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Section E

How Does Violence Impact Neurodevelopment of Children?
Development within Toxic Environments

- Brain development occurs within the context of the environment
- *Toxic environments* impede normal brain development
The Process of Toxic Stress

Stress → Hypothalamus → GRF → Pituitary (ACTH) → Adrenal (cortisol +) → Adrenal (cortisol +)
Persistently Elevated Cortisol in Childhood

- Decreased synaptic and dendritic density early in life
- Diversion of brain resources away from learning and to survival (e.g., fight or flight)
- Interruption of normal neurotransmitters (e.g., serotonin)
The Neurodevelopmental Impact of Chronic Abuse

- Diminished hippocampal volume

- Impaired development of the frontal lobe (executive functioning)

- Diminished emotional control

- Problems with social relations and academic performance
How do neighborhoods affect child development?
Collective Efficacy

- **Social cohesion** (which is trust + shared social values) and **informal social controls** (e.g., the extent that neighbors look out for each other) lead to the capacity for **collective action**

The Gautreaux Court Case Experiment

- Does environment matter? (Chicago, 1976)

- 4,000 black families in low-income high-rise dwellings (“the projects”) were randomly assigned to a suburban white community or to an urban white community

- Outcomes for children

<table>
<thead>
<tr>
<th></th>
<th>Suburban</th>
<th>Urban</th>
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<tbody>
<tr>
<td>School dropout</td>
<td>5%</td>
<td>20%</td>
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<tr>
<td>College enrollment</td>
<td>54%</td>
<td>21%</td>
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Protective Factors

- What protects some young people in the face of growing up in toxic environments?
Vulnerability, Family Instability, and Negative Outcomes

- Vulnerability + family instability predispose to negative outcomes (Mednick, 1988)

- Arrest for violent crime

<table>
<thead>
<tr>
<th>Family stable</th>
<th>Minor physical impairment</th>
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<tbody>
<tr>
<td></td>
<td>No</td>
</tr>
<tr>
<td>No</td>
<td>20%</td>
</tr>
<tr>
<td>Yes</td>
<td>15%</td>
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</table>
Resilience to Violence: What Makes a Difference?

- Caring adult (ideally a parent)

- A community “safe haven” (e.g., school)

- Child’s internal resources (shaped be the contexts in which they live)
  - Average intelligence
  - Attractiveness
  - Self-efficacy
  - Religious affiliation
  - Skills/talents
  - Financial advantage

Source: J. Osofsky.