The Impact of Sexual Abuse on Female Development: Lessons from a multigenerational, longitudinal research study

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The Psychobiological Impact of Sexual Abuse on Female Development

- Study began in 1987
  - Joint PI’s: Frank W. Putnam, M.D. Penelope K. Trickett, Ph.D.

- Collaborators:
  - Jennie Noll, Ph.D.
  - John L. Horn, Ph.D.
  - John J. McArdle, Ph.D.
  - Elizabeth J. Susman, RN, Ph.D.

- And many dedicated graduate students and research assistants
Original Conceptual Model

Trauma Outcomes

Modifiers

Outcomes

Psychological Distress

Physiological Stress

Degree of Trauma

Types(s) of Abuse
Duration
Frequency
Relationship to Abuser
Physical Force or Threats
Age of Onset

Psychopathology
Depression
Anxiety
Dissociation
Hypersexuality

Pubertal Stage

Family & Peer Support

Competence
Cognitive
Social
Self-esteem
Control

Hormonal Milieu

Pubertal Stage
Distinctive Features

Longitudinal/Prospective

- Most prior research had been cross-sectional studies of acute impact or retrospective studies of long-term impact.
- This has limited the ability to examine developmental change and has implications for understanding relations between characteristics of the abuse and its impact.
Other Distinctive Features

- Familial abuse & family context
- Developmental framework: Transition through puberty and then transition to early adulthood
- Psychobiological orientation and measures
Abuse group families referred by protective service agencies in the greater Washington, D.C., metropolitan area.

Eligibility criteria for inclusion in the study:
+ females aged 6 to 16; (M=11; SD=3)
+ disclosure within six months of participation
+ sexual abuse involved genital contact and/or penetration
+ perpetrator was a family member: bio parent, stepparent, older sibling, uncle, or mother’s live-in boyfriend
+ a non-abusing parent or guardian willing to participate
## Characteristics of Sexual Abuse Trauma for This Sample

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Mean/Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Severity of Abuse</td>
<td></td>
</tr>
<tr>
<td>Penetration</td>
<td>70</td>
</tr>
<tr>
<td>Abuse Count</td>
<td>2.81</td>
</tr>
<tr>
<td>Age of Onset (years)</td>
<td>7.90</td>
</tr>
<tr>
<td>Duration (months)</td>
<td>26.23</td>
</tr>
<tr>
<td>Relationship to Perpetrator</td>
<td></td>
</tr>
<tr>
<td>Biological father</td>
<td>23.5</td>
</tr>
<tr>
<td>Other father figure</td>
<td>35.0</td>
</tr>
<tr>
<td>Other relative</td>
<td>41.5</td>
</tr>
<tr>
<td>Physical Violence</td>
<td>51.9</td>
</tr>
<tr>
<td>Multiple Perpetrators</td>
<td>41.6</td>
</tr>
</tbody>
</table>
• SES is diverse  
  the majority being either working class or upper portions of lower SES

• Race is diverse  
  49% Caucasian  
  46% African American  
  4% Hispanic  
  1% Asian

• Comparison Families matched on race, SES, zip codes, family constellation & non-sexual trauma hx.
96.38% Retention

Time 1: mean age=11.06
Time 2: mean age=12.22
Time 3: mean age=13.42
Time 4: mean age=18.05
Time 5: mean age=19.85
Time 6: mean age=24.83
Terminology Note

$G_0$ – grandparent of original participant

$G_1$ – mother of original participant

$G_2$ – original participant

$G_3$ – offspring of original participant
Intergenerational Issues

Mothers ($G_1$) of abused girls much more likely to report sexual abuse (45%) than mothers of comparison girls (16%)

Offspring ($G_3$) of abuse victims more likely to be reported to CPS (17% vs 1%)
Examining Parenting Attitudes and Mental Health of Mothers ($G_1$) of Sexually Abused Females ($G_2$)

(Kihyun Kim, Ph.D., lead author)
Potential Study Groups

Mother Abuse

Abuse-
Abuse

Nonabuse-
Abuse

Daughter Abuse

Mother Non-Abuse

Abuse-
Nonabuse

Nonabuse-
Nonabuse

Daughter Non-Abuse
Mothers’ Childhood Trauma

- EA by Mother: 55%
- PA by Mother: 27%
- EA by Father: 47%
- PA by Father: 36%

EA = Emotional abuse
PA = Physical abuse

**Legend**
- Abuse-Abuse
- Nonabuse-Abuse
- Nonabuse-Nonabuse

EA = Emotional abuse
PA = Physical abuse
Mothers’ Mental Health

![Graph showing standard scores for different mental health measures related to abuse and nonabuse.]
Mothers’ Family Relationships

Emotional Support from Family of Origin

* – *
In Sum:

Mothers of sexually abused daughters who themselves were abused report:

- Most physical and emotional abuse by own mother & father
- Highest depression
- Lowest provision of positive structure & satisfaction with a child as a parent
- Most separation from own mother
- Most residential moves as a child
- Lowest current emotional support from family of origin
Mothers of sexually abused daughters regardless of their own experiences report:

Most trait anxiety

Mothers of sexually abused daughters who were not abused report:

Highest use of punitive discipline as a parent

Across groups:

No differences found in level of dissociation
Integrative Model of Parenting Attitudes among $G_1$ Mothers of Sexually Abused and Comparison Girls
Standardized Parameter Estimates from the Best-Fitted Models

(1) Positive Structure – Spurious Effect Model

- $G_1$ Mother’s History of Childhood Sexual abuse
- $G_0$ Mother’s Punitive Discipline
- $G_1$ Social Support for Parenting
- $G_1$ Mother’s Dissociative Symptoms
- $G_1$ Mother’s Positive Structure
- $G_2$ Daughter’s Child Sexual Abuse

$0 = -0.22 - 0.21$

$G_1$ Social Support for Parenting is connected to $G_0$ Mother’s Punitive Discipline with a path coefficient of 0.23.
Standardized Parameter Estimates from the Best-Fitted Models

(2) Punitive Discipline – Direct Effect Model

- G₀ Mother’s Punitive Discipline
- G₁ Mother’s History of Childhood Sexual abuse
- G₁ Mother’s Dissociative Symptoms
- G₁ Social Support for Parenting
- G₁ Mother’s Punitive Discipline
- G₂ Daughter’s Child Sexual Abuse

Parameter Estimates:
- 0.27
- 0.18
- 0.17
- 0.21
- 0.31
What are the mechanisms linking mother’s child sexual abuse to her parenting?

(1) The cumulative burden borne by offspring ($G_3$) whose mothers ($G_2$) were sexually abused as children

(Jennie Noll, Ph.D., lead author)
Avg. = 6.23*
Wt. Avg. = 9.21**

*P<.01; **P<.001
Age, minority status, gender, SES & # siblings covaried

Avg. = 3.88*
Wt. Avg. = 5.77**

*P<.01; **P<.001
Age, minority status, gender, SES & # siblings covaried

<table>
<thead>
<tr>
<th>Variable</th>
<th>Abused group</th>
<th>Comparison group</th>
<th>F(df), p</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G1 (caregivers):</strong></td>
<td>N=60</td>
<td>N=68</td>
<td></td>
</tr>
<tr>
<td>History of childhood sexual abuse</td>
<td>49.23 ± 13.15</td>
<td>16.01 ± 4.91</td>
<td>15.41(1,124), p&lt;.01</td>
</tr>
<tr>
<td><strong>G2 (original sample):</strong></td>
<td>N=82</td>
<td>N=84</td>
<td></td>
</tr>
<tr>
<td>At least one sexual victimization</td>
<td>29.55 ± 8.78</td>
<td>15.54 ± 5.13</td>
<td>n.s.</td>
</tr>
<tr>
<td>At least one physical victimization</td>
<td>56.85 ± 14.99</td>
<td>30.33 ± 10.45</td>
<td>9.67(1,162), p&lt;.01</td>
</tr>
<tr>
<td>Childhood depression via CDI</td>
<td>15.11 ± 5.45</td>
<td>7.08 ± 3.13</td>
<td>n.s.</td>
</tr>
<tr>
<td>Childhood depression via BDI</td>
<td>18.19 ± 6.56</td>
<td>5.87 ± 2.10</td>
<td>6.45(1,162), p&lt;.01</td>
</tr>
<tr>
<td>PTSD</td>
<td>13.14 ± 4.14</td>
<td>6.16 ± 2.23</td>
<td>n.s.</td>
</tr>
<tr>
<td>At least one psychiatric diagnosis</td>
<td>30.06 ± 10.02</td>
<td>13.96 ± 4.19</td>
<td>5.37(1,162), p&lt;.05</td>
</tr>
<tr>
<td>Substance dependence</td>
<td>19.44 ± 6.88</td>
<td>5.46 ± 2.42</td>
<td>6.28(1,162), p&lt;.05</td>
</tr>
<tr>
<td>Alcohol dependence</td>
<td>13.35 ± 3.19</td>
<td>2.56 ± 0.98</td>
<td>5.01(1,162), p&lt;.05</td>
</tr>
<tr>
<td>Regular smoker</td>
<td>39.68 ± 10.14</td>
<td>29.78 ± 9.05</td>
<td>n.s.</td>
</tr>
<tr>
<td>Dissociation via DES</td>
<td>12.23 ± 4.11</td>
<td>8.88 ± 3.89</td>
<td>n.s.</td>
</tr>
<tr>
<td>High school dropout</td>
<td>15.23 ± 5.34</td>
<td>6.09 ± 2.13</td>
<td>6.07(1,162), p&lt;.05</td>
</tr>
<tr>
<td>Domestic violence</td>
<td>53.23 ± 14.23</td>
<td>24.01 ± 10.76</td>
<td>9.45(1,162), p&lt;.01</td>
</tr>
<tr>
<td>Obese</td>
<td>42.33 ± 10.23</td>
<td>28.01 ± 9.45</td>
<td>5.67(1,162), p&lt;.05</td>
</tr>
<tr>
<td><strong>G3 (offspring):</strong></td>
<td>OA N=78</td>
<td>OC N=57</td>
<td></td>
</tr>
<tr>
<td>Racial minority</td>
<td>43.56 ± 10.11</td>
<td>66.07 ± 9.22</td>
<td>5.67(1,132), p&lt;.05</td>
</tr>
<tr>
<td>Female</td>
<td>56.06 ± 8.00</td>
<td>49.12 ± 7.54</td>
<td>n.s.</td>
</tr>
<tr>
<td>Children per family (average #)</td>
<td>1.74 ± 0.22</td>
<td>1.70 ± 0.23</td>
<td>n.s.</td>
</tr>
<tr>
<td>Deceased (#)</td>
<td>3</td>
<td>0</td>
<td>NA ^d</td>
</tr>
<tr>
<td>Unintended ^b</td>
<td>22.56 ± 8.12</td>
<td>23.51 ± 9.34</td>
<td>n.s.</td>
</tr>
<tr>
<td>Born to a teenage mother</td>
<td>37.25 ± 9.11</td>
<td>20.26 ± 8.34</td>
<td>4.99(1,130), p&lt;.05</td>
</tr>
<tr>
<td>Born preterm ^b</td>
<td>19.11 ± 7.12</td>
<td>10.06 ± 6.12</td>
<td>4.97(1,118), p&lt;.05</td>
</tr>
<tr>
<td>Child protective services involved ^b</td>
<td>17.91 ± 3.34</td>
<td>1.78 ± 0.01</td>
<td>12.23(1,118), p&lt;.01</td>
</tr>
<tr>
<td>Cognitive deficit ^c</td>
<td>32.02 ± 9.98</td>
<td>22.11 ± 7.61</td>
<td>n.s.</td>
</tr>
</tbody>
</table>
(2) Longitudinal analyses of impact of sexual abuse on adult development
BMI across development

- Comparison
- Abused

group X linear p<.01
Basal free cortisol across development

- Serum basal cortisol (ug/dL)
- Age in years

- Abused
- Comparison

Group X linear p<.05
PPVT raw scores across development

Comparison
Abused

group X quadratic; p=.02
Where do we go from here?

We plan to assess sample again – Time 7 – focusing on G2 adulthood and parenting and G3 development.

Want to continue analyses focusing on relations between G1 parenting and G2 outcomes; G2 parenting and G3 outcomes; and G1 parenting and G2 parenting.
Selected References


Kim, K., Putnam, F.W., & Trickett, P.K. (Under review). Childhood experiences of sexual abuse and later parenting practices among non-offending mothers of sexually abused and comparison girls.


Longitudinal analyses


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