Long-Term Prevention of Criminality in Siblings of Serious and Violent Juvenile Offenders: A 25-Year Follow-Up to a Randomized Clinical Trial of Multisystemic Therapy

Presented by David Wagner, Ph.D.
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Sibling of Juvenile Offenders

- Delinquent sibling is strong predictor of juvenile and adult criminality
- Shared genetic factors between siblings can account for much of the variance in antisocial behavior
- Environmental factors shared by siblings also have a strong impact on antisocial behavior
  - Example: Peers and caregivers
  - Siblings of juvenile offenders are more likely to
    - Have negative (i.e. hostile, coercive, high conflict) family relationships
    - Be exposed to substance use or other delinquent behavior by their older siblings
Previous Research on Non-referred Siblings

- Behavioral family interventions (Klein, Alexander, & Parson, 1977) and parent training interventions (e.g. Arnold, Levine, & Patterson, 1975; Brestan, Eyberg, Boggs, & Algina, 1997; Brotman et al., 2005)
  - Evidence of short-term decreases in younger siblings' antisocial behavior

- MST may have positive short-term effects on the siblings of delinquent youths.
  - Greater reduction in self-reported substance abuse for closest-in-age siblings at 18-month follow-up (Rowland, Chapman, & Henggeler, 2008)

Limitations of Previous Sibling Treatment Studies

- Few
  - Used random assignment to Tx
  - Included adolescents
  - Targeted serious offenders
  - Had large (e.g. > 50) sample sizes
  - Tracked long-term (e.g., > 12 month) outcomes
Current Study

- Examines the long-term (i.e., 25.0 years) effects on non-referred siblings of serious juvenile offenders.
  - Criminal outcomes
    - Arrests
      - Misdemeanors
      - Felonies
    - Sentences
      - Incarceration
      - Probation

Current Study

- Sample from Borduin et al. (1995) clinical trial
  - 176 serious juvenile offenders
    - Age of target adolescent = 14.5 years (SD = 1.4)
    - Referred youths
      - Have at least two arrests
  - Non-referred siblings
    - 129 closest-in-age
      - Age of sibling 13.4 years (SD = 3.7)
      - 50.0% were boys
      - 60.0% were younger siblings, 38.2% were older siblings, and 1.8% were twins;
      - 59.1% lived with two parent figures
    - No significant group differences
## Data Collection

- **Missouri residency**
  - State criminal records, death certificates, property ownership, home phones, and marital records
  - Adult arrests/civil suits

- **Missouri state court system- Public records**
  - On-line database
  - Participants identified
  - Crimes coded

- 129 of 176 families had siblings living in home at time of treatment
  - 110 closest-in-age siblings (84%)
  - 88.2% (n = 60) of siblings of MST participants
  - 79.4% (n=50) of siblings of IT participants
  - 17.3% (n=21) considered lost to follow-up

## MST vs. Treatment as Usual

- **Hypothesis**
  - Relative to siblings whose families received usual services, siblings whose families participated in MST will have fewer and less serious criminal outcomes

- **Analyses**
  - Chi-square tests
    - Coding misdemeanors and felonies as dichotomous variables
  - Odds ratios
  - Zero-inflated poisson (ZIP) regressions
  - Cumulative survival functions
### Likelihood of Posttreatment Arrests by Therapy Condition

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>χ²(1)</th>
<th>p</th>
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<td>Criminal arrests</td>
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<td>Any Crime</td>
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<td>IT</td>
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<tr>
<td>MST</td>
<td>38.3</td>
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Note. Sample sizes for therapy conditions are as follows: individual therapy (IT; n = 50); multisystemic therapy (MST; n = 60).

### Descriptive Statistics and ZIP Regression Results for Criminal Outcomes

<table>
<thead>
<tr>
<th>Variable</th>
<th>MST</th>
<th>IT</th>
<th>ZIP Coefficients</th>
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<tbody>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
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<td>Offense type (number)</td>
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<td>Any felony</td>
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<td>0.58</td>
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<tr>
<td>Any misdemeanor</td>
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<td>1.62</td>
<td>1.88</td>
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<td>Adult sentencing (years)</td>
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<tr>
<td>Incarceration</td>
<td>1.69</td>
<td>6.00</td>
<td>2.31</td>
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<td>Probation</td>
<td>1.35</td>
<td>2.76</td>
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</table>
Survival functions for multisystemic therapy (MST) and individual therapy (IT) groups on time to first sibling arrest following treatment.

Discussion

- **Conclusions**
  - MST siblings less likely to be arrested 25 years following treatment
  - These siblings life-course persistent offenders?
  - Further reduced costs associated with MST?
  - Should study other family-level interventions

- **Limitations**
  - Official records may underestimate
  - Continuous residency not confirmed
  - Only closest-in-age sibling
Future Directions

- **Examine**
  - Multiple siblings in family *(Under preparation)*
  - Potential moderators/mediators
    - Target arrests, family variables, parent variables, etc.
  - Additional cost effectiveness *(Dopp, Borduin, Wagner, & Sawyer, 2014)*
  - Parent long-term outcomes *(Under preparation)*
  - Civil court cases

Thank You!
Questions?

Missouri Delinquency Project

Chuck Borduin Aaron Sawyer Alex Dopp
Contact Information

David Wagner, Ph.D.
Division of Psychology
Child Development & Rehabilitation Center
Oregon Health & Science University
wagnedav@ohsu.edu