Egocentric Networks: An Innovative Method for Assessing Youth Mental Health Support Networks in Systems of Care

Workshop Presentation on Saturday, July 28 @ 8:30 – 10:00am

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Today’s Agenda

• What is social network analysis?
• Network activity
• What are egocentric networks?
• Describe network survey development
• Discuss survey implementation
• How to handle egocentric network data
• Question and answer session
<table>
<thead>
<tr>
<th>Role</th>
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<tbody>
<tr>
<td>Direct Service Provider</td>
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<tr>
<td>Family Member</td>
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<tr>
<td>Youth/Young Adult</td>
</tr>
<tr>
<td>Mental Health Agency Representative</td>
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<tr>
<td>Child Welfare Agency Representative</td>
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<tr>
<td>Juvenile Justice Agency Representative</td>
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<tr>
<td>School/Education Representative</td>
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<tr>
<td>Evaluator/Researcher</td>
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<td>Other Stakeholder</td>
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<tr>
<td>What do you hope to get out of this workshop? (choose one)</td>
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<td>---------------------------------------------------------</td>
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<tr>
<td>Learn more about what network analysis is</td>
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<tr>
<td>Learn how to apply network analysis to my area of focus</td>
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<tr>
<td>Learn how to do network analysis (collect and analyze data)</td>
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<tr>
<td>Learn how network analysis can add value to health services research and evaluation</td>
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• Define egocentric social networks
• Explain how ego networks can be used to assess the support networks of youth receiving mental health services
• Describe the process for collecting ego network data
• Summarize practical strategies for collaborating and implementing the survey with stakeholders
• Discuss concrete ways to interpret and use ego network data
WHY FOCUS ON NETWORKS?
Network are everywhere

Trade Relations Among Nations

(Borgati 2017)
Networks are everywhere

HOW ONE COMPANY MAPPED ITS PROBLEMS – AND FIXED THEM
Who do you go to in order to get your work done? To find out, this FORTUNE 500 company asked 70 key employees, then mapped the results. The first chart shows that people in different business segments were not talking directly to one another but mostly to management, causing bottlenecks. The chart on the bottom shows information flowing more freely after the company took steps to encourage collaboration.

(Reingold and Yang, 2007)
Framingham Heart Study

(Christakis and Fowler, 2007)
A FUN NETWORK ACTIVITY
WHAT IS AN EGO NETWORK?
Social network analysis is an innovative and powerful approach for studying relationships of all kinds.

**Egocentric** network approaches offer a way of understanding networks from the perspective of one focal entity – such as a youth, young adult, or caregiver – and their reports on their immediate relationships.
Ego Networks

- A visual and mathematical way to understand the structure, function, and composition of network ties around an individual.

An ego network consists of:
- A focal node (ego)
- The nodes ego is connected to the alters
- Ties among the alters
Steps for collecting egocentric Network data

- Select sample of egos (i.e., index persons) from population
- Elicit alters from each ego (name generator)
- Ask ego about alters
  - Name interpreter
  - Attributes of each alter, such as gender, age
  - Relationship to each alter – types of tie to them (family, friend, someone to go to movies with, etc.)
- Ask ego about ties among the alters
  - Name inter-relator
  - Does your mother know your friend John?
Why Use an Egocentric Network Approach?

• Lets you ask about a large number of relations
  • Data can be very rich in terms of relational multiplexity

• Allows surveys to be anonymous and respondents are not required to identify alters with real names

• Quick, easy to administer, captures many social ties and many alters

• Respondents enjoy talking about people who matter to them
Egocentric Network Example

Social Networks and Patient Health Outcomes

(Dhand et al., 2016)
The CMHI National Evaluation
The National Evaluation for the Children’s Mental Health Initiative (CMHI) is funded by the Substance Abuse and Mental Health Services Administration (SAMHSA) for all System of Care (SOC) Expansion and Sustainability grants.

We are funded by SAMHSA to be the national evaluators for those grantees.

One of our goals is to describe how grantees are implementing and expanding systems of care at multiple levels.
• We are evaluating 56 grantees from locations all over the country
• One role grantees have is to help facilitate services for children, youth and young adults who have behavioral health concerns
• As such, one of the components of the national evaluation is the Child and Family Outcome Study
• We are collecting client-level outcomes for all youth and young adults who are receiving services for mental health conditions within each of the 56 grantee sites
Currently we are collecting these measures of all young people and their caregivers who are receiving services:

- **Pediatric Symptom Checklist** - assesses youth psychiatric symptom severity

- **Columbia Impairment Scale** - assesses psychosocial functioning

- **Caregiver Strain Questionnaire** – assesses the extent to which caregivers are affected by the special demands associated with caring for a child with emotional and behavioral problems
What is the Child and Family Support Survey?

• We have introduced a new survey to the Child and Family tools

• An 11-item “ego-centric” network survey

• The purpose is to assess the relationships between youth/young adults and members of their support team within the system of care (SOC)
What is the Child and Family Support Survey?

- **Youth and young adults** generate (up to 10) names of the most important people involved in providing them with support and/or mental services.

- **Caregivers** generate (up to 10) names of who they think are the most important people involved in providing the youth with support and/or mental health services.
Survey has 11 questions about the support people named by the youth/caregiver

1. **Primary relationship** with him/her?
2. **Travel time** to see him/her?
3. How **frequently** interact (e.g., communicate, visit)?
4. **Types of support** received?
5. Degree of **trust** with him/her?
6. How much of a **positive impact** do you think he/she has?
7. How much **influence** does he/she have on decisions about [your/your child’s] mental health services and supports?

**Among those named:**
8. How well do they work together to meet [your/your child’s] mental health needs?
9. Who works together particularly well to ...?
10. Who do you wish worked together more effectively?
11. Anything else you wish to tell us about [your/your child’s] mental health support system?
Who Completes the Child and Family Support Survey?

- Youth age 11-17
- Caregivers of youth age 11-17
- Young Adults age 18-26
• The purpose is to test out the survey with youth, young adults and families receiving mental health services

• The goal of the pilot testing is to improve the process for data collection and data entry
Administered to any youth, young adults and caregivers receiving services (within the relevant age ranges)

The pilot testing process lasted for approximately 3 months

After the pilot testing process ends, we will incorporate any refinements to the process and if successful, roll out the Support Survey to all grantees
Ways we worked with Key Stakeholders to Improve the Process

• Scheduled a formal training with all pilot study sites to explain the tool, the process, and their role

• Scheduled collaborative meetings with grantees to elicit interim feedback on how the administration was going

• Noted areas of confusion, challenges to administration, and other barriers to implementation

• Used their feedback to identify resources and training materials that would help refine the process
<table>
<thead>
<tr>
<th>Experience</th>
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<tbody>
<tr>
<td>Implemented (designed/administered) before</td>
</tr>
<tr>
<td>Participated in a survey before</td>
</tr>
<tr>
<td>Do not have previous experience</td>
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SURVEY IMPLEMENTATION
• Examples of different ways to collect ego network data:
  • In-person interviews
  • Paper pencil surveys
  • Web-based surveys
  • Digital platforms designed to collect egocentric network data
    ▪ EgoWeb
    ▪ VennMaker
    ▪ Qualtrics
The interviewer asks the caregiver, youth, or young adult to name 1-10 people who are the most important individuals involved in providing support for and/or mental services to the youth or young adult.

The interviewer will write down the names on a list on the survey.

If the respondent cannot name anyone, they will not complete the survey.

It is fine for the respondent to name 1 person or any number up to 10.

If the respondent names more than 10 people, the interviewer should let the respondent know that the survey can only accommodate a maximum of 10 people.
Person 1 on the list

Person 2 on the list...

...Last Person on the list

- Ask items 1-7

Items 8-11 are global items asked once

- Ask items 1-7

- Ask items 1-7

Process of Administration
The Goal of Collecting Support Survey Data

• To learn how the roles of people who support young people (e.g., family members, clinicians, teachers, friends, peer advocates) are represented in their social networks

• To obtain information about how the composition of supports in a young person’s life are associated with their functioning and symptoms

• To see how a young person’s support network changes over time

• To learn if characteristics of a young person’s support network are related to the strain that caregivers experience
HANDLING EGOCENTRIC NETWORK DATA
# Egocentric Data Format

## Wide Data Format

<table>
<thead>
<tr>
<th>EgoID</th>
<th>Ego Information</th>
<th>AlterID</th>
<th>Score_Q1</th>
<th>Score_Q2</th>
<th>Score_Q3</th>
<th>Score_Q4</th>
<th>Score_Q5</th>
<th>Q6, Q7 ....</th>
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<tbody>
<tr>
<td>Respondent1</td>
<td>...</td>
<td>Alter1</td>
<td>Alter1_Role</td>
<td>Alter1_Travel</td>
<td>Alter1_Freq</td>
<td>Alter1_SupportType</td>
<td>Alter1_Trust</td>
<td>...</td>
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<tr>
<td>Respondent1</td>
<td>...</td>
<td>Alter2</td>
<td>Alter2_Role</td>
<td>Alter2_Travel</td>
<td>Alter2_Freq</td>
<td>Alter2_SupportType</td>
<td>Alter2_Trust</td>
<td>...</td>
</tr>
<tr>
<td>Respondent1</td>
<td>...</td>
<td>Alter3</td>
<td>Alter3_Role</td>
<td>Alter3_Travel</td>
<td>Alter3_Freq</td>
<td>Alter3_SupportType</td>
<td>Alter3_Trust</td>
<td>...</td>
</tr>
<tr>
<td>Respondent1</td>
<td>...</td>
<td>Alter4</td>
<td>Alter4_Role</td>
<td>Alter4_Travel</td>
<td>Alter4_Freq</td>
<td>Alter4_SupportType</td>
<td>Alter4_Trust</td>
<td>...</td>
</tr>
<tr>
<td>Respondent2</td>
<td>...</td>
<td>Alter1</td>
<td>Alter1_Role</td>
<td>Alter1_Travel</td>
<td>Alter1_Freq</td>
<td>Alter1_SupportType</td>
<td>Alter1_Trust</td>
<td>...</td>
</tr>
<tr>
<td>Respondent2</td>
<td>...</td>
<td>Alter2</td>
<td>Alter2_Role</td>
<td>Alter2_Travel</td>
<td>Alter2_Freq</td>
<td>Alter2_SupportType</td>
<td>Alter2_Trust</td>
<td>...</td>
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</table>

## Long Data Format

<table>
<thead>
<tr>
<th>Ego</th>
<th>Alter</th>
<th>Question/Relation</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q1 Role</td>
<td>2</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q2 Travel</td>
<td>1</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q3 Freq</td>
<td>3</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q4 Support</td>
<td>4</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q5 Trust</td>
<td>1</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q6 Impact</td>
<td>2</td>
</tr>
<tr>
<td>Respondent1</td>
<td>1</td>
<td>Q7 Influence</td>
<td>2</td>
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<td>...</td>
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Possible Research Questions

• Which supports do youth most frequently interact with?
• Which supports do youth receive the greatest amount of advice from?
• What are the roles of people who provide youth with the primary source of emotional support overall?
• Do youth with the greatest gains in mental health outcomes also show “positive” and “healthy” support systems?
  – Are frequent and trusting relationships with a youth partner (for example) associated with positive mental health outcomes?
  – Does this hold up despite the size of one’s support network?
Mix of supports for Youth (12-17)

- Parent: 25%
- Sibling: 37%
- Friend: 19%
- Teacher: 11%
- Care coordinator: 8%

Mix of supports for Young Adults (18-25)

- Sibling: 24%
- Youth partner: 20%
- Friend: 32%
- Youth group leader: 12%
- Behavioral specialist: 7%
- Parent: 5%
Important roles and their impact on youth, young adults, and caregivers

Emotional Support

- Friend
- Behavioral specialist
- Youth group leader
- Parent
- Sibling
- Youth partner

Advice

- Friend
- Behavioral specialist
- Youth group leader
- Parent
- Sibling
- Youth partner
Supports who provide the most Positive Impact

Supports who are most Trusted

HYPOTHETICAL ONLY - Questions we can answer when we have data
Ego centric network surveys provide a rich and multi-dimensional source of information, beyond traditional surveys.

Ego centric network methods have great relevance in mental health services research and evaluation.

- But also applicable to many different contexts.

Administration is similar to that of a regular survey.

- Can piggy-back on existing instruments.

Results are intuitive, and considers the broader social environment as an important factor for understanding youth mental health.
QUESTION AND ANSWER SESSION