Openness in Domestic Infant Adoption: A Longitudinal Examination of Adoptive Parents, Birth Parents and Adoptees from Research and Practice

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&

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The Early Growth and Development Study: A Prospective Longitudinal Study of Birth Parents, Adopted Children and Adoptive Parents

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The Early Growth and Development Study (EGDS)

**PIs**
- Leslie Leve (OSLC)
- Jenae Neiderhiser (PSU)
- David Reiss (Yale)
- Jody Ganiban (GWU)

**Investigators**
- Rand Conger (UC Davis)
- Philip Fisher (OSLC)
- The late Xiaojia Ge (Univ. Minnesota)
- Misaki Natsuaki (UC Riverside)
- The late John Reid (OSLC)
- Laura Scaramella (Univ. New Orleans)
- Daniel Shaw (Univ. Pittsburgh)
- Laurie Scaramella (Univ. New Orleans)

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- Joel Gelernter (Yale)
- Helen Egger (Duke)
- Gordon Harold (Univ. Leicester)
- Laurie Wakschlag (Northwestern)
- Linda Mayes (Yale)
Early Growth and Development Study

- 561 domestic adoption placements to non-relative families (2 cohorts)
- Placement by 3 mo. (ave. 7 days)
- Infant free of major medical problems
- 2-3 major assessments for birth parents and up to 7 major assessments for adoptive families spanning infancy through 9 years
- Telephone interviews between major assessments (7-11 AP, 7-9 BP) at approximately 6 mo. intervals
Interlocking Set of EGDS Studies

EGDS-Toddler (PI: Reiss)
NICHD, Sept 2002 - Aug 2007
361 families (Cohort I). Assessed parenting, context, externalizing, internalizing, social competence, birth parent characteristics

EGDS-MH (PIs: Neiderhiser & Leve).
Both Cohorts
New: Psychiatric diagnosis of children and adoptive parents

EGDS-Prenatal (PI: Neiderhiser)
NIDA, June 2007 – May 2013
New: 200 families (Cohort II), DNA, enhanced measurement of prenatal exposure effects (including BFs)

EGDS-School (PI: Leve)
NICHD, Aug 2007 – July 2013
Cohort I
New: Emergent literacy, executive functioning, HPA axis functioning

Both Cohorts
New: weight development

Prenatal Period
3-6 mo 9 mo 18 mo 27 mo 36-48 mo 4 ½ yrs 6 yrs 7 yrs 8 yrs 9 yrs
Recruitment flow chart for EGDS

Adoptive Families & Birth Mothers

Triad meets study criteria (N = 3293); agency contacts AP

AP decline contact by study (N = 658; 20%)*

AP permit contact by study (N = 2635; 80%); agency attempts to locate BM

Agency unable to locate BM (N = 1398; 53%)

Agency locates BM (N = 1237; 47%)

BM declines contact by study (N = 139; 11%)

BM permit contact by study (N = 1098; 89%); study attempts to recruit BM

Study unable to locate BM (N = 138; 12%)

BM declines to study (N = 19; 2%)

BM agrees, never completes full assessment (N = 77; 7%)

BM recruited by study (N = 864; 79%); study attempts to recruit AP

Study unable to locate AP (N = 81; 10%)

AP decline to study (N = 176; 20%)

AP ineligible (N = 4; 1%)

AP agrees, never completes full assessment (N = 32; 4%)

AP recruited by study (N = 561; 65%); study attempts to recruit BF
Recruitment flow chart for EGDS

Birth Fathers

AP recruited by study (N = 561; 65%); study attempts to recruit BF

BF Ineligible (i.e. violent, incarcerated, deceased, unaware of pregnancy or adoption) (N = 88; 16%)

No BF contact info available (N = 204; 36%)

BF contact info available (N = 269; 48%)

Study unable to locate BF (N = 23; 9%)
BF declines to study (N = 22; 8%)
BF in process (N = 15; 7%)
BF recruited by study (N = 209; 76%)

37% of eligible birthfathers are participating
(35% in Cohort I; 40% in Cohort II)
Assessment Methods

Sample

• Retention: Adoptive family = 90%; Birth parent = 90%
• Data collection complete for child age 9-, 18-, 27-months (both cohorts) and 4.5 and 6 years (cohort I)
• Data collection complete for birth parents at 4 & 18 mo postpartum (both cohorts) and at 5 years postpartum (cohort I)

(Leve, Neiderhiser et al., 2013)
Assessment Methods

• Videotaped Observation for adoptive families: Child temperament, parent-child interactions, marital interactions video recorded in the home

• Interviews and Questionnaires for adoptive parents: Couple relationship, parent-child relationship, psychopathology, SES, parenting, child behavior and symptoms, child sleep problems

• Interviews and Questionnaires for birth parents: Couple relationship, diagnosis and symptoms of psychopathology, drug use, economic conditions, life stress, temperament, social support

• Interviews and Questionnaires for birth and adoptive parents on adoption process, openness, agency support & satisfaction, knowledge about the other

• Questionnaires and School Records – teachers and schools

• Diagnostic Interview – birth parents, adoptive parents, child

• Biological data: diurnal cortisol, DNA

(Leve, Neiderhisser et al., 2013)
# Sample Demographics (first assessment)

<table>
<thead>
<tr>
<th></th>
<th>BM</th>
<th>BF</th>
<th>AM</th>
<th>AF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age (avg)</td>
<td>23.8 ± 6.1</td>
<td>25.3 ± 7.4</td>
<td>37.0 ± 5.6</td>
<td>37.9 ± 5.9</td>
</tr>
<tr>
<td></td>
<td>(14-48)</td>
<td>(14-54)</td>
<td>(20-54)</td>
<td>(21-57)</td>
</tr>
<tr>
<td>Race/ethnicity</td>
<td>78% Cauc.</td>
<td>63% Cauc.</td>
<td>93% Cauc.</td>
<td>92% Cauc.</td>
</tr>
<tr>
<td></td>
<td>4% Hisp./Lat.</td>
<td>8% Hisp./Lat.</td>
<td>1% Hisp./Lat.</td>
<td>1% Hisp./Lat.</td>
</tr>
<tr>
<td></td>
<td>5% Multi-eth.</td>
<td>5% Multi-eth.</td>
<td>2% Multi-eth.</td>
<td>2% Multi-eth.</td>
</tr>
<tr>
<td></td>
<td>2% other</td>
<td>4% other</td>
<td>1% other</td>
<td>1% other</td>
</tr>
<tr>
<td>Median Income</td>
<td>$14K</td>
<td>$21K</td>
<td>$119K</td>
<td></td>
</tr>
<tr>
<td>Median Education</td>
<td>completed trade school</td>
<td>completed trade school</td>
<td>completed college</td>
<td>completed college</td>
</tr>
</tbody>
</table>
Adoptive Families participating in EGDS

- Adoptive families
  - 90% adoptive mother and adoptive father (506)
  - 2% single adoptive mother (10)
  - 0.1% single adoptive father (1)
  - 4% two adoptive mothers (23)
  - 3% two adoptive fathers (18)

- 19 divorces/separations by child age 7
<table>
<thead>
<tr>
<th>Relationship</th>
<th>Birth Mother</th>
<th>Birth Father</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single, never married</td>
<td>42%</td>
<td>40%</td>
</tr>
<tr>
<td>Single, widowed</td>
<td>0.4%</td>
<td>0.5%</td>
</tr>
<tr>
<td>Married</td>
<td>13%</td>
<td>14.3%</td>
</tr>
<tr>
<td>Married, but separated</td>
<td>3%</td>
<td>3.4%</td>
</tr>
<tr>
<td>Divorced, not remarried</td>
<td>5%</td>
<td>4.9%</td>
</tr>
<tr>
<td>Remarried</td>
<td>0.4%</td>
<td>0%</td>
</tr>
<tr>
<td>Living in committed relationship</td>
<td>32.7%</td>
<td>36.5%</td>
</tr>
</tbody>
</table>
**General Aims Across EGDS Studies**

*Longitudinal Model Testing free from Influences of Shared Genes*: Identify early emerging behaviors and emotions in children, and reciprocal relations with parenting and marital processes, that predict later behavioral, psychiatric, and health outcomes from early to middle childhood, controlling for genes common to parents & children

*Isolate G and E Influences using a Behavioral Genetic Approach*: Estimate postnatal family environmental effects on child development independent of genetic risk and prenatal exposure, and genetic influences independent of prenatal and postnatal influences

*How do G Influences Affect the Social Environment?* Examine the *mediating* role of the rearing environment on genetic influences on child outcomes cross-sectionally and over time

*How does the Interaction of G and E Influence Child Outcomes?* Examine the *moderating* role of the rearing environment on prenatal and genetic influences on child outcomes
Biological Parent-Child Designs

- Biological Mother
- Biological Father
- Child

Influences:
- Prenatal influences
- Genetic influences
- Shared environmental influences
Prenatal influences

Biological Mother

Biological Father

Adoptive Mother

Adoptive Father

Genetic influences

Shared environmental influences

Child

Adoptive Parent-Child Designs
Openness in EGDS

- Assessed at each in-person assessment for birth parents and adoptive parents
  - Level of openness
  - Satisfaction with openness
  - Contact
    - Frequency and type
- Adoptive families
  - 9 mo, 18 mo, 27 mo, 4.5 yrs, 6 yrs & 7 yrs
- Birth parents
  - 4 mo, 18 mo & 5 yrs
What is the impact of change in openness on the functioning of triad members?

- **Highly stable over time for all reporters**
  - 68-72% of variance is stable over time
  - Pattern is consistent for birth parents and adoptive parents

- **Time-based effects**
  - Small decrease in openness over time, but not systematic
  - Satisfaction increases over time for birth parents and decrease over time for adoptive families
    - Very small decrease for adoptive parents
    - Substantial change for birth parents (accounting for over half of the within-person variance)
Changes in AM reported Openness over time

31.78% of total variance = within-person changes

68.22% of variance = between-person differences
How does openness relate to adoptive and birth parent functioning?

• Adoptive mothers
  – Appear to be links between adoption openness and satisfaction and their own feelings of parenting self-efficacy, anxiety symptoms and marital happiness and instability
  – For example: when AM reports higher marital happiness they also report adoption as more open

• Similar patterns for adoptive fathers

• No systematic findings for birth mothers or fathers

• Overall, there are no consistent links with change in openness and adoptive parent or birth parent adjustment or relationships measures
How does openness relate to adopted child adjustment?

• It doesn’t really…
  – There are some associations with child externalizing behaviors, internalizing behaviors, parent reports of daily hassles with the child
  – Nothing is consistent over time
What have we learned about openness?

- It is highly stable over time
  - There are fluctuations within individuals for their reports of openness and satisfaction, but they are not systematic
- Patterns of change in openness AND overall correlations among different openness measures are similar for adoptive parents and birth parents
  - In other words, openness seems to operate similarly for both
- The children (oldest are age 7) may simply be too young to show an impact at this time
What are we doing with openness in EGDS?

• Including it as a control variable in analyses examining gene-environment interplay
  – If children in more open adoptions are more similar to their birthparent than children in less open adoptions we need to be very careful about how we interpret links between birth parents and children
  – *Generally* we aren’t finding this to be the case

• An interesting exception…
Predictors of Child EF at Age 27 mo.

- **Birth mother:**
  - Verbal IQ: .24*** (Leve et al., in press, Dev Psych)
  - Stroop task: .20*

- **Birth mother:**
  - Stroop task

- **Growth in Negative Emotionality 9-27 mo:**

- **Openness in Adoption:**

- **Toddler:**
  - Effortful Control
  - Delay of gratification: -.33**
  - Language development

- **(Leve et al., in press, Dev Psych)**
Key take-home messages

• Adoption openness
  o We expect to see more of a direct role of openness on all members of the adoption triad as the children become adolescents

• In general the associations between adopted children and their birth parents are not systematically greater in more open adoptions than in less open adoptions

• Much, much more needs to be done

• Check out two posters from the study for more detailed openness analyses - Amy Whitesel & David Martin
Grant Support

NICHD R01 HD042608
The Early Growth and Development Study: Family Process, Genes, and School Entry

NIDA R01 DA020585
Genes, Prenatal Drug Exposure, and Postnatal Environment: An Adoption Study

NIMH R01 MH092118
Gene-Environment Interplay and Development of Psychiatric Symptoms in Children

NIDDK R01 DK090264
Gene-Environment Interplay and Childhood Obesity: An Adoption Study

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