The role of secondary caregiver depression and attachment in developmental trajectories of externalising problems

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Externalizing behaviours

- Hyperactivity, attention problems and impulsivity (HAI)
- Conduct problems (CP) – aggression, disruptive behaviour
- 1\textsuperscript{st} and 3\textsuperscript{rd} most common presentation to CAMHS\textsuperscript{1}
- 30\%-50\% children with ADHD meet clinical criteria for conduct problems\textsuperscript{2}
- Poor outcomes – lower educational attainment, relational difficulties, psychopathology, unemployment and criminality\textsuperscript{3}
Developmental Trajectory Models

- Multiple distinct developmental trajectories of childhood externalizing behaviours of varying severity and persistence
- Most pre-schoolers display some CP or HAI peaking between 2-5 years
- Majority of children with low or moderate levels typically decline as children develop
- A small group of children exhibit chronic and relatively stable problems
- Risk factors for severe/persistence groups include low maternal age and education, maternal depression, male child sex, lower socioeconomic status

• 13% of boys with chronic hyperactivity display chronic aggression\(^9\)
• Different outcomes - High HAI trajectory not associated with adult antisocial behaviour when concurrent conduct problems are controlled for\(^{10}\)
• Different risk factors? – Compared to controls, lower maternal age, higher maternal depression, rejection and child fearlessness predicted CP trajectory, only maternal depression predicted HAI trajectory\(^6\)
• Modelling behaviours separately or aggregating them into one category “may mask essential aspects of [their] development”\(^7\)
Secondary caregiver characteristics

• Relatively understudied in developmental trajectory research
• Rise in active coparenting > increasing influence on child’s environmental

• Paternal depressive symptoms have a small significant association with childhood externalizing behaviours
• Lower mother-child attachment has been found to predict externalizing difficulties in toddlers
• Lack of corresponding evidence for secondary caregivers.
Current research

Secondary data analysis of children who participated in at least 4/5 waves in the GUI Infant Cohort (7,507 children, 50.34% boys, 49.66% girls)

Aims:
1. Examine joint developmental trajectories of conduct problems and hyperactivity from infancy to middle childhood
2. Explore if secondary caregiver depressive symptoms and quality of attachment to the infant predict group membership
<table>
<thead>
<tr>
<th>Measures</th>
<th>Trajectories</th>
<th>Predictors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Strengths and Difficulties Questionnaire conduct problems and hyperactivity sub-scales</td>
<td>• Centre for Epidemiological Studies Depression Scale (8-item)</td>
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<tr>
<td></td>
<td>• Scores indicating above average levels: CP = 3/HAI = 6</td>
<td>• Quality of Attachment sub-scale of the Paternal Post-Natal Attachment Scale</td>
</tr>
<tr>
<td></td>
<td>• Collected from primary caregivers at waves 2-5</td>
<td>• Collected from secondary caregivers at wave 1</td>
</tr>
<tr>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>• Child factors— sex, prematurity, low birth weight, neonatal care, temperament</td>
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<tr>
<td></td>
<td></td>
<td>• Parent factors— PCG education, age, ethnicity, depression, quality of attachment and stress levels</td>
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<td></td>
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<td>• Family factors – Smoked during pregnancy, living with partner, sibling status and socioeconomic status indicators</td>
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<td>• Collected at wave 1 entered into the model sequentially</td>
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Analysis

Step 1
• Group based multi-trajectory modelling$^{14}$ of conduct problems and hyperactivity

Step 2
• Hierarchical multinomial logistic regression
Six groups of children with distinct developmental trajectories of concurrent conduct problems and HAI found

<table>
<thead>
<tr>
<th>Group</th>
<th>Posterior Probability</th>
<th>Odds of correct classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>78.4</td>
<td>37.2</td>
</tr>
<tr>
<td>2</td>
<td>75.3</td>
<td>9.4</td>
</tr>
<tr>
<td>3</td>
<td>72.4</td>
<td>7.2</td>
</tr>
<tr>
<td>4</td>
<td>76.3</td>
<td>11.2</td>
</tr>
<tr>
<td>5</td>
<td>76.1</td>
<td>24</td>
</tr>
<tr>
<td>6</td>
<td>87.9</td>
<td>117.9</td>
</tr>
</tbody>
</table>
Developmental Trajectories

Group 1 (8.1%) Group 2 (24.6%) Group 3 (23.0%) Group 4 (23.6%) Group 5 (13.4%) Group 6 (7.2%)

- Conduct: Group 1, Group 2, Group 3, Group 4, Group 5, Group 6
- Hyperactivity: Group 1, Group 2, Group 3, Group 4, Group 5, Group 6

Age ranges from 2 to 10 years.
Predictors

<table>
<thead>
<tr>
<th></th>
<th>Model 1</th>
<th>Model 2</th>
<th>Model 3</th>
<th>Model 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Group 4</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCG depressive symptoms</td>
<td>2.315*</td>
<td>1.71</td>
<td>1.71</td>
<td>1.575</td>
</tr>
<tr>
<td>Quality of Attachment - Secondary Caregiver</td>
<td>0.941</td>
<td>0.97</td>
<td>0.97</td>
<td>0.942</td>
</tr>
<tr>
<td><strong>Group 5</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCG depressive symptoms</td>
<td>1.754</td>
<td>1.267</td>
<td>1.267</td>
<td>1.144</td>
</tr>
<tr>
<td>Quality of Attachment - Secondary Caregiver</td>
<td>0.969</td>
<td>0.989</td>
<td>0.989</td>
<td>0.96</td>
</tr>
<tr>
<td><strong>Group 6</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SCG depressive symptoms</td>
<td>2.683*</td>
<td>1.727</td>
<td>1.727</td>
<td>1.459</td>
</tr>
<tr>
<td>Quality of Attachment - Secondary Caregiver</td>
<td>0.873**</td>
<td>0.889*</td>
<td>0.889*</td>
<td>0.869**</td>
</tr>
</tbody>
</table>

Relative Risk Ratios
Significance levels: * p<0.05 ** p<0.01 *** p<0.001

• Group 4 decreasing behaviours
• Group 5 increasing hyperactivity
• Group 6 moderate conduct problems and high increasing hyperactivity
Conclusions

• Supports previous research indicating the majority of children do not exhibit externalizing problems
• Early presentation and influence of perinatal factors indicates intervention pre-school may be beneficial
• Evidence that secondary caregiver’s attachment is a protective factor for the CP-HAI group
• May be beneficial for interventions engage with secondary caregivers and promote sense of attachment

Future directions
• Gender differences in joint trajectories
• Interactions between predictors
Thank you!

Questions, comments and thoughts are very welcome

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References


