Emotionele littekens in het brein

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Universality of Good Parenting
“The infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother substitute) in which both find satisfaction and enjoyment” and that not to do so may have significant and irreversible mental health consequences”

Bowlby, 1951
Importance of Good (enough) Parenting

Emotional interactions with caretaker fundament for later development (Bowlby, 1969)

- Form attachment
- Establish sense of safety and security
- Learn to regulate own emotions
- Understand emotional states of others
- Learn to trust others
- Learn empathy
Importance of Good (enough) Parenting

Emotional interactions with caretaker fundament for later development (Bowlby, 1969)

- Form attachment
- Establish sense of safety and security
- Learn to regulate own emotions
- Understand emotional states of others
- Learn to trust others
- Learn empathy
- Form working model of self as basically ‘ok’
‘... satisfaction and enjoyment at all times ..’
Short video Still Face Experiment Edward Tronick

http://www.youtube.com/watch?feature=player_detailpage\&v=apzXGEbZht0
‘When I remember my childhood pains, I do not think about broken bones, hurt knees, swollen ankles; I remember the pain of being excluded, rejected, isolated’.
Definition Emotional Maltreatment

“Emotional maltreatment involves any repeated and pervasive pattern of acts by a caregiver that conveys to a child that he or she is worthless, flawed, or unloved”

American Professional Society on the Abuse of Children (APSAC)

- **Emotional neglect:**
  Act of *omission* characterized by emotional unavailability and the withdrawal or withholding of affection or support

- **Emotional abuse:**
  Act of *commission* characterized by extreme instances of hostility, criticism, and psychologically controlling behavior

(Hart et al., 2002; Shaffer et al., 2009; Glaser, 2002)
Childhood maltreatment & psychopathology

Sample:
Netherlands Study of Depression and Anxiety (NESDA, n=2981)
8-year longitudinal controlled community study

<table>
<thead>
<tr>
<th>Child Abuse</th>
<th>Healthy Controls (n = 498)</th>
<th>Depression and/or Anxiety disorder (n = 2288)</th>
<th>Odds Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emotional Neglect</td>
<td>19%</td>
<td>45%</td>
<td>3.54 ***</td>
</tr>
<tr>
<td>Emotional Abuse</td>
<td>11%</td>
<td>29%</td>
<td>3.25 ***</td>
</tr>
<tr>
<td>Physical Abuse</td>
<td>6%</td>
<td>16%</td>
<td>2.79 ***</td>
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<tr>
<td>Sexual Abuse</td>
<td>13%</td>
<td>21%</td>
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</table>

Majority (>90%) identified parents as ‘perpetrator’

Spinhoven, Elzinga et al., 2010, *Journal of Affective Disorders*
Emotional maltreatment associated with depression severity

Figure 2

Emotional abuse and Depression Severity in adolescents (12-18 yrs)

Depression severity (CDI)

No emotional abuse (CTQ < 9)  emotional abuse (CTQ > 13)

***
Emotional maltreatment associated with depression severity: factors?

**FACTORS:**

- Emotional Maltreatment
- Genetic Vulnerability?
- Gene x Maltreatment Correlation?
- Gene x Maltreatment Interaction?
- Reversed Causality: parental behavior elicited by depressive behavior of the child?
Intergenerational transmission of depression

Parent Anxiety / Depression

Offspring MDD symptoms

Offspring Childhood Emotional Maltreatment

*** p < .001, ** p < .01, * p < .05

Festen et al., submitted
Causes of depression according to patients

<table>
<thead>
<tr>
<th>Causes</th>
<th>Frequency in percentage (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Theme 1 current life stressors</strong></td>
<td></td>
</tr>
<tr>
<td>Work situation</td>
<td>33.3% (101)</td>
</tr>
<tr>
<td>Family situation</td>
<td>24.1% (73)</td>
</tr>
<tr>
<td>Somatic illness</td>
<td>11.9% (36)</td>
</tr>
<tr>
<td>Unemployment</td>
<td>7.3% (22)</td>
</tr>
<tr>
<td>Loneliness</td>
<td>5.9% (18)</td>
</tr>
<tr>
<td>Bad economy</td>
<td>3.0% (9)</td>
</tr>
<tr>
<td>Non-specified stress</td>
<td>13.5% (41)</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>68.6% (208)</strong></td>
</tr>
<tr>
<td><strong>Theme 2 past life events</strong></td>
<td></td>
</tr>
<tr>
<td>Death of relative or friend</td>
<td>9.9% (30)</td>
</tr>
<tr>
<td>Broken relations</td>
<td>8.9% (27)</td>
</tr>
<tr>
<td>Childhood</td>
<td>6.6% (20)</td>
</tr>
<tr>
<td>Traumatic events</td>
<td>5.0% (15)</td>
</tr>
<tr>
<td>Reproduction</td>
<td>4.0% (12)</td>
</tr>
<tr>
<td>Non-specified life events</td>
<td>4.3% (13)</td>
</tr>
<tr>
<td><strong>Theme 3 constitutional</strong></td>
<td></td>
</tr>
<tr>
<td>Personality</td>
<td>31.4% (95)</td>
</tr>
<tr>
<td>Ambitious</td>
<td>17.8% (54)</td>
</tr>
<tr>
<td>Sensitive</td>
<td>5.3% (16)</td>
</tr>
<tr>
<td>Depressed disposition</td>
<td>4.0% (12)</td>
</tr>
<tr>
<td>Non-specified personality</td>
<td>4.3% (13)</td>
</tr>
<tr>
<td>Biological/heredity</td>
<td>3.6% (11)</td>
</tr>
<tr>
<td>Season</td>
<td>2.0% (6)</td>
</tr>
<tr>
<td><strong>Do not know</strong></td>
<td><strong>5.0% (15)</strong></td>
</tr>
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</table>

Hansson et al., 2010, JAD
Child Abuse $\rightarrow$ Psychopathology

- *How* does childhood stress *gets under the skin*, to affect risk for later psychopathology?

- How does childhood stress *incubates* in the body, manifesting in psychopathology several decades later?
Cognitive ‘stress sensitisation’

- **Heredity**
  - Negative cognitions are directly supplied to the child by the abuser
    - *e.g.*, “You’re so stupid, you’re worthless”
    - (Rose & Abrahamson, 1992)

- **COGNITIVE VULNERABILITY**
  - Negative self-inferences, dysfunctional attitudes, and low self-worth

- **Symptoms of depression & anxiety**

- **e.g., argument with boss**
  - I am worthless!
  - I am stupid..
Animal models of Early Life Stress: Neonatal maternal separation

Prolonged Maternal Separation:
- Anxiety \( \uparrow \), social interaction \( \downarrow \), cognitive performance \( \downarrow \)
- HPA-axis responsiveness \( \uparrow \) to novel stressors
- Brain-Derived Neurotrophic Factor (BDNF) \( \downarrow \)
- Structural & functional brain changes: mPFC, hippocampus, amygdala
- Epigenetic changes

Coplan et al. 1996; Levine et al., 1993; Plotsky et al, 2005; Sapolsky 1997; Meaney & Szyf, 2005; De Kloet et al. 2005; Yehuda 2010
Animal models of Early Life Stress: Neonatal maternal separation

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Coplan et al., 1996; Levine et al., 1993; Plotsky et al., 2005; Sapolsky, 1997; Meaney & Szyf, 2005; De Kloet et al., 2005; Yehuda 2010.
Emotional maltreatment & the brain

Attenuated growth of the amygdala during positive parenting (Whittle et al., 2014)
Amygdala response to faces ↑ in individuals with reported history of emotional maltreatment

Van Harmelen et al., 2013, *SCAN*

- Pattern consistently observed in (male and female) MDD, ANX, MDD+ANX, and HC
- Not explained by psychopathology, gender, nor neuroticism or recent life events
Abused children earlier recognition angry faces

Pollak & Kistler, 2002
Amydala activation ↑ to fearful faces in previously-institutionalized (PI) children (10 years later)

Tottenham et al., 2011
Indiscriminate Amygdala Response to Mothers and Strangers in previously-institutionalized (PI) youth

Figure 2 (A) Whole-brain linear mixed effect analysis revealed a Group × Stimulus Type interaction (F = 4.003, p < .05, small-volume-corrected): left amygdala region of interest (peak [-27 -3 -19]; k = 47).

Olsavsky, Biological Psychiatry, 74, 2013, 853 - 860
Reduced amygdala habituation to facial stimuli in previously institutionalized (PI) youth

Olsavsky, *Biological Psychiatry*, 74, 2013, 853 - 860
Older age-at-adoption associated with higher parent report of indiscriminate friendliness

Olsavsky. *Biological Psychiatry*, 74, 2013, 853 - 860
Amygdala responses to faces ↑ after combat exposure ➤ *Prospective design*

Amygdala activation ↑ in response to angry and fearful faces in soldiers after vs before combat exposure

Van Wingen et al. 2011, *Molecular Psychiatry*
Amygdala activation in response to emotional pictures ► *Experimental stress design*

Oei et al., 2012, SCAN
Model of emotional maltreatment

Heredity

Emotional Maltreatment

COGNITIVE / NEUROBIOLOGICAL VULNERABILITY

Current life stressor

Negative self-inferences and low self worth

Increased stress reactivity in social interactions

Symptoms of depression & anxiety
The good news..

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Spinhoven, Elzinga e.a., 2010, *Journal of Affective Disorders*
Factors that contribute to resilience

Appraisal of a stressor.

...AND YOU THINK YOU HAVE STRESS..
Neuroticism Affects Depressive Responses to Stressful Life Events

Kendler, 2004
“The road not taken”

Life experiences in monozygotic twin pairs discordant for major depression

Kendler & Halberstadt, 2013, Molecular Psychiatry
“The road not taken”

Life experiences in monozygotic twin pairs discordant for major depression

“In seven pairs, the well twin had one stable, long-term, successful romantic relationship, whereas the affected co-twin had romantic reversals one or more of which precipitated depressive episodes”

Kendler & Halberstadt, 2013, Molecular Psychiatry
Of... pleegzorg
Interdisciplinaire Minor (LUF):
Kindermishandeling en verwaarlozing over de levensloop

1. Kindermishandeling en verwaarlozing over de levensloop; een multidisciplinaire benadering (Pedagogische Wetenschappen)

2. Forensische pedagogiek en forensische psychologie van daders en getuigen (Pedagogische Wetenschappen)

3. Psychische en neurobiologische gevolgen van kindermishandeling (Psychologie)

4. Juridische aspecten van kindermishandeling (Rechten)

5. Medische diagnostiek, preventie en behandeling van kindermishandeling (Geneeskunde)

6. Stage minor Kindermishandeling en Verwaarlozing

Voor stage E-mail: Elzinga@fsw.leidenuniv.nl
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