The Roots of Love: Maternal Behaviour Related to Attachment Security

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

Greg Moran
*University of Western Ontario, gmoran2@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/psychologypres)

Citation of this paper:
[https://ir.lib.uwo.ca/psychologypres/1](https://ir.lib.uwo.ca/psychologypres/1)
The Roots of Love: Maternal Behaviour Related to Attachment Security

David R. Pederson
and
Greg Moran

University of Western Ontario

2nd Annual Goldberg Lecture
May 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 Gleason
- 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
Roots of our Attachment to Susan Goldberg

- Parents for Peace
- Strange Situation Coding
- Home County Attachment Workshops
The Roots of Love: How would Sue react to our title??

• In the everyday sense of the word, we have never worked with a mother whom we felt did not “love” her child.

• Here, we use “love” to refer to a mother’s sensitivity to cues for comfort, protection, and assurance.
Overview

- Ainsworth’s observations of maternal behaviour
- Challenges of observing sensitivity
- Maternal Behaviour Q-set
- Studies of sensitivity
- Implications for those working with mothers
Mary Ainsworth’s Observations

- Observed 23 mother-infant dyads
  - 4 hr visits every 3 weeks over the first year
  - Over 70 hours of home observation
  - Strange Situation conducted at 12 months
- Mothers who were in secure relationships were rated as being more accessible, accepting, cooperative and sensitive
Ainsworth’s Sensitivity Hypothesis

- The Sensitivity Hypothesis:
  - *Parental sensitivity is the predominate developmental determinate of attachment security*
- Core assertion of attachment theory
- Sadly, subsequent research found rather weak relationships between sensitivity and security
Our Initial Experiences in the Study of Sensitivity

- The questionnaire procedure
  - Removed toys from room after Strange Situation and gave mother questionnaire to fill out
  - Behaviour frequency codes of maternal behaviour
  - Mothers in secure relationships were more responsive to their infants’ cues
Mothers in Secure relationships were more appropriate and less ignoring.
Quest for Ecological Validity: Move to Home Observations

- Focus on the stresses of preterm birth
  - Adapted the questionnaire situation coding system
  - Home observations at 12 months and Strange Situation at 18 months
- Sensitivity ratings related to intellectual development at one year and at six years but **NOT** to Strange Situation security
- Lessons learned about the challenges of observing sensitivity
Lessons from the Brannen Twins

- **Objective** event coding of maternal responses to infant cues
- When we were coding Twin A, mom very responsive to him but ignored Twin B
- Pattern switched when we turned our attention to Twin B
- Obviously presence and attention of observers influences maternal behaviour
Controlling for Observer Effects

• Ainsworth - repeated home visits decreased novelty of being observed
  ▪ For many reasons, this is an ideal solution but not affordable
• We adapted what we learned from the questionnaire situation in a semi-structured visit
• Parenting takes place within a busy ongoing life - so must our observations!
Lessons from Mrs. Robertson and Amanda

- Participants in the same *Stresses of Preterm Birth Study* as the Brannen twins
- Mrs. Robertson very dedicated to Amanda’s development
  - Home was a teaching machine
  - Mrs R very proud of Amanda’s development
- Amanda very bright, sociable baby
- Clearly avoidant in the Strange Situation
Observing Sensitivity
- A Serious Challenge -

- We were focused too narrowly on responsiveness
- Ainsworth rating scales entice relatively inexperienced observers into using global impressions
- Waters succeeds in observations of infant behaviour at home with q-sort method
Development of the Maternal Behaviour Q-set

• Writing q-set items
  - Reviewed the literature for specific descriptions of maternal behaviour related to the construct of sensitivity
  - Ainsworth’s detailed descriptions were a rich source of ideas
  - Chose behaviours we were likely to observe in 2 hour home observation
Examples of Q-set Items

• High Sensitivity Items:
  ▪ Shows delight in interaction with B
  ▪ Interventions satisfy B
  ▪ Responds to B’s distress and non-distress signals even when engaged in some other activity such as having a conversation with visitor
  ▪ Interactions revolve around B’s tempo and current state
Examples of Q-set Items

- Low Sensitivity Items:
  - Teases B to promote continued interaction
  - Content and pace of interactions set by M rather than according to B’s responses
  - Interactions characterized by conflict
  - Actively opposes B’s wishes
Q-sort Procedure

- Items printed on cards
- Cards sorted into 9 piles of 10 cards each
  - Pile 9 $\rightarrow$ most like of mother
  - Pile 1 $\rightarrow$ most unlike the mother
- The pile number is the score for that item
  - Each item has a number from 1 to 9 reflecting how descriptive the item is of the mother
Analysis of Q-sort Data

- Item by item analysis - e.g., which items are most characteristic of mothers in secure relationships?
- Sensitivity score - correlation between mother’s scores and those for prototypical sensitive mother
- Content grouping - responsiveness, expression of affection, accuracy
- Q-factor analysis
Initial Q-sort Studies

• Sensitivity correlated with:
  ▪ second observer’s attachment security scores ($r = .42$), and
  ▪ security scores derived from the mothers’ q-sort descriptions ($r = .29$)

• Mothers of secure infants described as:
  ▪ noticing when B smiles and vocalizes,
  ▪ correct in interpreting B’s cues, and
  ▪ not resenting B’s signals
Q-sort Sensitivity

• Substantially Related to Strange Situation Security
  ▪ security at 18 months correlated:
    • $r = .39$ with sensitivity at 8 months, and
    • $r = .62$ with sensitivity at 12 months
      Pederson & Moran (1996)
  ▪ Security and sensitivity at 12 months correlated, $r = .51$
      Pederson, Gleason, Moran, & Bento (1998)
• Contrast with $r = .24$ in meta analyses
Sensitivity at 8 and 12 months in the Home and Strange Situation Classifications at 18 Months
Q-Factor Analyses

• Q-factor analyses looks for clusters of participants rather than clusters of items
  ▪ Emergent styles of maternal and infant interaction
  ▪ Allows for several styles rather than limiting to variation on a single dimension

• Our student (now colleague) Heidi Bailey has led in the application of q-factor analyses
Ainsworth Revisited
Bailey, Waters, Pederson, and Moran (1999)

• Q.sorts describing 12 month interactions of adolescent and adult mothers and their infants

• Identified one factor for adult mothers
  ▪ Seen as highly sensitive, effectively responsive, and displaying delight in their interactions with their child
Ainsworth Revisited - An Adolescent Sample

- Three factors in the q-sort data describing the adolescent sample
  - *Sensitive* - similar to the sensitive adult mothers
  - *Disengaged* - missing, ignoring and unresponsive to infant signals and needs
  - *Non-Synchronous* - actively opposed baby’s wishes, instructive, and annoyed by baby’s lack of cooperation
Maternal Styles, Maternal State of Mind, and Strange Situation Attachment

- Adolescent mothers and their infants
  - Adult Attachment Interview to assess maternal attachment representations at 6 months
  - Home observations at 12 months summarized by Maternal Behaviour Q-sort
  - Infant attachment behaviour summarized by Attachment Q-sorts
  - Strange Situation assessment of attachment also at 12 months

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

• Same Three Maternal Factors
  ▪ Sensitive/Insensitive
  ▪ Disengaged
  ▪ Non-Synchronous

• Three Infant Interaction Factors
  ▪ Interacts Harmoniously with Mother
  ▪ Prefers Stranger
  ▪ Sad/Withdrawn
Maternal Styles, AAI, and Strange Situation Classifications

- **Sensitive** Mothers were unlikely:
  - To be Unresolved/disoriented in discussion of loss or abuse on the AAI
  - To have Disorganized infants in the Strange Situation

- **Disengaged** Mothers were likely:
  - To be Unresolved/disoriented
  - To be in Disorganized relationships with their infants

- **Non-Synchronous** Mothers were likely:
  - To be in Disorganized relationships with their infants
Clusters of AAI, Strange Situation, and Dyadic Styles in the Home

- Dyadic styles of mother-infant interaction
  - Sensitive - Harmonious
  - Disengaged - Prefers Visitor
  - Disengaged - Sad/Withdrawn

- Latent Class Analysis revealed two contrasting clusters
  - Organized
  - Disorganized
Mother/Infant Dyadic Interactive Profiles

LCA Class 1 – 45%

- Aut
- Dis
- U/d

Sensitive

II

D

B

LCA Class 2 – 55%

- Aut
- U/d
- Dis

Sensitive

II

Disengaged

I

III

D

B

A

Maternal State of Mind
Dis - Dismissive
Aut - Autonomous
U/d - Unresolved

Dyadic Interactive Style
I - Disengaged/Prefers Visitor
II - Sensitive/Harmonious
III - Disengaged/Sad-Withdrawn

Relationship
A - Avoidant
B - Secure
D - Disorganized
Lessons Learned in Describing Sensitivity - Implications for Working with Mothers

• Sensitivity is not what it may seem
  ▪ Not objective or impressionistic
  ▪ Structured and disciplined assessment

• Sensitivity matters
  ▪ Different paths to relationship
  ▪ Maladjustment
    ▪ Sensitivity may provide minimum necessary framework for adaptive development
Lessons Learned

• Our journey in understanding how to assess sensitivity has also echoed in similar ways in learning other attachment assessments.

• Early days of Adult Attachment Interview coding
  - we generated AAI's from our sample
  - Met with our fellow participants and almost every classification was represented for these cases.
Lessons Learned

- In our data set for Disorganization we have D-scores, new D-scores, and even newer D-scores
- Similar stories for coding AMBIANCE and FR behaviour
- Understanding relationships is not simple
  - Relationships are complex
  - Working with relationships demands prudence