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## Network Analysis of Lending Practices Among Women Living in an Ecuadorian Community

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## Background

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## Lending

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- As an economic relation
  - Social exchange theory
- In a community context
  - Anthropological research on gift-giving



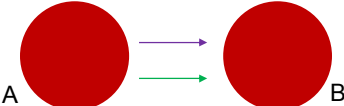


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## Kinship

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- H1: Women who are related are more likely to loan to each other.

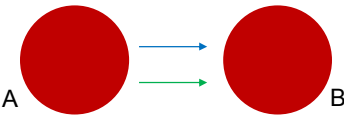


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## Labor

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- H2: Women who work together will be more likely to loan to each other.



A                      B

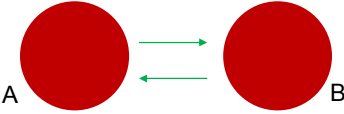


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## Reciprocity

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- H3: The lending relation will show higher levels of reciprocity than expected by chance.

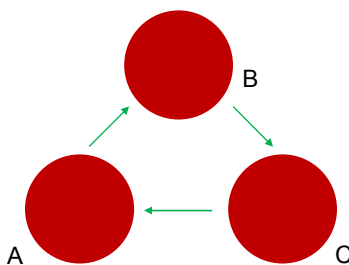


A                      B



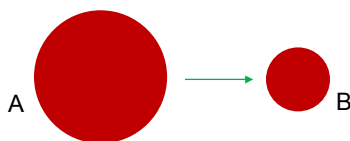
## Generalized Exchange

- H4: The lending relation will show a greater number of cyclical triads than expected by chance.



## Role of Material Resources

- H5a: Those with more wealth will be the sender of lending ties more often than those with fewer material resources.
- H5b: Those with less wealth will be the receiver of lending ties more often than those with more material resources.



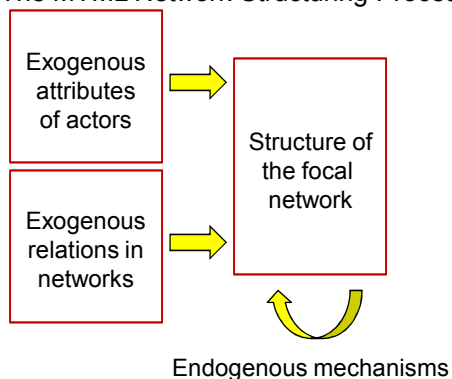
## Multiplex Relations

- Research Question: How do the working, kinship, and lending relations interact?



## Multitheoretical Multilevel (MTML)

### The MTML Network Structuring Process



## Method

- Participants: 106 female head-of-households
- Procedure: Face-to-face survey



## Measures

- Working
- Kinship
- Lending
- Attributes: wealth or material resources



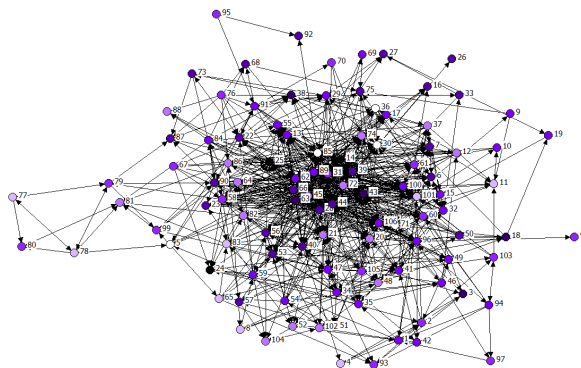
## Analysis


- Multiple Regression Quadratic Assignment Procedure
- Exponential Random Graph Modeling
- Blockmodeling




## Results – Lending Relation

|  | Wealth |
|--|--------|
|  | 0      |
|  | 1      |
|  | 2      |
|  | 3      |
|  | 4      |
|  | 5      |
|  | 6      |
|  | 7      |







## Results – H1 and H2




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|             | Standardized<br>Regression<br>Coefficients | <i>p</i> Value |
|-------------|--|----------------|
| H1: Kinship | 0.13*                                      | 0.001          |
| H2: Labor   | 0.38*                                      | 0.001          |







## Results – H3, H4, and H5





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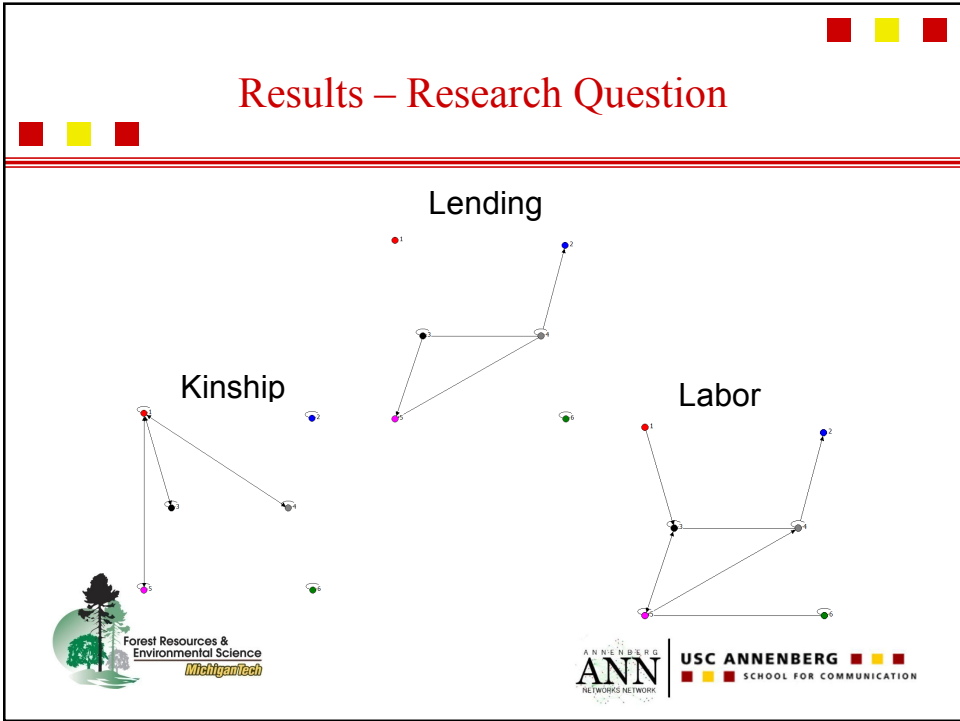
|                                    | Parameter | Standard Error | <i>t</i> - statistics |
|------------------------------------|-----------|----------------|-----------------------|
| Arc (Number of ties)               | -2.98*    | 0.11           | -0.09                 |
| H3: Reciprocity (Two-way linkages) | 1.24*     | 0.14           | 0.01                  |
| H4: Alternating Cyclic k-Triangles | 0.04      | 0.03           | -0.05                 |
| H5a: Wealth of Sender              | 0.00      | 0.02           | -0.07                 |
| H5b: Wealth of Receiver            | 0.08*     | 0.02           | -0.05                 |

NOTE: *t*-statistics for convergence = (observation - sample mean)/standard error

\* denotes significance







### Discussion

- Lending as more than simply economic
- Exchange relationships
- Implications for community development

A photograph showing a group of people sitting on the ground in a circle, engaged in a community meeting or discussion. They are outdoors, with a brick wall and trees in the background.

Logos for Forest Resources & Environmental Science at Michigan Tech and USC Annenberg School for Communication are present at the bottom.

Thank You

Annenberg Networks Network  
<http://ann.uscannenberg.org>

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