Outline

- Overview of self-conscious emotions
  - Pride & shame
- Neural correlates of pride and shame
- Experimental design
- Hypotheses and expected results
What are Self Conscious-Emotions?

- Emotions that function to keep behavior within the boundaries of social norms
  - Pride, Shame, Guilt, Embarrassment

- In order to experience a SCE one must have:
  - Self-perception
  - Person-inference
  - Social norms

- Beer, 2004
Pride

- An act leading to good outcomes for oneself which in turn leads to increased feelings of social dominance and self-esteem.
Shame

- Evoked when there is a loss of self-esteem, acceptance, or status related to a social norm violation leading to a negative evaluation of your “core-self”
SCE vs. Basic Emotions

- How do Self-Conscious emotions differ from “basic emotions”
  - Complexity, learned vs. innate, universally recognizable

- However…
SCE

- Similar behavioral responses for pride and shame in sighted and congenitally blind athletes
  - Tracy and Matsumoto, 2008

- Ability to efficiently and automatically recognize SCE compared with basic emotions
  - Tracy and Robbins, 2008
Neurology of SCE involves prefrontal cortex, limbic system

- **Pride**
  - Anterior ventromedial PFC, Limbic system and basal forebrain (hypothalamus, septum, VTA, anterior insula)
  - Zahn et al., 2009
Neurology of Shame

- Even less research has been conducted examining shame
- Frontopolar prefrontal cortex
- Anterior insula, amygdala
  - Wagner et al. 2011
Research Questions

- What are the neural regions associated with pride? shame?
- Do we need bodies to perceive shame and pride?
Experimental Design

- A 3x2 paradigm was used in which participants viewed either faces or faces+bodies depicted in a prideful, shameful, or neutral fashion.
- A one back was performed whenever participants viewed two images consecutively.

<table>
<thead>
<tr>
<th></th>
<th>Pride</th>
<th>Shame</th>
<th>Neutral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bodies</td>
<td><img src="image" alt="Pride Body" /></td>
<td><img src="image" alt="Shame Body" /></td>
<td><img src="image" alt="Neutral Body" /></td>
</tr>
<tr>
<td>Faces</td>
<td><img src="image" alt="Pride Face" /></td>
<td><img src="image" alt="Shame Face" /></td>
<td><img src="image" alt="Neutral Face" /></td>
</tr>
</tbody>
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Experimental Design

Shame body          Pride body           Neutral face

I watched.          1000 ms              1250 ms

I lost.            250 ms

I won.            15 sec
Hypotheses/Expected Results

- **Neutral conditions**
  - Greater relative activation in the Extrastriate body area (EBA) for bodies
  - Greater relative activation in the fusiform face area (FFA) for faces

- **Pride conditions**
  - Greater relative activation in pride processing areas (vmPFC, limbic system, basal forebrain) and EBA for pride bodies+faces
  - Greater relative activation only in FFA for pride faces
Hypotheses/Expected Results

- **Shame conditions**
  - Greater relative activation in shame processing areas (frontopolar prefrontal cortex, anterior insula, amygdala) and EBA for shame faces+bodies
  - Greater relative activation only in FFA for shame faces
Preliminary Results

- Activation in the EBA associated with neutral bodies
- Neutral faces associated with activation in the FFA
- Pride and shame activation in the PFC, but does not seem to be any distinction
- Both bodies and faces were associated with relative activity in the PFC
  - Context sentences
- Overall, pride showed greater relative activation than shame
Discussion

Future Research

- Have emotional context in front of only half the faces and half the bodies+faces
- Bodies without faces as another level
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