Stress reactivity during the adaptation to child care

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“...a break in the continuity of the mother-child relationship at a critical stage in the development of the child’s social responses may result in more or less permanent impairment of the ability to make relationships.”

Question I: How does experience of maternal care affect children’s stress reactivity?

Question II: Does child attachments towards mother change due to the stress that children experience at child care entry?

Question III: How can care providers in child care help children to adapt?
**Question I:** How does experience of maternal care affect children’s stress reactivity?

**Experience of maternal care**

- **Sensitive care:** Proximal interactions; physical contact; assurance of emotional regulation
  - Secure mother-child attachment
  - ? Stress ?

- **Insensitive care:** Distal interactions; hardly physical contact; lack of emotional regulation
  - Insecure mother-child attachment
  - ? Stress ?

**Internal Working Model**
Berlin Adaptation Study

Research foundation: DGF [Ah 55/2-1/2-2/2-3/2-4]
Project management: Lieselotte Ahnert
Interdisciplinary Center für Applied Research on Socialization

in Cooperation with
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Michael E. Lamb, NICHD, Washington/Bethesda/USA

Care Experience
Attachment- Exploration- Balance

Stress measure
Vienna Child care Study

Research foundation: FWF [P19567-G14]
Project management: Wilfried Datler
Department of Psychoanalytic Pedagogy

in Cooperation with Lieselotte Ahnert,
Tina Eckstein-Madry & Gregor Kappler
Department of Developmental Psychology

Care Experience
Attachment-Exploration-Balance

Stadt Wien

Stress measure
**Question I:** How does experience of maternal care affect children’s stress reactivity?

**Cortisol levels in different contexts**

![Cortisol levels graph]

- **x-axis:** Adaptation Phase and Separation Phase
- **y-axis:** Cortisol in ng/ml
- **Legend:**
  - Secure
  - Insecure
Neg. emotion levels in different contexts

![Graph showing negative emotion levels in different contexts](image)
Physiological stress — negative emotions

Securely attached children: high
Insecurely attached children: low

concordance of cortisol levels with negative emotions
### Summary:

<table>
<thead>
<tr>
<th>Adaptation</th>
<th>Stressful for the children, even when mothers were still present.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mothers of children with secure attachments partially buffered their stress reaction.</td>
</tr>
<tr>
<td>Separation</td>
<td>Stressful especially for secure attached children.</td>
</tr>
<tr>
<td></td>
<td>Securely attached children: more negative emotions that are more convergent with their physiological stress reactivity.</td>
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</tbody>
</table>
**Question II:** Does child attachments towards mother change due to the stress that children experience at child care entry?

<table>
<thead>
<tr>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>Secure</td>
<td>Insecure</td>
</tr>
<tr>
<td>Secure</td>
<td>29%</td>
</tr>
<tr>
<td>Insecure</td>
<td>20%</td>
</tr>
</tbody>
</table>

Attachment security to mothers changed in 41% of the children during the transition to child care. Attachment patterns were relatively unstable post child care entry depending on the duration of the adaptation with mother.
“Even human infants show a marked capacity to adapt the specificity of their comfort responses to more communal caregiving. For example, human infants in day care will accept comforting from a larger set of adults than did the children reared strictly within a nuclear family.”

**Question III:** How can care providers in child care help children to adapt?

Infant-mother attachment

Duration of adaptation

Infant’s negative emotion

-D1  D5  D9  M5-

Infant–care provider attachment

*Whining-Crying:* Basis for the formation of an attachment relationship to the care provider!
Summary:

- Little whining and crying hardly develop a secure careprovider-child attachment
- A lot of whining and crying develop a more secure careprovider-child relationship

Vienna Child care Study

Child care entry

<table>
<thead>
<tr>
<th>Home</th>
<th>Adaptation</th>
<th>Separation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Adaptation:
  - Stress measure
    - Extension in terms of age!
      - 10-36 months

- Separation:
  - 2 weeks
  - 2 ½ months
  - 4 ½ months

Attachment-Exploration-Balance
Diurnal profiles of cortisol

Slope = indicator for the stress reactivity over the day:

Negative slope = Low stress reaction 😊
Positive slope = High stress reaction 😞

time of the day
Cortisol change post child care entry

Slope in µg/dL

<= 24 months

> 24 months

2 weeks

4 1/2 months

2 weeks

4 1/2 months
Question III: How can care providers in child care help children to adapt?

Disengagement

Shared actions

Demands for attention

Turn-taking in communication

Care Experience

Attachment-Exploration-Balance

Stress reactivity

Separation

2 weeks

No age differences!
Disengagement

Shared actions

Demands for attention

Turn-taking in communication

Older children

Disengagement

Care Experience

Attachment-Exploration-Balance

.42**

.12

-.05

-.21

Stress reactivity

Separation

4 ½ months

Class Analysis AIC: 214.45
BIC: 258.91

Younger children

Disengagement

Care Experience

Attachment-Exploration-Balance

25**

35**

30**

24+

Stress reactivity
Separation

2 weeks

Separation

4½ months

≥24 months

>24 months

Care Experience
Attachment-Exploration-Balance

X

Stress reactivity

21
Ongoing research strategies:

Computer based microanalysis of peer interactions:

Social Behavior between Peers (proactive/ reactive)
Play Behavior (Play Context & Types of Play)
Computer based microanalysis of care provider-child interactions:

- Interactional Orientation
- Interactional Intensity
- Behavioral Qualities
- Physical Proximity
- etc.

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Question I: How does experience of maternal care affect children’s stress reactivity?

Adaptation to child care was stressful for children, especially under 24 months of age. However, securely attached children benefit from the protective function of their mothers.

Sustainably, mild chronic stress could be observed, especially in younger children when the mother had finished the adaptation, and went back to work.

Securely attached children showed stress more offensively and in concordance to their cortisol levels.
Question II: Does child attachments towards mother change due to the stress that children experience at child care entry?

YES, but children changed not only from secure to insecure, but also from insecure to secure post child care entry.

Mother-child attachments remained secure or changed from insecure to secure the longer the mother adapted the child to child care.
Question III: How can care providers in child care help children to adapt?

Children who were more stressed at child care entry and displayed more negative emotions got more attention and care from the care providers. These children develop a more secure attachment relationship with their providers in child care.

This has been observed especially in children under 24 months of age.

Once children had developed secure care provider-child attachments, care providers did buffer child negative emotions.