Autobiographical Memory

Chapter 8 (p202-213)
Autobiographical Memory (AM)

- “Mental time travel”
  - Field perspective vs. observer perspective
  - Episodic and semantic memory components
  - Multidimensional: verbal, visuospatial, emotional, sensory

- Personal memories
  - Shape your identity and self-concept
  - Consider amount of info stored in memory!

- Research on AM
  - Ecological validity vs. experimental control

- AM research topics:
  - Why remember certain events and not others
  - Estimation of dates and quality of AM
  - Accuracy of AM
Cabeza et al. (2004)

- **Method:**
  - Autobiographical photos vs. photos by another person
  - Test: did they take photo?

- **fMRI Results:**
  - Same (MTL; parietal) and different (hippocampus) areas activated by AM
Development of autobiographical memory

- What is your first memory?
  - Most between 2 – 6 years of age

- Infantile or childhood amnesia
  - Paradox: memory system intact; yet no AM

- Why?
  - Biological: lack of prefrontal cortex development
  - Self-concept: schemas inconsistent with current self

- Other influencing factors:
  - Cognitive/Language: IQ and age of first memory: $r = -.30$
  - Social: reasons to reminisce
Bahrick, Bahrick, & Wittlinger (1975)

- “Fifty years of memory for faces and names”
- 17 – 74-year-olds: retention for HS graduating class
Conway, Cohen, & Stanhope (1991)

- Memory for cognitive course - 10 yrs+ from now?!
Memory over lifespan

- **Question:**
  - What determines which life events we will remember years later?

- **Methods:**
  - Word prompt
    - Tell me a personal story about a boat.
  - Recall most influential events
    - What is most important political event in your lifetime?
Reminiscence bump (Rubin, 1987)

- Ss > 40yrs; remember events over lifetime
- Remember more recent events and events from 10–25 yrs old

Rybash & Monaghan, 1999
Schuman & Scott (1989)

- “the most important public or political event of past 70 years”

Year of birth:
- Vietnam: 1964 - 1974
- WWII: 1941 - 1945

Age in 1989:
Reminiscence bump

- Three reasons to explain bump
  - Cognitive hypotheses
    - New experience provides stronger memory
    - Brain is at peak performance
    - Encoding is more efficient during periods of rapid change
  - Self-image (or life-narrative) hypothesis
    - Develop identity and schemas
  - Cultural life script
    - Common novel, unique, important experiences
- Schrauf & Rubin (1998)
  - Emigrants: Bump at 16-24 and again when emigrated
  - List most impt events and when occur; many fall in bump
Recall these AMs:

- What is your memory for the first day you began at Wofford?
- What is your memory of Barak Obama’s election/inauguration?
- Of hurricane Katrina?
- Of the Virginia Tech shootings?
- Of Columbine HS massacre?
- Of 9/11?
Flashbulb memory (FB)

- Highly detailed, vivid memory for event – like a picture
  - Surprising, emotional (pos or neg), important event
- What is remembered (Brown & Kulik, 1977)?
  - Where were you? What were you doing when found out?
  - Who told you? Or how you found out
  - How did you and others feel? What was it like afterwards?
- Research questions:
  - Accuracy
  - Effect of emotionality
  - Effect of rehearsal
  - Direct or non-direct experience
- Are flashbulb memories different than other memories?
Flashbulb memory

- How can we check accuracy of FB?
- Method: repeated recall procedure
- Neisser & Harsch (1992): Challenger FB
- Questionnaire 1 day after event
- Same questionnaire 2.5 – 3 yrs later

- Duke undergraduates tested day after 9/11
- Tested again 1, 6, or 32 weeks later
- Compared FB to everyday memory event 2 days prior to 9/11
- Results:
  - Both types of memory declined over time
Phenomenological properties differ

- **Belief**: “I believe the memory occurred in this way”
- **Recollection**: “I feel as though I’m reliving it”
- **Remember**: “I remember the details”
- **Vividness**: “I can see it as if it were happening now”
Davidson et al (2006)

- **Question:**
  - Are FB more resistant to fading than everyday memories?

- **Method:**
  - Gathered info about 9/11 and everyday event
    - How did you hear the news? Where were you?
  - 1yr later asked same questions
  - Experimenters provided cue word for everyday event
  - Examined “congruence score”

- **Results:**
  - 9/11 congruence = .77
  - Everyday memory congruence = .33
  - 100% remembered 9/11; 65% remembered everyday event

- **Conclusion:**
  - FB seem more permanent
Flashbulb memories

- Are FB memories special??
  - No: all memories fade over time
  - Yes: there is greater emotionality for FB
  - Yes: there is greater perceived accuracy

- Problems:
  - Accuracy of memories
  - Repeated exposure to FB event outside of lab

- Hypotheses for enhancement effect for FB:
  - Emotion
  - Narrative rehearsal
  - Distinctive
  - Elaboration
  - Attention (due to importance to self)
Emotion and memory

- Explicit memory for emotional events stronger than non-emotional events
  - LaBar & Phelps (1998): ability to recall arousing words vs neutral words is higher
  - Dolcos et al. (2005): ability to recognize arousing words 1yr later stays higher than neutral words

- Amygdala involvement
  - Hamann et al (1999): emotionally pleasant, unpleasant and neutral pics; more amygdala activity emotional pics; better memory for emotional pics
  - Case study BP: damage to amygdala – no enhancement for emotional movie compared to controls

- Increase in adrenaline can also lead to enhanced memory