Development, Memory and Trauma: A Trifecta

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Learning Objectives

• Improve understanding of child development and key principles of memory

• Identify types of trauma and the ways that trauma impacts global development

• Discuss possible presentations of youth who have experienced trauma and why those presentations should be anticipated
Considerations

• Culture

• Access to resources

• Trust in systems

• Type of disclosure (accidental/purposeful)

• Motivation/willingness to tell
The brain is the only experience dependent organ...

Dr. Arthur Becker-Weidman

Center for Family Development, NY
From the beginning...

Hardwired at birth

Attachment (secure or insecure: anxious, fearful-avoidant, avoidant)

Practice and learn coping skills

Early exposure to language and communication skills
<table>
<thead>
<tr>
<th>Development</th>
<th>2-3 Years</th>
<th>4-6 Years</th>
<th>7-11 Years</th>
<th>12-17 Years</th>
<th>18 + Years</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Reactions to people, places, things</td>
<td>• Life experience expands</td>
<td>• Can think about abstract things (visualize processes)</td>
<td>• Abstract thought</td>
<td>• Brain still developing until late 20’s</td>
</tr>
<tr>
<td></td>
<td>• Cannot classify or subscribe order</td>
<td>• Symbolic representation (by 6 yrs)</td>
<td>• Source monitoring</td>
<td>• Puberty</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Who &amp; What</td>
<td>• Who, What &amp; Where</td>
<td>• No more suggestible than adults (10-12 yrs)</td>
<td>• Peer influence and codes</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>• Decision making</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>• Think, form and test hypotheses</td>
<td></td>
</tr>
</tbody>
</table>
Age is the most important determinant of children’s memory capacity.

Lamb et al., 2015
What can children tell us?

<table>
<thead>
<tr>
<th>Ages</th>
<th>Who</th>
<th>What</th>
<th>Where</th>
<th>When</th>
<th>How</th>
<th>Number of Times</th>
<th>Chron. Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-9</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>10+</td>
<td></td>
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</tr>
</tbody>
</table>

Information courtesy of the Dallas Children’s Advocacy Center
Memories are the bedrock of our identity...
Encode ➔ Store ➔ Retrieve

Learn ➔ Retain ➔ Recall
## Encode

<table>
<thead>
<tr>
<th>Semantic Encoding</th>
<th>Visual Encoding</th>
<th>Acoustic Encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow = Cow</td>
<td>Uncle Tom posts photos of farm on social media, we picture Bertha in our minds</td>
<td>Hear a cow moo</td>
</tr>
<tr>
<td>Cow Bertha lives on uncle Tom’s farm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Sensory</td>
<td>Occurs in seconds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Short/nondescript events</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How tea smells</td>
<td></td>
</tr>
<tr>
<td>Short-term</td>
<td>Occurs in about 20 seconds</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sensory experiences connected to existing information</td>
<td></td>
</tr>
<tr>
<td>Long-term</td>
<td>Occurs over time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Limitless</td>
<td></td>
</tr>
<tr>
<td></td>
<td>May be embedded forever or need to rely on cues to remember</td>
<td></td>
</tr>
</tbody>
</table>
Types of Long-term Memory

- **Explicit**
  - Semantic
  - Episodic

- **Implicit**
  - Emotional
  - Procedural
Explicit Memory

• **Semantic Memory**
  • General knowledge of the world
  • Language

• Car = Car
• Dog → barks
Explicit Memory Cont.

• Episodic Memory
  • Personally experienced
  • Remembered
  • From own perspective
  • Many aspects of events (space, time, etc.)
  • Defining moments in our lives
Implicit Memory

- Emotional Memory

- Emotional responses to events, situations, things without conscious thought

- Not contextual

- Reminded of something deeper on an emotional level
Implicit Memory

• Procedural Memory
  • Infancy
  • How to...
  • Automatic response—physical reaction
  • Learned motor skills
  • Survival reactions
Retrieval

**Recall**
- Retrieving without sensory cues
- Remembering the name of the acquaintance

**Recognize**
- Already learned
- Stored
- Remembering using sensory cues
- Walking by pet store remember your dog needs treats

**Relearn**
- Knew how to do
- Need practice, or have to re-do
- Helping sister learn a song on the guitar that you haven’t played in a long time
Memory

• Infantile amnesia (before 3 ½): lack of language to encode, lack language systems for retrieval, lack sufficient cortical maturation for long-term verbal storage

• Differences in focus of memories 2 & 4
  • Younger: focused on routines
  • Older: begin to focus on deviations from routines

• Very young children have memory capabilities and can store memories for a long time

• Complexity of memory increases with maturity
False Memories

• Deliberately implanted

• Accidentally implanted
Memories can be updated each time we access them as related memories blend together and our minds fill in missing details with information from general knowledge.

Debra Ann Poole
Trauma
An event, series of events, or set of circumstances, that is experienced by the individual as physically or emotionally harmful or life threatening and that has lasting adverse effects on the individual’s functioning and mental, physical, social, emotional or spiritual well-being.

Substance Abuse and Mental Health Services Administration [Samhsa], 2012, p.1

Trauma
# Types of Trauma & Impact

<table>
<thead>
<tr>
<th>Acute</th>
<th>Chronic</th>
<th>Complex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interrupts</td>
<td>Dysregulates</td>
<td>Overwhelms</td>
</tr>
</tbody>
</table>

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National Criminal Justice Training Center of Fox Valley Technical College
Traumatic Memories

• Information is added to memories each day through reconsolidation

• This can cause for memories to be expounded upon or edited

• Traumatic memories may stay in tact (Grant Study of Adult Development)
Impact
False Positive and False Negative Bias

• False positive:
  • Alley
  • Noise
  • Adrenaline, concern, fear
  • Racoon
  • Safe

• False negative:
  • Alley
  • Noise
  • Disregard/disconnect, no reaction
  • Assailant
  • Unsafe
Trauma Impact on Memory

- Recall may not be linear
- May be triggered
- Emphasis on central rather than peripheral details
- Chronic and complex trauma may have a more global impact on memory
Trauma Impact on Memory

• Abusers may say and do things to shape how memory is encoded

• Trauma may spark memory in some cases, and inhibit it in others

• Remembering and reporting are not the same

• Verbal recollections require conscious awareness, behavioral memories do not

• Flashbacks v. narratives
Development, Memory, and Trauma: A Trifecta

• Development and memory---chicken or the egg?

• Trauma’s grip

• Presentation of youth
Anticipation informs preparation
In practice

• Each child brings own lived experiences and abilities

• Get to know youth as the holders of information through rapport building

• Zoom out

• Allow space for free recall/narrative
It is very tempting to take the side of the perpetrator. All the perpetrator asks is that the bystander do nothing. He appeals to the universal desire to see, hear, and speak no evil. The victim, on the contrary, asks the bystander to share the burden of pain. The victim demands action, engagement and remembering.

Judith Herman, M.D.
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References


References cont.
