ADHD and Families

HELPING FAMILIES CHANGE
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CHARLOTTE JOHNSTON
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Families and ADHD

- Overview of ADHD
  - Life span perspective
- Model of parent-child interactions in families with ADHD
  - Bidirectional Child and Parent effects
- Parent ADHD
  - Ineffective control vs. positive parenting
- Summary and Implications
ADHD OVERVIEW

- Inattention and/or Hyperactivity-Impulsivity
  - Developmentally inappropriate
  - Persistent and impairing
- Prevalence approx 5% in childhood and 3% in adulthood
- More males than females in childhood
- High comorbidity
DSM-5 Changes

- Moved to neurodevelopmental disorders
- Specifiers rather than subtypes

- For adults
  - Symptom exemplars modified
  - Symptom threshold lowered
  - Age of onset now 12
ADHD

- Significant genetic and/or epigenetic influence
- Heritability index approximate .80

- E.g., Biederman et al., 1995; Chang et al., 2013
Gene X Environment Interactions

- Child “ADHD Genes” interact with parenting environment

- For example, child outcomes predicted by:
  - Polymorphism of DRD4 promoter X inconsistent parenting and marital conflict
  - Polymorphism of the monoamine oxidase A gene (MAO-A X X negative parenting

E.g., Li & Lee, 2012; Martel et al., 2011
Families and ADHD

- Model of parent-child interactions in families with ADHD
  - Bidirectional Child and Parent effects
- Parent ADHD
  - Ineffective control vs. positive parenting
- Summary and Implications
Marital/Co-parenting Relationship

Sibling Relationship

Parent Characteristics (e.g., ADHD symptoms)

Child Characteristics (e.g., ADHD, disruptive behaviour)

Cultural/Social Factors (e.g., support, stigma)

School/Community Factors (e.g., communication, disadvantage)

Parent-Child Relationship

Positive Processes (e.g., effective parenting, management of parent and child symptoms)

Negative Processes (e.g., ineffective parenting, unresolved stressors)

Development of Child and Family Over Time

More Adaptive Outcomes

More Adverse Outcomes
Child Effects

- Longitudinal studies show child ADHD symptoms lead to parenting difficulties.
- Manipulating child medication status changes parenting behavior.
- Manipulating the presence of child ADHD behavior affects parent functioning.

e.g., Barkley & Cunningham, 1979; Burke et al., 2007
Effects of interacting with ADHD vs. Typical Child: Parent Self-Report

Hostility  Anxiety  Depression  Failure  Ineffective

ADHD Child  Typical Child

Pelham et al., 1997
Effects of interacting with ADHD vs. Typical Child: Parent Alcohol Consumption

Alcohol Consumed ML/kg

- ADHD Child
- Typical Child
Child ADHD

Parent-Child Relationship

Development of Child and Family Over Time
Approximately 65% of children with ADHD also have ODD or CD.

Parenting, and other family difficulties, causally linked to these comorbid problems.

*e.g.*, Johnston & Chronis-Tuscano, 2015
Parent Effects: Parenting Behavior

- Parenting interventions improve child disruptive behavior (and ADHD?)

- Longitudinally, parenting difficulties predict child disruptive behavior (and ADHD?)

- Child genetic risks interact with parenting as determinants of both child disruptive behavior and ADHD

  - e.g., Biederman et al., 2001; Chronis et al., 2007; Harvey et al., 2011; Li & Lee, 2013; Martel et al., 2011; Martel et al., 2012; Molina et al., 2012; Nikolas et al., 2012; Sonuga-Barke et al., 2009; Walther et al., 2012
Biological and Rearing Mother Influences on Child ADHD Symptoms

Harold et al., 2014

- Biological Mother ADHD
- Rearing Mother Hostile Parenting
- Child ADHD

Correlations:
- Biological Mother ADHD to Child ADHD: .17**
- Rearing Mother Hostile Parenting to Child ADHD: .17*
- Biological Mother ADHD to Child ADHD (4.5 years): .28***
- Child ADHD to Child ADHD (6 years): .23***
Parent Effects: Attributions

Why did he do that?
Parents of children with disruptive behavior blame children for misbehavior.

These child-blaming attributions lead to more negative parenting.

E.g., Johnston & Ohan, 2005
Child-Blaming Attributions in Families of Control Children, Children with ADHD, and Children with ADHD and ODD Behavior

Johnston et al., 2006
### Parent Effects: Attributions
#### Predicting Child ODD Behavior 1 Year later

<table>
<thead>
<tr>
<th>Category</th>
<th>$R^2$ Value</th>
<th>$p$ Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Child ADHD and ODD</td>
<td>$R^2 = .48$, $p &lt; .001$</td>
<td></td>
</tr>
<tr>
<td>Mother Over-reactivity, Unresponsiveness</td>
<td>$R^2_{chg} = .07$, $p = .002$</td>
<td></td>
</tr>
<tr>
<td><strong>Child-Blaming Attributions</strong></td>
<td>$R^2_{chg} = .04$, $p = .04$</td>
<td></td>
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</tbody>
</table>

Johnston et al., 2009
Families and ADHD

- Parent ADHD
  - Ineffective control vs. positive parenting

- Summary and Next Steps
ADHD in Families

- 50 to 75% of children with ADHD continue to have the disorder in adulthood
- Approx 50% of adults with ADHD have children with the disorder
- Approx 50% of children with ADHD have a parent with high levels of symptoms

e.g., Biederman, et al., 1995; Chang et al., 2013
Mothers with and without ADHD: Ineffective Parenting Control

Murray & Johnston, 2006
Predicting Ineffective Parenting Control from Mothers’ ADHD Symptoms

<table>
<thead>
<tr>
<th>Controls (child problems, maternal hostility and depression)</th>
<th>Inconsistent Discipline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maternal Inattention</td>
<td>$B = .45, p &lt; .001$</td>
</tr>
<tr>
<td>Maternal Impulsivity</td>
<td>$ns$</td>
</tr>
</tbody>
</table>

Chen & Johnston, 2008
Parental ADHD and Ineffective Parenting Control

- Parental ADHD symptoms (particularly inattention) linked to:
  - inadequate monitoring
  - poor problem-solving
  - inconsistent parenting

E.g., Chronis-Tuscano et al., 2008; Mokrova et al., 2010
Parental ADHD Symptoms: Links to Ineffective Parental Control

- 179 two-parent families
  - approx. 75% had children with ADHD
- Boys 5 to 13 years (average 9 years)
- Parents approximately 40 years of age
- Middle to upper middle class
- Predominantly European/North American (62%) and Asian (28%)
Parental ADHD Symptoms: Links to Ineffective Parental Control

- Parents and children completed questionnaires assessing parenting
- Each parent observed interacted with the child
- Child ADHD assessed using parent and teacher reports
- Parent ADHD assessed dimensionally
Parental ADHD Symptoms: Links to Ineffective Parental Control

Four groups of families:

- Both mother and father above median on ADHD symptoms (Both High)
- Mother above median, but father below median on ADHD symptoms (Mother High)
- Father above median, but mother below median on ADHD symptoms (Father High)
- Both mother and father below median on ADHD symptoms (Both Low)
Mother and Father ADHD: Ineffective Parenting Control

- Both Low
- Mom Hi/Dad Low
- Mom Low/Dad Hi
- Both High

Mother
Father
Parental ADHD and Positive Parenting

Less consistent links between parental ADHD (particularly hyperactivity/impulsivity) and positive parenting

e.g., Chronis-Tuscano et al., 2008; Lui et al., 2013; Murray & Johnston, 2007
Parental ADHD and Positive Parenting

- Is there a possible positive association due to similarity fit?
Parental ADHD and Positive Parenting

- We tested in the same sample
- Examined interactions of child diagnosis and parent ADHD symptoms (each dimension)
Do parents with more ADHD symptoms have greater empathy for children with ADHD?
Do parents with more ADHD symptoms have greater empathy for children with ADHD?

Paternal Empathy

Father Low HI Father High HI

Child no ADHD Child ADHD
Families and ADHD

- Summary and Implications
Take Home Messages

- Children with ADHD affect parenting
- Parenting affects child outcomes
- Parental ADHD important
  - Difficulties with parenting
  - Family level effects
- Possible protection against child ADHD effects on positive parenting
Implications

- Measure and consider not only child ADHD, but also parent ADHD

- Incorporate relative strengths into treatments - e.g., a good starting point
Thank you!