

SIENA Models for Negative Relationships & Behavior Dynamics

Discussion

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- **Defenders of victims – Selection and Influence Effects: What role do teachers' self-efficacy and school climate play?**
 - Sabrina Ruggieri, Thomas Friemel, Fabio Sticca, Françoise Alsaker, Sonja Perren
- **Competition, Envy or Snobbism? How Status Affects the Structure and Development of Adolescents' Antipathy Networks**
 - Christian Berger, Jan Dijkstra
- **Multivariate Social Network Analyses of Negative and Positive Networks: General like, General dislike, Defending, and Bully-Victim Relationships**
 - Gijs Huitsing, Marijtte van Duijn, Tom Snijders, Rene Veenstra, Christina Salmivalli, Peng Wang

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...from a historic perspective

- Stochastic actor-oriented models were first described more than 15 years ago
 - Snijders, T.A.B. (1996). Stochastic actor-oriented dynamic network analysis. *Journal of Mathematical Sociology*, 21, 149-172.
- In the last 5 years, roughly 30 studies have used SIENA to examine network dynamics and an additional 40 studies have examined network-behavioral dynamics and another.
 - Most have investigated selection and influence of externalizing behaviors in adolescent peer relationships

Challenges of modeling negative relationships

- **Low prevalence and different structures**
 - Adolescents have more friends than enemies (thankfully)
 - More than 50% of friendship ties are reciprocated, fewer negative ties are reciprocated
 - No transitivity in negative relations...my enemies do not necessarily become enemies
- **Qualitatively different mechanisms**
 - Positive relations based on similarity of physical characteristics, behaviors and attitudes. Negative relations are not necessarily based on dissimilarity
 - Can enemies influence an individual's behavior?

Defenders of victims – Selection and influence effects: What role do teachers' self-efficacy and school climate play?

- Prevalence of defending? How similar are friends on defending behaviors?
 - Is defending a continuous measure?
- Networks based on "hanging out after school"?
 - Why not "hanging out in and after school"?
- Post processing meta-analytic regression?
 - Why not include main effects and interactions in the SIENA analyses?

Competition, envy or snobbism? How status affects the structure and development of adolescents' antipathy networks

- How dissimilar are "antipathies" on status?
 - Are mutual antipathies more dissimilar than unilateral dislike nominations?
- How can such a small number of best friendship nominations be reciprocated?
 - Are adolescent relationships different in Chilean classrooms?
- Do effects of friendship networks impact effects in dislike networks?
 - What if additional effects are included in friendship networks?

Multivariate social network analyses of negative and positive networks: General like, general dislike, defending, and bully-victim relationships

- How prevalent are the hypothesized configurations?
 - Are other configurations more prevalent?
- Bullying and defending networks?
 - Most adolescents do not bully or defend victims from bullies
- Are these mechanisms specific to bullying and victimization?
 - Do these ideas generalize to other behaviors?

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Future directions (for the next 70 studies)

- Beyond classroom nominations
 - Classmates might represent less than 50% of adolescents' peer relationships
 - Differences between networks
- Developmental trajectories
 - Age differences
 - Temporal heterogeneity
- Identifying "increasers" and "decreasers"
 - Creation and dissolution of ties
- Increased diversity and complexity
 - Necessity for common standards in reporting results
 - Goodness-of-fit
 - Replication