



THE EVOLUTION OF SOCIAL NETWORKS IN A GROUP-BASED MENTORING PROGRAM FOR VULNERABLE TEENS: WHAT TYPES OF RELATIONSHIPS MATTER MOST?

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Objectives

- ❖ Adolescent background – A critical time for intervention
- ❖ Mentorship interventions: A promising strategy
- ❖ Belongingness as an intermediate goal
- ❖ A quick background on social networks
- ❖ Methods

Introduction

Adolescence – A critical time for intervention

- ❖ Adolescents cannot be considered older children or young adults¹
- ❖ It is a unique and crucial developmental period
- ❖ Adolescents are at-risk for:
 - ❖ Impulsive behaviors¹
 - ❖ Substance use²
 - ❖ Unsafe sexual practices³



Adolescent biology

- ❖ Numerous biological/neurological changes occur during this time period⁴
 - ❖ Increased activation of the frontal lobe⁴
 - ❖ Increased pruning and myelination of the brain^{1,4}
 - ❖ Enhanced capacity of the dopaminergic reward system⁵
 - ❖ Changes in nucleus accumbens⁶



“At-risk” adolescents



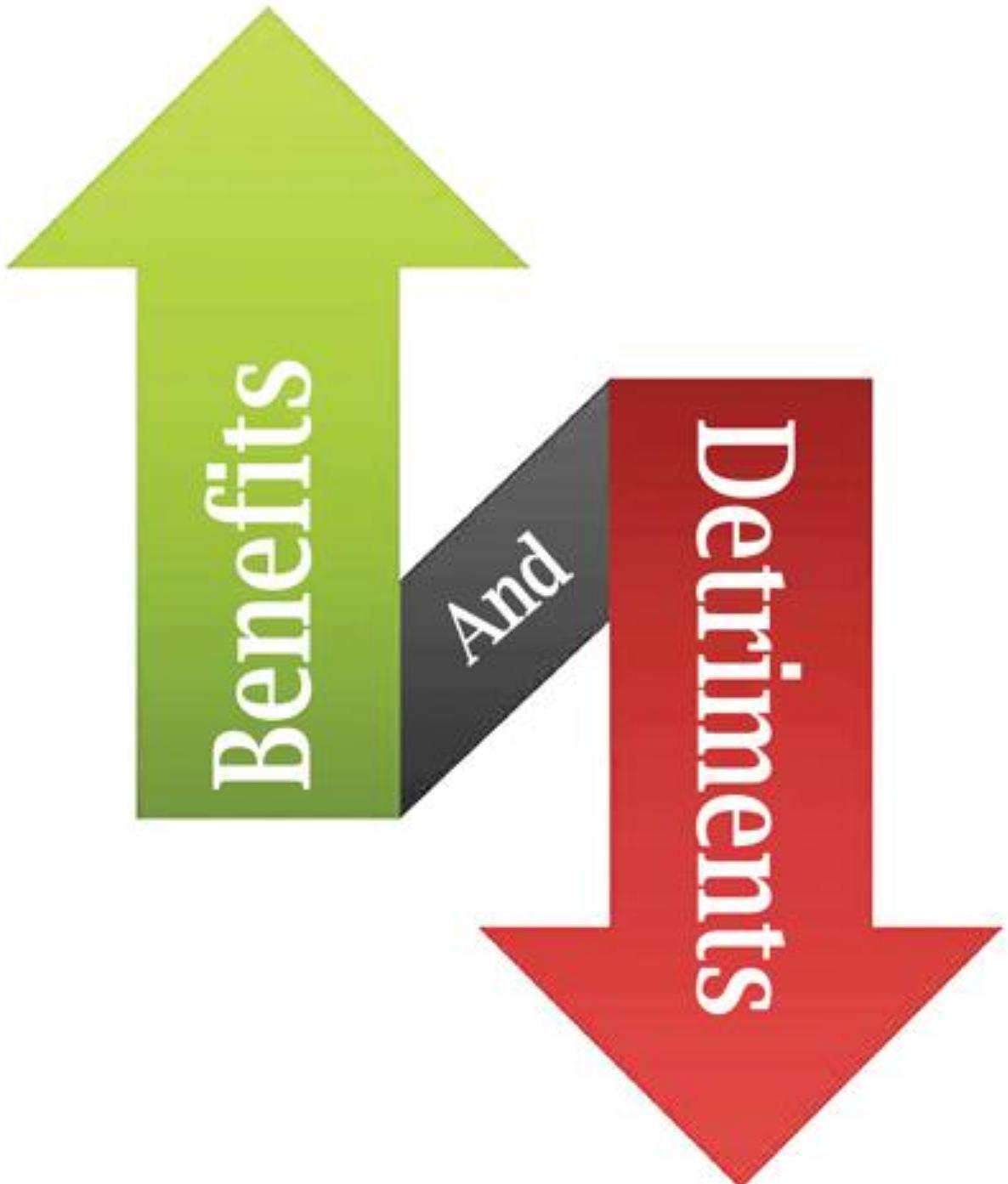
- ❖ Certain factors increase the likelihood an adolescent will engage in risk behaviors⁷
 - ❖ I.e. Low parental involvement, parental substance abuse, association with delinquent peers, etc.
- ❖ Preventive efforts are needed to reduce behavioral difficulties
- ❖ Many interventions have been utilized to target at-risk adolescents⁸



Mentorship
interventions

Mentorship Interventions

- ❖ Provide an adolescent with a role model from the community in which they both reside
- ❖ Mentors are encouraged to:
 - ❖ Enhance mentee coping strategies
 - ❖ Reduce stressors
 - ❖ Create an attachment
- ❖ Studies show effect sizes to be small to medium⁸



Group-based mentorship interventions

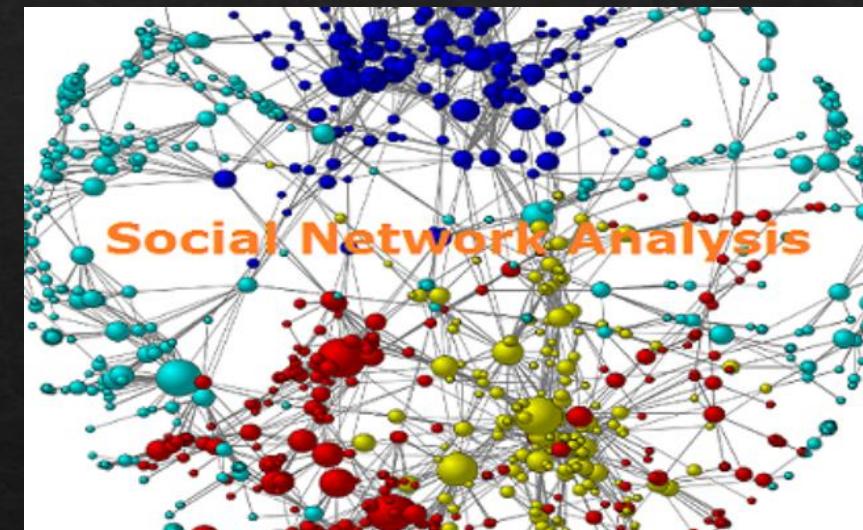
- ❖ Benefits
 - ❖ Serve larger number of youth at once
 - ❖ Has shown beneficial outcomes in resiliency and prosocial attitudes^{9,10}
- ❖ Detriments
 - ❖ Deviancy training¹¹

Belongingness as an Intermediate Goal of Group-based Mentoring Programs

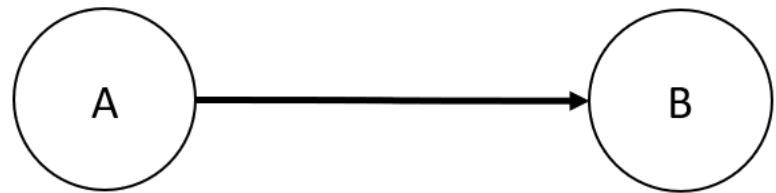
- ❖ Belongingness is a fundamental part of forming relationships with adolescent peers
It is associated with higher relationship satisfaction¹²
- ❖ I propose that belongingness is an essential link between social connections and desired outcomes (e.g. academic aspirations) in an adolescent group mentoring program

Social Networks

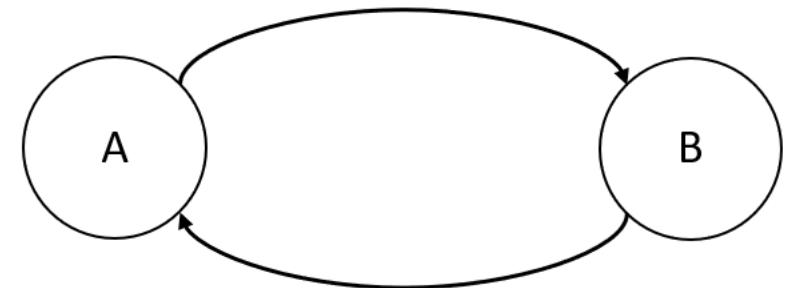
- ❖ A social network is the structure of relationships that connect people within a defined population
- ❖ I will utilize social networks to identify what aspects of bonds formed in a group-based intervention may contribute most to an adolescent's sense of belonging in the program
- ❖ Ultimately, I will see how it relates to developmental outcomes as well (delinquency, depression, anger & academic aspirations)



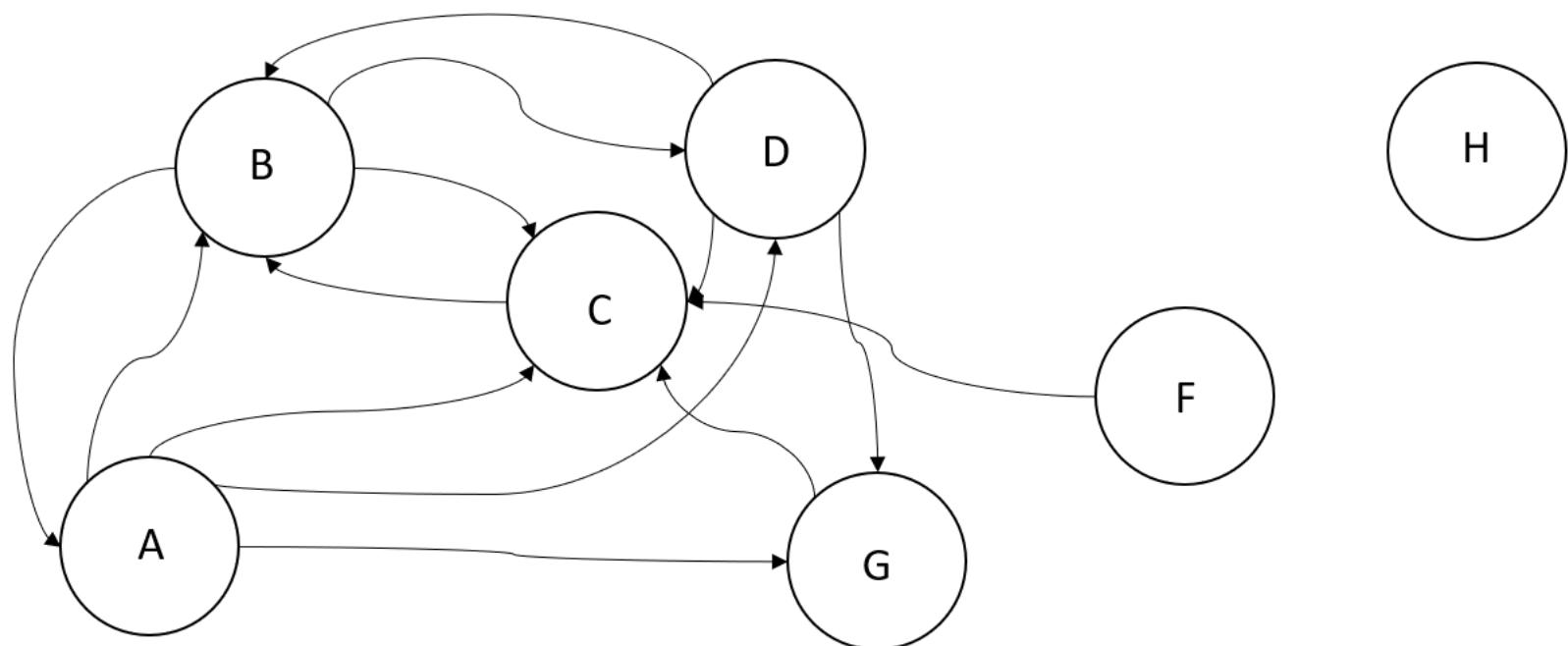
Panel 1: Non-reciprocated tie



Panel 2: Reciprocated tie



Panel 3: Complex network



Research Questions

1. Does the number and strength of connections developed with other individuals in the mentoring program correlate with a measure of belongingness? Additionally, what type(s) of social connections (i.e., with the primary mentor, with other mentors, with other mentees) is/are the strongest indicator(s) of belongingness in the program?

2. Does belongingness mediate the effect of the strength of social connections on improvement in the developmental outcomes (i.e., academic aspirations, depression, anger, and delinquent behaviors)?

METHOD



Participant recruitment: Campus Connections

- ❖ 12 week Mentorship program open to all majors/years at Colorado State University (CSU)
- ❖ CSU students mentor at-risk adolescents (11-18 years old) referred from the juvenile justice system, schools, human services
- ❖ Mentors are paired 1:1 with mentees and work both individually and in multidisciplinary teams

Inclusion/Exclusion criteria

1. 11 - 18 years of age
2. Never participated in Campus Connections previously
3. Have at least one risk factor from Herrera et al.'s (2013) Risk Screening Tool
4. Available to participate in Campus Connections during operating hours

Sample

- ❖ Data has been collected on the youth three years (2015 – 2018) as part of a William T. Grant funded project
- ❖ Five timepoints
 - ❖ Week 1, 3, 6, 9, & 11 of the Campus Connections program

Measures

- ❖ Primary measures

- ❖ Belongingness¹³
- ❖ Strength of social connections (inbound, outbound, and all connections)
- ❖ Delinquency¹⁸
- ❖ Academic aspirations¹⁴
- ❖ Depression¹⁵
- ❖ Anger¹⁶

- ❖ Control measures

- ❖ Demographics
 - ❖ Age
 - ❖ Sex
 - ❖ Race/ethnicity
 - ❖ Household income
- ❖ Social emotional competencies¹⁷

Procedures

- ❖ Adolescent participants were asked to indicate all friendships they had with other youth in the program
- ❖ Then were asked to evaluate the strength of that relationship
- ❖ Belongingness was assessed at concurrent timepoints
- ❖ Outcome measures (delinquency, academic aspirations, depression, anger) were assessed pre and post intervention.

A visual example

Do you have a friendship with any of the youth at Campus Connections?

If yes, click on their photo - you may pick as many as you like.

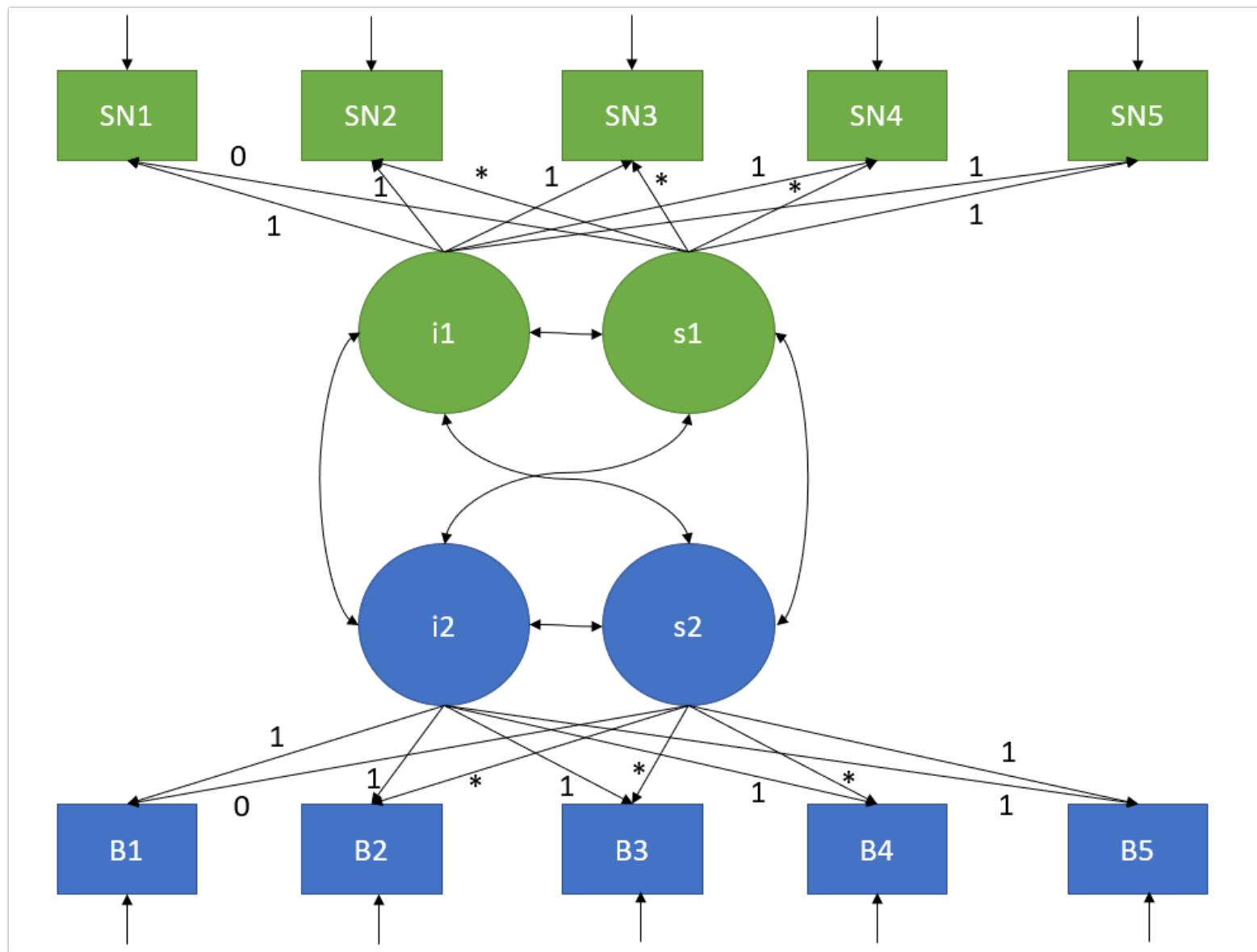
The first two examples show photos of men with large red 'X' marks overlaid, indicating they should not be selected. The third example shows a photo of a man with a green checkmark overlaid, indicating he should be selected.

How close do you feel to each of the people you selected?

A horizontal scale with the following labels: NOT VERY CLOSE, 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, VERY CLOSE. A red dot is placed over the number 9, indicating the selected rating for the selected friend.

Statistical Procedures: RQ1

- ❖ Latent growth modeling will be used to model the growth of belongingness and social connections across all five waves of Campus Connections
 - ❖ More specifically a parallel process growth model will be specified (One for belongingness, one for strength of social connections)
- ❖ To allow for a non-linear fit, this will be a latent basis growth model will be assessed



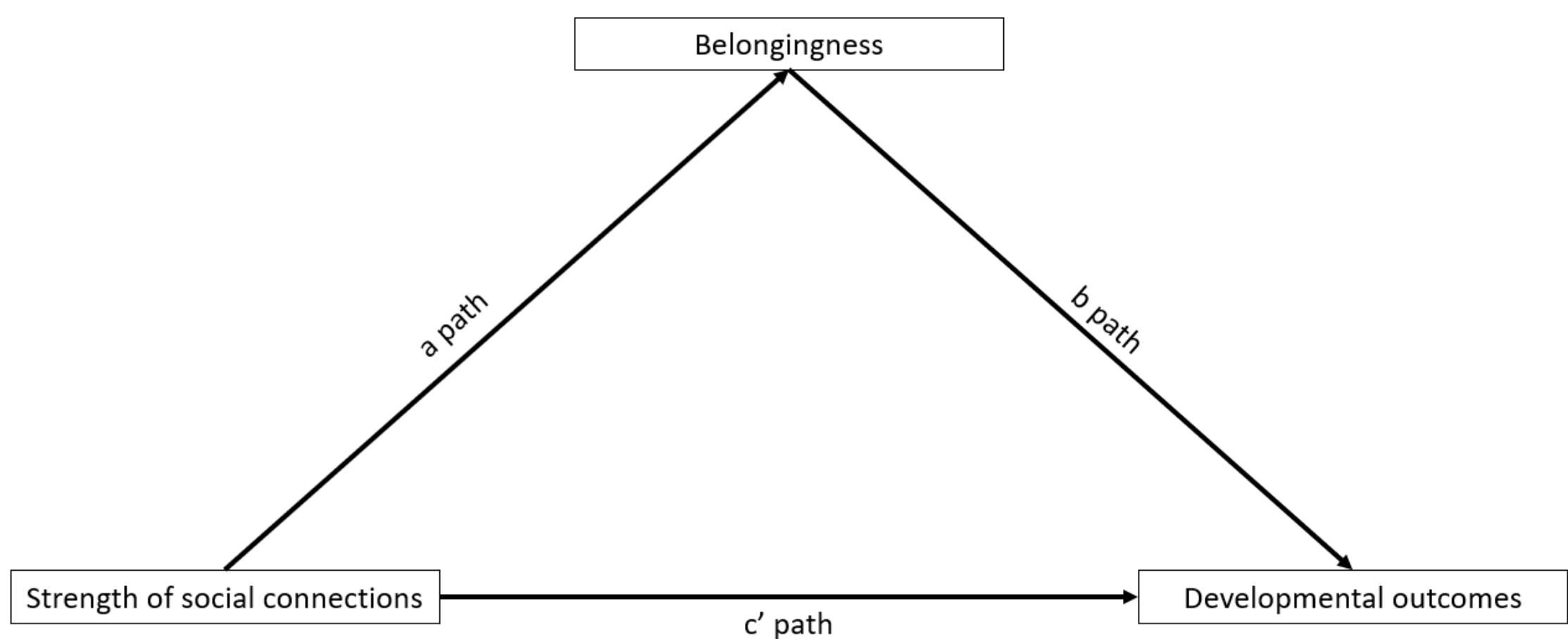
Determining the appropriate model(s)

- ❖ Comparison of AIC values across models (Inbound, outbound, and all)
- ❖ Comparison of the unstandardized estimate of the covariation/correlation between the slopes

Statistical Procedures: RQ2

- ❖ I will fit a series of mediation model
- ❖ The primary predictor in each model will be the strength of the social connections
- ❖ The primary mediator will be belongingness
- ❖ The outcome variable will be one of each of our developmental outcome variables (anger, depression, academic aspirations, delinquency).

Mediation Model



Thank you!

- ❖ A special thanks to my thesis committee
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 - ❖ Dr. Michael Thomas

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Discussion