3-31-2006

The Nature and Origins of Infant-Adolescent Mother Attachment Relationships

Greg Moran  
*University of Western Ontario*, gmoran2@uwo.ca

David Pederson  
*University of Western Ontario*, pederson@uwo.ca

Follow this and additional works at: [https://ir.lib.uwo.ca/psychologypres](https://ir.lib.uwo.ca/psychologypres)  
Part of the [Developmental Psychology Commons](https://ir.lib.uwo.ca/developmentalpsychology)

Citation of this paper:  
[https://ir.lib.uwo.ca/psychologypres/3](https://ir.lib.uwo.ca/psychologypres/3)
The Nature and Origins of Infant-Adolescent Mother Attachment Relationships

Greg Moran (and David Pederson)

Department of Psychology
The University of Western Ontario
London, Ontario, Canada

Workshop on Attachment: Causes and Consequences
Center for Studies in Behavioral Neurobiology
Concordia University
Concordia University, Montreal
March 31, 2006
With more than a little assistance from...

- Sandi Bento, Research Coordinator
- Carey Anne DeOliveira (CPRI, London)
- Heidi Neufeld Bailey (U of Guelph)
- Jen Phillips
- Karin Gleeson
- Ann Krupka
- Ann Robson

- Erinn Hawkins
- Sheri Madigan
- Lindsey Forbes
- Elspeth Evans
- Acia Blank
- Anneli Sepa
- Deanne Pederson

- and others, including *countless London area mothers and their babies*

Generous funding from: Health Canada, SSHRC, and OMHF
Our Research Program - Overview

Attachment - The First Relationship
Its origins in the first year and in the mother’s childhood experience
Some Background to Today’s Talk

The Nature, Sequelae and Origins of Attachment
The First Relationship

Maternal Childhood Experience → Maternal State of Mind

Trauma

Organized and Disorganized Attachment Relationships

Future Relationships

Internal Working Model of Attachment

Early Mother-Infant Interaction

Attachment Relationship
Disorganized Attachment

- First noticed in infants with a history of maltreatment
- Breakdown of attachment system - no consistent or coherent strategy
- Unusual, conflicted, contradictory behaviour
  - Approach parent in odd ways
  - Move away from parent when upset or frightened
  - Freeze
  - Display fear of parent
- 15% in non-clinical samples; as high as 80% in at-risk samples

- Unresolved maternal state of mind regarding attachment
Sequelae of Disorganized Attachment

- Disturbances in affect regulation,
- externalizing behaviour problems in childhood,
- dissociative behaviour,
- disturbed interpersonal relationships in childhood and adolescence
- Other...

- Intervention less successful with Disorganized dyads
Current Theories of the Development of Disorganized Attachment

Main & Hesse (1990)
- Frightened/Frightening Behaviour
- Unresolvable conflict

Lyons-Ruth (1999)
- Severely disrupted interaction and failure to repair
- Profound deficit in maternal interaction
- “Relationship diathesis”

• Issues...
Conceptual and Empirical Issues

A theory with an identity crisis??

- Developmental origins in interaction?
  - Fear arising from atypical disrupted maternal behaviour, or
  - Extreme insensitivity, or both??
  - Beyond simple associations

- Is Disorganization a breakdown or an absence of organized pattern?
  - Limited or pervasive

- Disorganization beyond the Strange Situation
Western Adolescent Mothers Study

- 99 adolescent mothers and infants (18.4 years)
- Maternal Adult Attachment Interview: 6 months
- Home visits: 6, 12, 24 months
  - Q-sorts of mother and infant interaction
- University visits: 12, 24 months (and 4.5 years)
  - Attachment classification at 12 and 24 months
  - Videotaped play interaction
- And much else...
  - (including intervention program)
An Overview of the Participants

- High Prevalence of Disorganization
  - Disorganized Relationship - 58%
  - Unresolved Maternal State of Mind - 37%
  - Abuse history - 52%
  - Maternal sensitivity - markedly low
    (MBQS- .12 @ 12 mo)

- Correspondence between maternal AAI and StSit relationship classifications
Some Results of the Adolescent Study
1. Disorganization and Substantially Disrupted Maternal Interaction

- Objectives
  - To identify particular aspects of disrupted maternal behaviour associated with Unresolved representations and Disorganized attachment and
  - To establish maternal disrupted behaviour as a mediator between disorganized state of mind and relationships

- Overview
  - Maternal interview (6mos) - Adult Attachment Interview (AAI)
  - Maternal disrupted interaction in play 12mos) - AMBIANCE
  - Attachment (12mos) - Strange Situation (StSit)

Madigan, Moran, & Pederson
Developmental Psychology - February 2006
Results - Study 1

- Association of Unresolved maternal state of mind with Disorganization relationship ($r = 0.31$)
- Association of disrupted maternal behaviour with
  - Unresolved state of mind ($r = 0.27$) and
  - Disorganized attachment ($r = 0.50$)
- Associations between Disorganization and 3 aspects of Disrupted Maternal Behaviour
  - Role boundary/confusion;
  - Fearful/disorientation;
  - Intrusive negativity
  - **NOT** Affective communication errors or Withdrawal
Transmission of Disorganized Attachment via Disrupted Maternal Behaviour

- Maternal Unresolved State of Mind
  - X: r = 0.27**

- Disrupted Maternal Behavior
  - Y: r = 0.50**
  - Z: r = 0.31**

- Disorganized Attachment Relationships
  - Z: β = 0.19 ns
Summary - Study 1

- Replication of key associations in hi-risk sample
- Identification of specific elements of disrupted maternal behaviour most related to Disorganized relationships
- First evidence of statistical mediation
- But ---- longitudinal evidence??
2. Stability & Change: Disorganization & Maternal Interactive Behaviour

Objectives

- Very few longitudinal studies of attachment in early childhood
  - especially including Disorganization
- None linking changes in attachment to changes in maternal behaviour

Overview

- Attachment at 12 (StSit)& 24mos (Interesting-but-Scary)
- Disrupted maternal interaction at 12 & 24-mos (AMBIANCE)
- Home observations at 6 & 24mo - Maternal Behaviour Q-sort (MBQS)

Evans, Forbes, Moran, & Pederson - Manuscript revised and resubmitted - Child Development
Results - Study 2
## 12- and 24-Month Attachment

<table>
<thead>
<tr>
<th>24-Month Attachment</th>
<th>Organized</th>
<th>Disorg</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organized</td>
<td>26</td>
<td>4</td>
<td>30 (42%)</td>
</tr>
<tr>
<td>Disorg</td>
<td>19</td>
<td>22</td>
<td>41 (58%)</td>
</tr>
<tr>
<td>Total</td>
<td>45 (63%)</td>
<td>26 (37%)</td>
<td>71</td>
</tr>
</tbody>
</table>

### Notes
- The number of 24-month attachments is higher than the 12-month attachments.
- More attachments are organized than disorganized in both monthly periods.
- The total number of attachments is 71.

### Analysis
- The trend in attachment frequency between 12 and 24 months shows a slight increase in organized and disorganized attachments.
- Organized attachments are more common than disorganized attachments in both time periods.
Distribution of Attachment at 12- and 24-Months

Percent

12-mo. SSP  24-mo. Ibs

- Organised
- Disorg
Changes in Attachment Between 12- and 24-Months

- Organ-12
- Disorg-12

Percent

- 0
- 10
- 20
- 30
- 40
- 50
- 60
- 70
- 80
- 90

Organ-12
Disorg-12

Graph showing the changes in attachment between 12- and 24-months.
Initial Results - Study 2

- Continuity - Statistical correspondence as theoretically predicted
- Organized relationships unlikely to change; many Disorganized become Organized
- Similar patterns for maternal Disrupted behaviour
- Accounting for change in Disorganization status???
Accounting for change in Disorganization status 12-24mos???

- Regression analyses of continuous variables
  - 24mos Disrupted maternal interaction predicts 24mos Disorganization

- Difference Scores
  - 12→24mos Change in Disrupted maternal interaction predicts 12→24mos change in Disorganization
## Associations Between Attachment Disorganization and Disrupted Maternal Interaction at 12- and 24-Months

<table>
<thead>
<tr>
<th>ATTACHMENT</th>
<th>Maternal Behaviour</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stable DisR</td>
<td>Stable NotDisR</td>
<td>DisR→NotDisR</td>
<td></td>
</tr>
<tr>
<td>Stable DisOrg</td>
<td>POS</td>
<td>NEG</td>
<td>POS</td>
<td></td>
</tr>
<tr>
<td>Stable Not-DisOrg</td>
<td>NEG</td>
<td>POS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DisOrg→Not-DisOrg</td>
<td></td>
<td>POS</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

DisOrg - Disorganized  
DisR - Disrupted Maternal Interaction

\[ x^2 (9, N = 71) = 36.61, p < .001; \text{Kappa} = .39, p < .001. \]
Results - Study 2

- Stable quality of maternal behaviour associated with stability in relationship

- Improvement in quality of maternal interaction associated with shift from Disorganized to Organized relationships

- Same was also true for quality of maternal sensitivity observed in the home, so...
3. The Big Picture: Maternal Representations, Interaction and Attachment Relationships

Objectives
• Exploration of Key elements of attachment system
  ▪ Seldom observed in same study in home
  ▪ Never involving Disorganization and hi-risk sample

Overview
• Maternal state-of-mind at 6mo (AAI), home observations at 12mo (MBQS), and attachment at 12 mo (StSit)
• Innovations in description, conceptual model and analyses

*Bailey, Moran & Pederson - Revise & Resubmitted - Develop & Psychopath*
Results - Study 3
Styles of Maternal and Infant Interaction

- Styles of Maternal Interaction
  - Sensitive/Insensitive
  - Disengaged
  - Non-Synchronous

- Styles of Infant Interaction
  - Interacts Harmoniously with Mother
  - Prefers Stranger
  - Sad/Withdrawn
Results - Study 3

• Unresolved maternal state of mind associated with:
  ▪ (in)Sensitive and Disengaged maternal interactive styles (not non-synchronous) and

• Disorganized relationships associated with:
  ▪ (un)Harmonious interaction, Prefers Visitor, and Sad/Withdrawn
Traditional Mediational Analyses

Logistic Regressions

Linear Causal Model
Transmission of Disorganized Attachment via Insensitive Maternal Behaviour in the Home

Maternal Unresolved State of Mind

(1) Sensitivity

Logistic Regressions

Disorganized Attachment Relationship

\[ Z \beta_1 = 0.99^{**} \]

\[ Z \beta_2 = 0.51^{**} \]

Goodman test

\[ z = -2.33; p < .05 \]

\[ X \beta = 1.60^{**} \]

\[ Y \beta = 0.51^{**} \]
Transmission of Disorganized Attachment via Disengaged Maternal Behaviour in the Home

- Maternal Unresolved State of Mind
  - \( X \) \( \beta = 1.79^{**} \)
  - \( Z \) \( \beta_1 = 0.99^{**} \)
  - \( Z \) \( \beta_2 = 0.54^{**} \)

- Disengaged
  - \( Y \) \( \beta = 2.03^{**} \)

Goodman test
\( z = -2.33; p<.05 \)

Logistic Regressions
Relationship-Based Analyses

Latent Class Analysis
Systems Model
<table>
<thead>
<tr>
<th>Maternal Style</th>
<th>Child Style</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensitive</td>
<td>Harmoniously</td>
</tr>
<tr>
<td>Disengaged</td>
<td>Prefers Stranger</td>
</tr>
<tr>
<td>Disengaged</td>
<td>Sad/Withdrawn</td>
</tr>
</tbody>
</table>
Figure 2. Graphic description of two classes identified through LCA using co-occurring patterns of mother/infant behavior profiles. Diameter of circles represent relative conditional probabilities.

### Mother/Infant Dyadic Interactive Profiles

**LCA Class 1 – 45%**
- U/d
- Aut
- Dis

**LCA Class 2 – 55%**
- U/d
- Aut
- Dis

<table>
<thead>
<tr>
<th>Maternal State of Mind</th>
<th>Dyadic Interactive Style</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dis - Dismissive</td>
<td>I - Disengaged/Prefers Visitor</td>
<td>A - Avoidant</td>
</tr>
<tr>
<td>Aut - Autonomous</td>
<td>II - Sensitive/Harmonious</td>
<td>B - Secure</td>
</tr>
<tr>
<td>U/d - Unresolved</td>
<td>III - Disengaged/Sad-Withdrawn</td>
<td>D - Disorganized</td>
</tr>
</tbody>
</table>
Results - Study 3

• Disorganization has a more pervasive impact on mother-infant interaction than thought - not simply a breakdown of an organized pattern

• Disorganization associated with naturalistic aspects of maternal interaction
  - i.e. not limited to atypical disrupted or frightening behaviour
Integrating Two Models

- Disrupted/Frightening Maternal Behaviour
- Maternal Unresolved State of Mind
- Maternal Interactional Style
- Relationship Disorganization
“Just as children are absolutely dependent on their parents for sustenance, so in all but the most primitive communities, are parents, especially their mothers, dependent on a greater society for economic provision. If a community values its children it must cherish their parents.”

John Bowlby, 1951, p.84, WHO Report
Cited by Inge Bretherton,
Developmental Psychology, 1992
For additional information:

The Pederson-Moran Research Group at the University of Western Ontario

http://www.ssc.uwo.ca/psychology/faculty/pedmor/pedermor.html