Affective Neuroscience: Understanding emotion by looking to the brain

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What tools do I use?
Why the brain?

- **Damage provides critical tests of theory**
  - **Stoics (3rd Century B.C.E.):**
    - Emotion gets in the way of pure reason
    - If we can rid ourselves of emotion, than we would make the right decisions
  - **David Hume (1739):**
    - “Reason is, and ought only to be the slave of the passions, and can never pretend to any other office than to serve and obey them.”
    - We are moral *because* of emotions
  - **Test case**
    - Orbitofrontal damage
http://www.youtube.com/watch?v=X4fGlny5cPg
<table>
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<tr>
<th>Decks</th>
<th>Good Decks</th>
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<tr>
<td>A</td>
<td>B</td>
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<td>C</td>
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Bechara et al, 2000
Human Neuroscience without Damage
Decision Making Tasks
Hypotheses of Hate

- **Extreme Dislike**
  - Bottom-up emotional response
  - Greater responses in amygdala/limbic system

- **Cognitive Responses**
  - Mental frame that shape emotions
    - Moral Emotions
  - Up-regulation via PFC of amygdala responses
  - Down-regulation of positive
    - Unable to feel positive
    - Feelings of emotional certainty
How do you develop a research question?

- Read
- Read
- Read outside of the primary field
  - The same big questions are being asked over and over
    - Philosophy: Value
    - Social Psychology: Attitude
    - Cognitive Science: Affect
    - Neuroscience: Reinforcement
    - Literature: Hopes, dreams, fears
How do you develop a research question?

- Trust your gut
  - If you are going to do research, you want it to be a passion
  - Sleepless nights
  - “Find what bugs you.” – Jordan Peterson

- Look for anomalies (strange things)
  - What doesn’t fit what you expected to happen?
    - Science is supposed to move forward by rejecting old ideas
  - Avoid square pegs in round holes

- Think bigger
  - Theory of prejudice explains specific behavior
  - Theory of preferences explains prejudice, and other behaviors

- ... but don’t lose your specific interest (e.g., prejudice)
How do you develop a research question?

- Is there a larger framework that can explain divergent ideas?
  - What causes people to be attracted to one another?
    - Birds of a feather flock together
    - Opposites attract
  - Self evaluation maintenance
    - Want complementarity on core things
    - Want similarity on peripheral things

- Think about intro text book
  - 1/3 Person A says X
  - 1/3 Person B says Y
  - 1/3 Brilliant Person C says both

- Look for your “both”
Questions?