Predicting Executive Functioning in At-Risk Children: Both Mothers and Father-Figures Matter

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Introduction

- Executive Function (EF): higher level cognitive skills (e.g., mental flexibility, inhibitory control, working memory) that allow for goal-directed behaviors.
- High EF in preschoolers related to later school achievement and social skills (Mischel, 2003).
- Low SES Children at risk for EF deficits (Hackman et al., 2015).
- Child care interactions are crucial for learning self-regulation.
- Attachment theory: children learn to self-regulate within secure relationships via interactions present in secure base-safe haven cycles (Bowlby, 1988).
- Research (e.g., Carlson, 2003) indicates various aspects of mother parenting are related to EF.
- Little research has looked at the impact of father figures on EF.

Research Question & Hypotheses

How is mother parenting and support from father-figures related to EF development in at-risk children?

- Hypotheses:
  - Quality of maternal parenting in early childhood and level of support from father-figures in both early and middle childhood will have direct effects on child EF.
  - Paths from mother parenting and father support to child EF will vary depending on attachment status.

Methods

Participants
- N = 182, 97 males and 85 females.
- High risk at birth: 100% at or below poverty level, young mothers (M = 20.7), 60% single mothers.

Measures
- Child EF: Early Childhood Lab Composite
  - Barrier Box (42 mo)
  - Curiosity Box, Gift Delay, & Ego Control Rating (54 mo)
- Child EF: Middle Childhood School Composite
  - EF-related questions from Teacher completed Devereaux K-3rd grades

Mother Parenting:
- 42 months video-taped teaching task; coded for:
  - Supportive presence,
  - Quality of instruction,
  - Respect for autonomy,
  - Structure and limit setting
  - Attachment classification measured at 12 and 18 mo
  - Always secure versus insecure at one or more time points

Support from Father-Figures:
- Coded for level of emotional support to child from 18 interviews across childhood
- Rated on a 4-point scale:
  1 = No male in home
  2 = Low quality support
  3 = Moderate/Average support
  4 = High quality support

Scores given for Early Childhood (EC) and Middle Childhood (MC). Any and all males in the home during time period included in rating.

Results

Bivariate Correlations

<table>
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<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
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<td>.078</td>
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<td>.176</td>
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<td>.287*</td>
<td>.136</td>
<td>.429**</td>
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<td>.032</td>
<td>.042</td>
<td>.059</td>
<td>.067</td>
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*p < .05. **p < .01. Bottom left (shaded): children who were insecure at one or more time points.
Top right: children who were always secure.

Best Fitting Path Model

Model Fit Stats

<table>
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<tr>
<th>df</th>
<th>χ²</th>
<th>df/df</th>
<th>Δ χ²(df)</th>
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<th>RMSEA</th>
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<td>2</td>
<td>.304</td>
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This model accounted for 7.4% of EC Lab EF Variance and 30.9% of MC School Behavior Control Variance.

Discussion

- Hypotheses were generally supported:
  - Both quality of mother parenting and level of male support were related to executive function skills and school behavioral control.
  - Mother parenting was a significant predictor of early childhood EF for securely attached children only.
- Strengths of the study:
  - Included all father-figures in the child’s life during relevant time periods.
- Data from multiple sources, including rich observational measures, laboratory tasks, and reports from mothers and teachers.
- Overall, we found that both mother parenting and support from father figures are important for the development of executive function in at-risk children across the preschool and grade school years.

References

- Hackman, D.A., Gallop, R., Evans, G.W., & Farah, M.J. (2015). Socioeconomic status and always secure versus insecure at one or more time points
- Low risk at birth: 100% at or below poverty level, young mothers (M = 20.7), 60% single mothers.
- High risk at birth: 100% at or below poverty level, young mothers (M = 20.7), 60% single mothers.