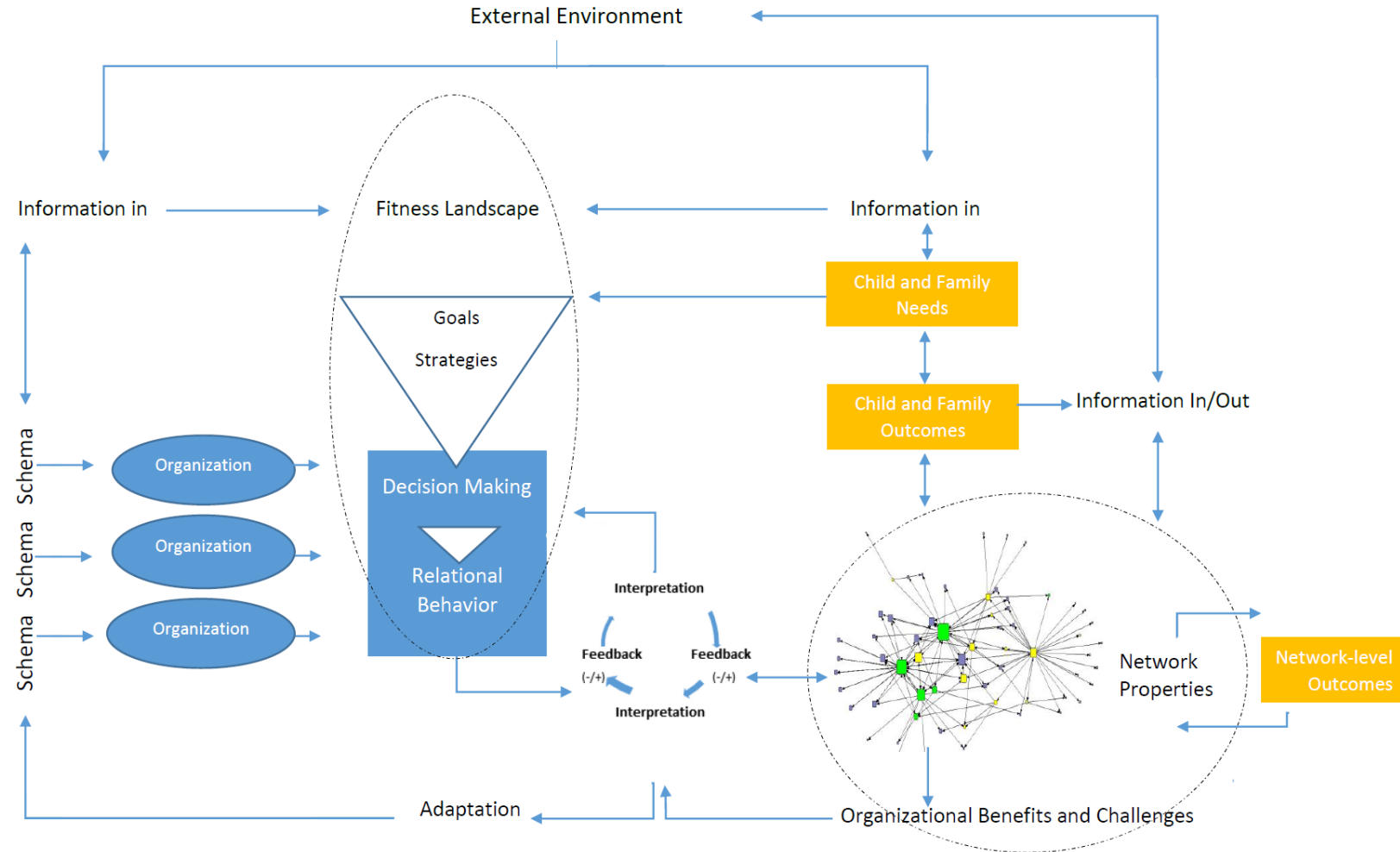
A Combined Frame...

Complexity Theory Key Terms

- 1) Non-linearity
- 2) Schema
- 3) Fitness Landscape
- 4) Feedback
- 5) Self-organization

Network Analysis Key Terms

- 1) Nodes or Agents
- 2) Density
- 3) Reciprocity
- 4) Centralization
- 5) Centrality (i.e., degree, betweenness, eigen vector)



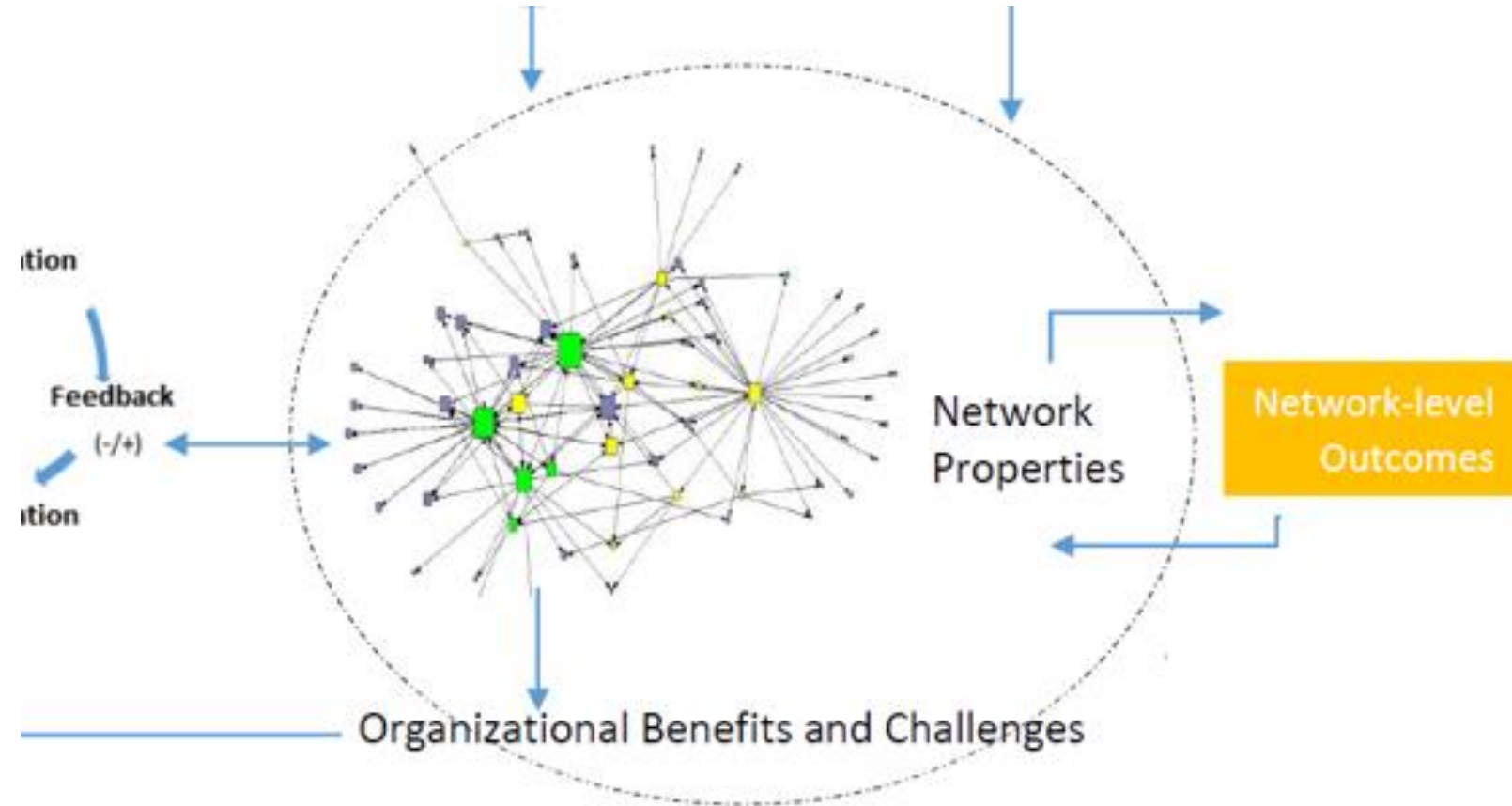
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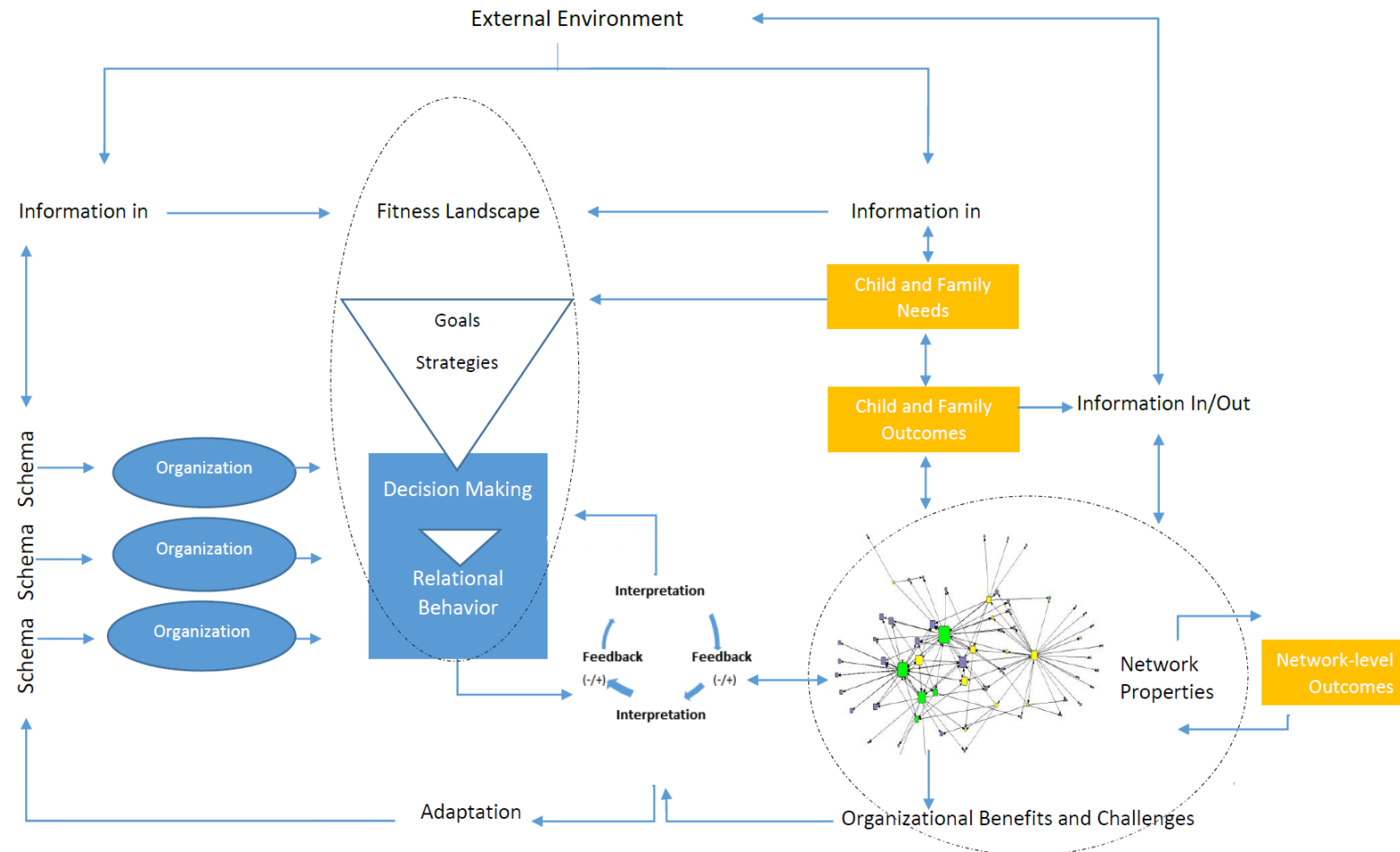
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Applications of a Combined Framework in Child Welfare

“Why similar policies or interventions may have different outcomes in different community contexts with varying network structures and dynamics.”

- Network properties and child and family outcomes
- Knowledge transfer processes
- Evidence-based practice adoption
- Positionality of specific organizations
- Feedback mechanisms and adaptation



Example Application #1 – Mapping the Interorganizational Landscape

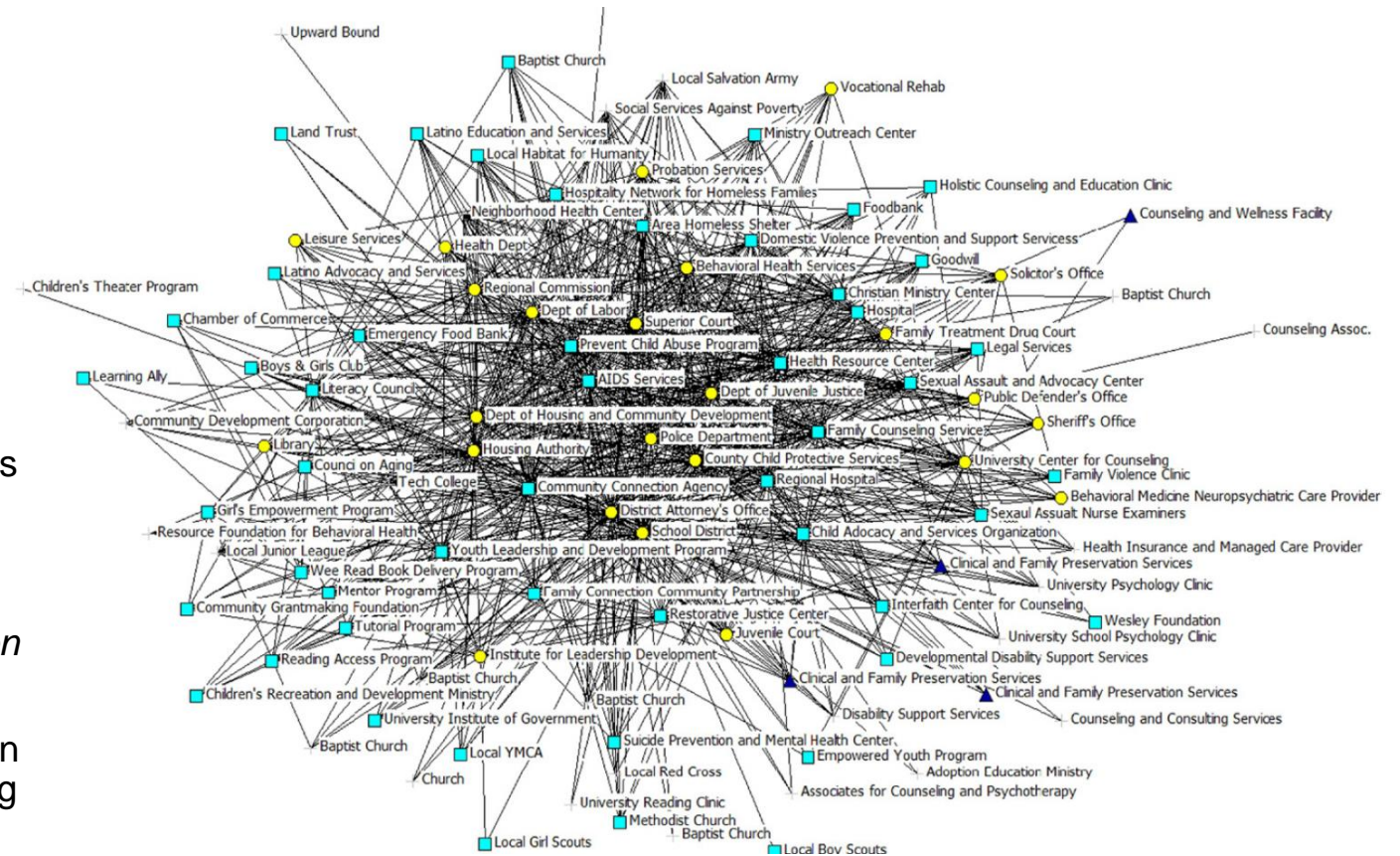
"By applying network analysis theory and methods, the structure of relationships that emerges is definable, and can be examined through the study of a network's properties."

Boundary spanning → 105 organizations

- Quantifying behavioral interconnectivity in child welfare practice offers an empirical measure of what is otherwise largely assumed

Example Findings of Active Ties

- Referral* ties (2051) 3x greater than *Case Coordination* ties (716)
- Fewest organizations ($n=74$ or 70% of organizations in the network) interacted around fundraising – indicating that none of the 11 activities occur in isolation, but rather with high interdependence



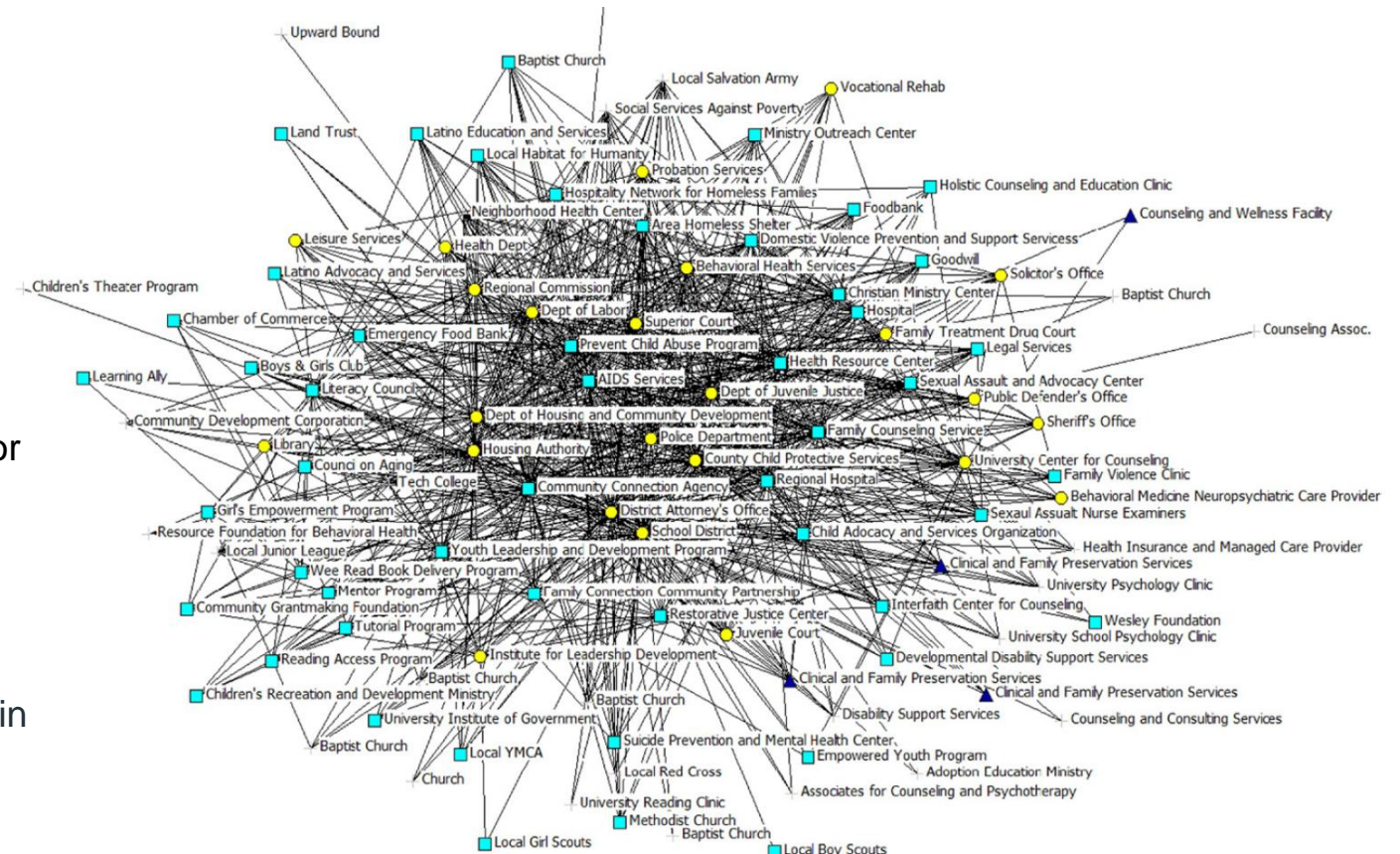
Example Application #1 – Mapping the Interorganizational Landscape

The Scale of Referral Activity Suggests:

- ☐ Referrals may be predominately sent and received without comparable means of other coordination
- ☐ Intense reliance on the resources and services of others
- ☐ Multifaceted needs families experience
- ☐ Parsing out what it is about interventions that work or fail may **not** be achievable in singular program evaluations

Organization-level: Degree of external engagement

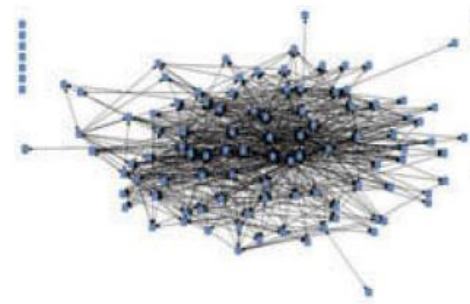
- Example: One singular organization participated in referrals with 86 different organizations; maintained 58 case coordination relationships
- Implications for understanding transaction costs and coordination; worker burden and turnover; equipping new staff



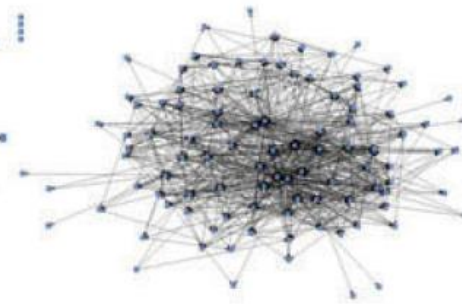
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Comparing Measures of Cohesion

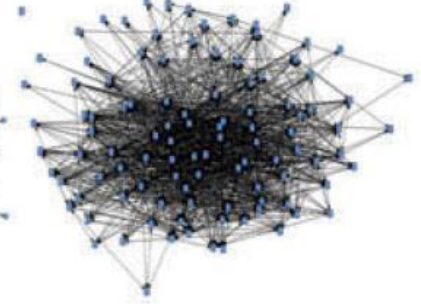
- **Prevention activities:** community education/awareness, advocacy, fundraising, and sharing of resources and joint programs enacted for prevention purposes
- **Service delivery activities:** sending and receiving referrals, case coordination, shared training, evaluation, and shared resources and joint programs for service delivery



Prevention Network
Isolates = 7; Centralization = .247; Density = .092; Avg. Degree = 10.



Service Delivery (without referrals) Network
Isolates = 4; Centralization = .464; Density = .108. Avg. Degree = 11.

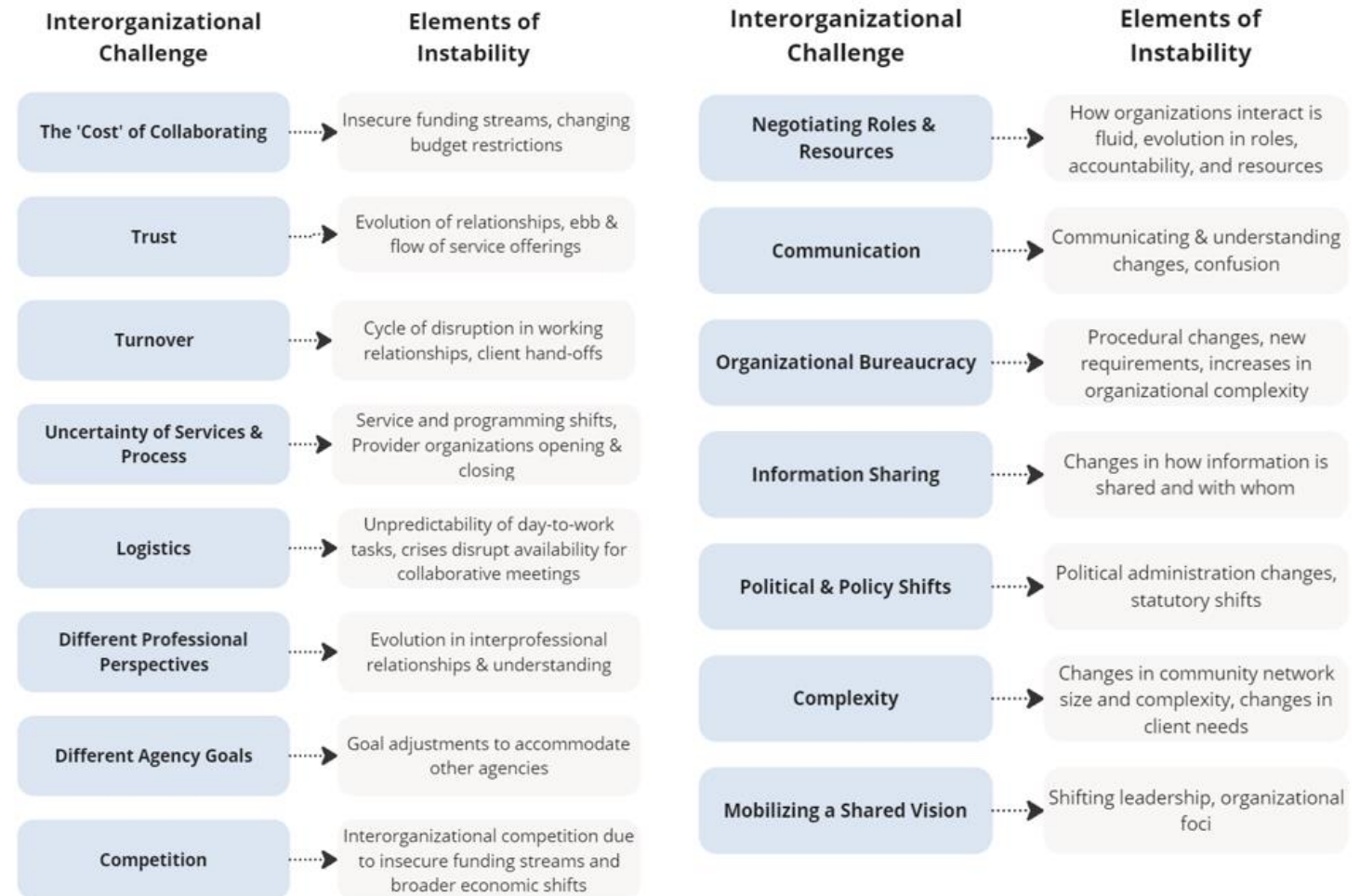


Service Delivery Network
Isolates = 1; Centralization = .509; Density = .217. Avg. Degree = 23



Example Application # 2 – Common Thread of Instability within Interorganizational Challenges

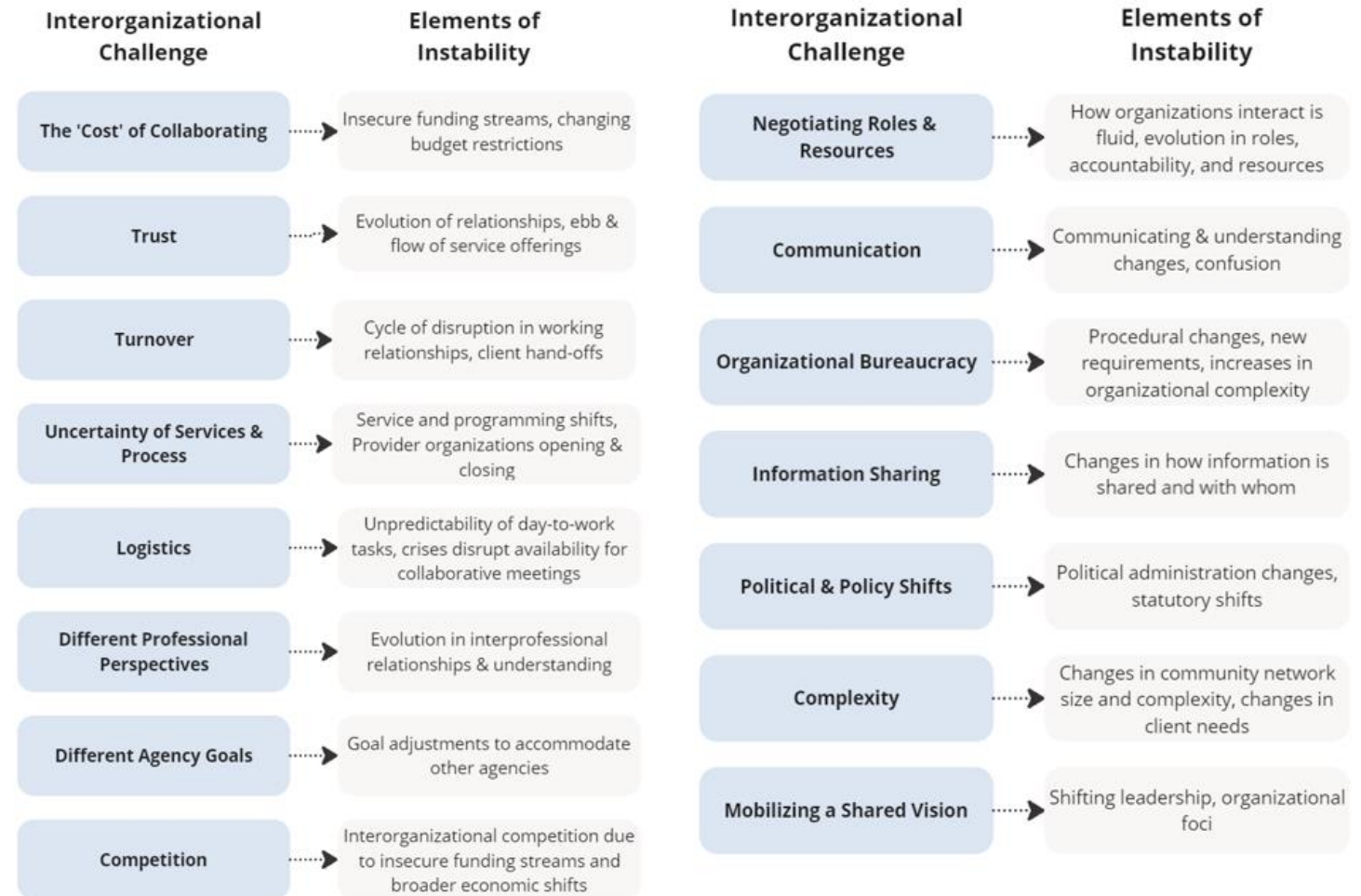
Key Finding #1: Challenges are ***not*** constants that can be understood in a moment in time



Example Application # 2 – Common Thread of Instability within Interorganizational Challenges

Key Finding #1: Challenges are ***not*** constants that can be understood in a moment in time

- *Trust can be developed and then lost*
- *Awareness of community resources can be achieved today and outdated tomorrow*
- *New policies upend previously established relationships and procedures*
- *Motivation and mobilization to push collaborative initiatives forward waxes and wanes*
- *Financial resources in one fiscal year do not equate to long-term planning or implementation....*

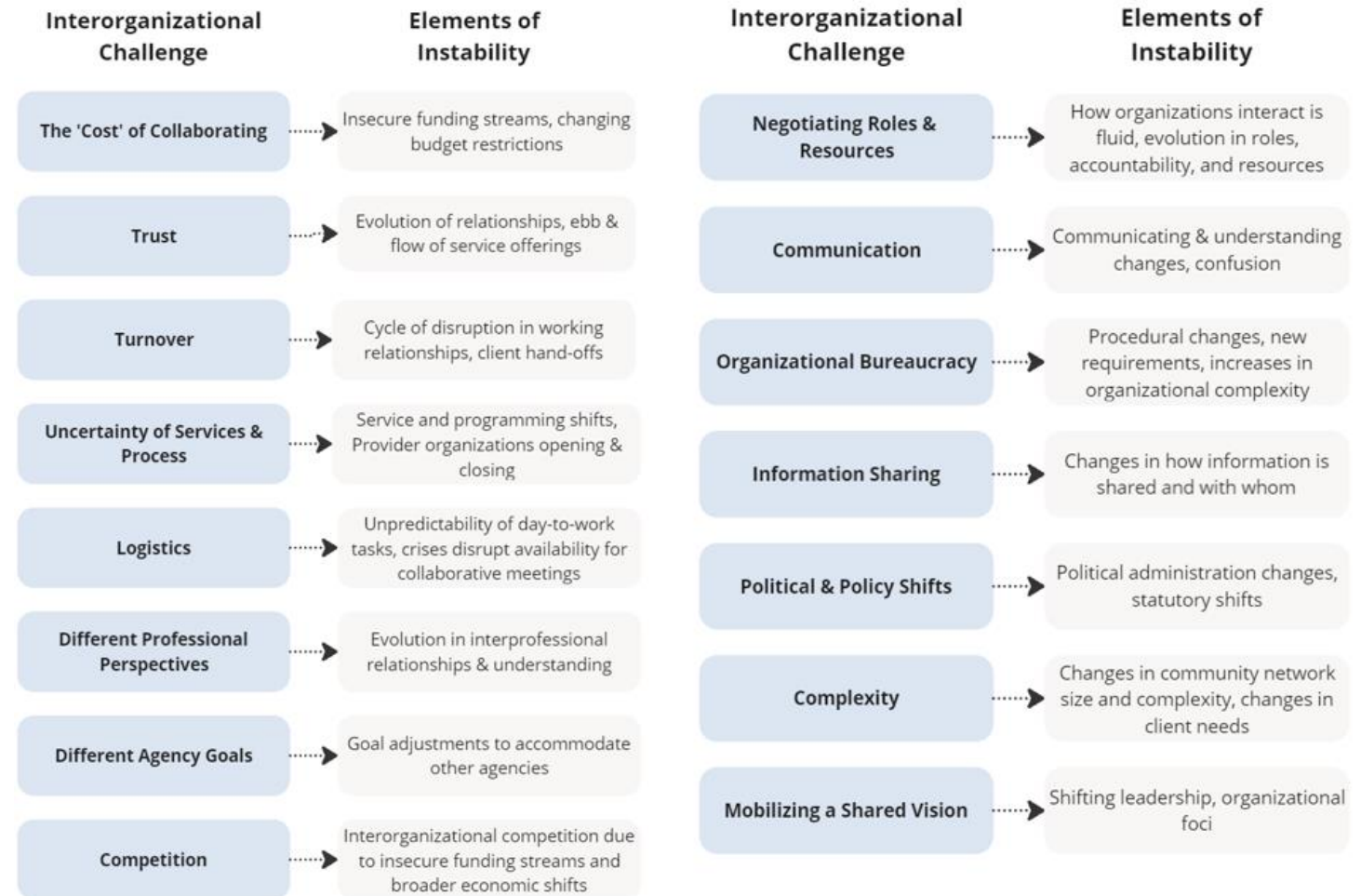


Example Application # 2 – Common Thread of Instability within Interorganizational Challenges

“Each of our agency’s policy decisions are ever-changing and moving. We need to have a county protocol that kind of agrees to work together in the midst of all those changes (P42).”

Challenges require persistent and incremental re-evaluation and re-response, for example:

- Policies and practices that anticipate instability
- Designing a network relationships and governance structures that are flexible and anticipate change
- Workforce skilled in managing change
- Tracking adaptability as a key performance measure



Example Application #3 – Group Model Building

Prevention System Capacity Project

Partners: ChildNet, Palm Beach County (PBC) Community Alliance, PBC Department of Children and Families, Office of Criminal Conflict & Civil Regional Counsel 4th, PBC Children's Service Council PBC, Children's Home Society, Friends of Foster Children, & PBC Youth Services Council

Florida Atlantic University, Sandler Social
Work



Example Application #3 – Group Model Building

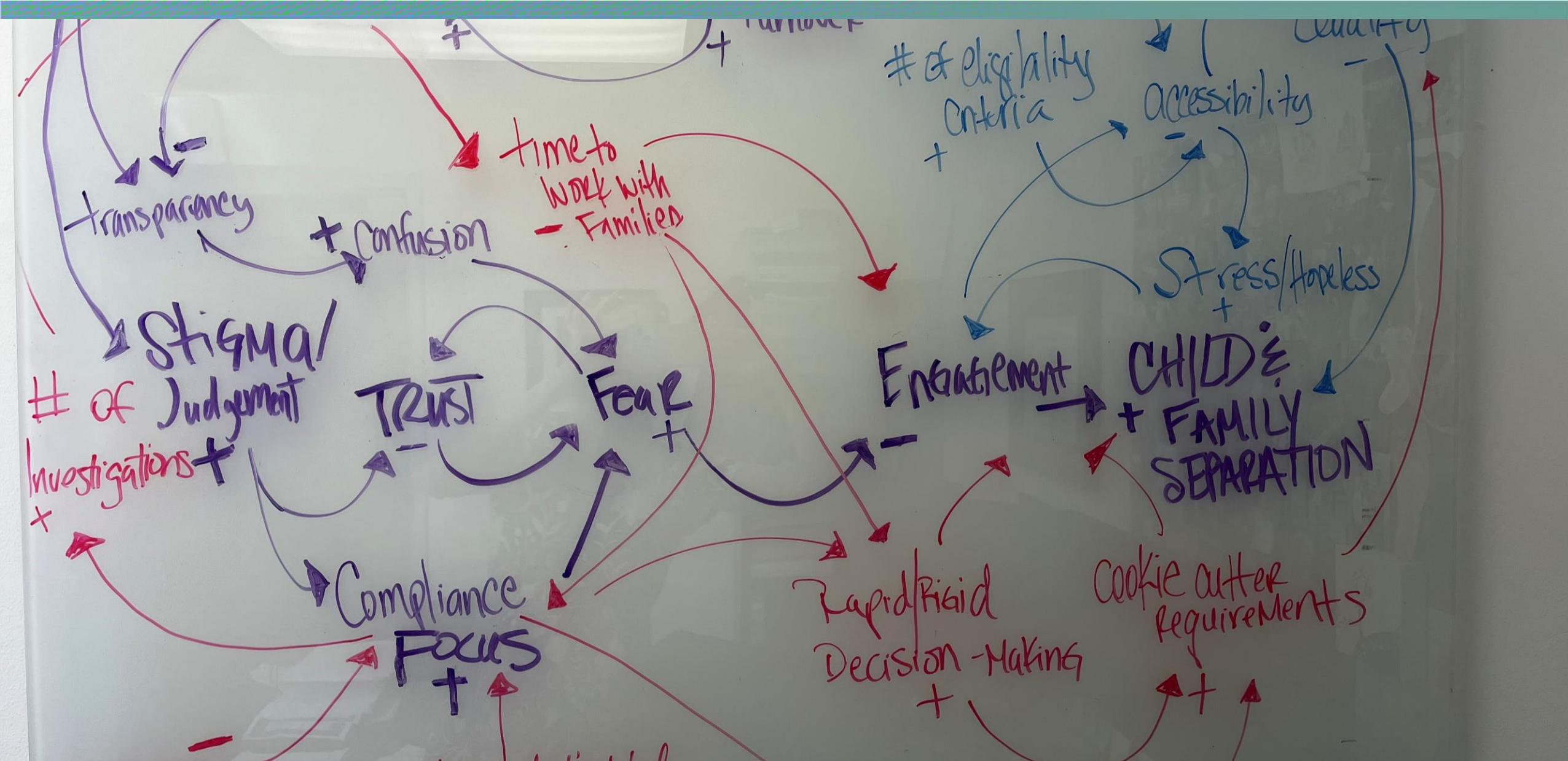
- Objectives:
 - (1) understand what is working and not working for families and service system partners
 - (2) advance a community-university research partnership co-designed with families
 - (3) generate actionable research-supported recommendations for local planning and decision-making
- Methods & Sample:
 - Group Model Building Method
 - Two parents with lived-experience, two relative caregivers, three frontline professionals (i.e., one case worker, one attorney, and one social work parent-advocate)



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<https://en.wikibooks.org/wiki/Scriptapedia>
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Group's Causal Loop Diagram from Sessions



References, Questions, & Ideas

- Colvin, M. L. (2017). Mapping the inter-organizational landscape of child maltreatment prevention and service delivery: A network analysis. *Children and Youth Services Review*, 73, 352–359.
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THANK YOU!

