Theories of Emotion

- **Emotions** are a mix of physiological arousal, expressive behaviors, and consciously experienced thoughts.
Theories of Emotion

- **Controversies:** Does physiological arousal precede or follow emotional experience? Does cognition always precede emotion?
Theories of Emotion

• My theory ... is that the bodily changes follow directly the perception of the exciting fact, and that our feeling of the same changes as they occur is the emotion. Common sense says, we lose our fortune, are sorry and weep; we meet a bear, are frightened and run; we are insulted by a rival, are angry and strike. The hypothesis here to be defended says that this order of sequence is incorrect ... and that the more rational statement is that we feel sorry because we cry, angry because we strike, afraid because we tremble ...  - William James
Theories of Emotion

• James-Lange theory: The theory that our experience of emotion is our awareness of our physiological responses to emotion-arousing stimuli.
Theories of Emotion

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Theories of Emotion

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Theories of Emotion

• **Cannon-Bard theory:** the theory that an emotion-arousing stimulus simultaneously triggers physiological responses and the subjective experience of emotions.
Theories of Emotion

- **Cannon-Bard theory**: the theory that an emotion-arousing stimulus simultaneously triggers physiological responses and the subjective experience of emotions.
Theories of Emotion

- **Two-factor theory**: the theory that to experience emotions one must be physically aroused and cognitively label the arousal.
As she was riding her bicycle down a hill, Wendy hit a large rock and started to lose her balance. She managed to come to a stop without falling. Once she was stopped, she noticed her heart was racing and she was shaking. After that, she realized she was frightened. Which theory of emotion best explains this sequence of events?

A. Schacter-Singer theory
B. Cannon-Bard theory
C. James-Lange theory
D. two-factor theory
PSY 101: Mini-quiz Question

Alone in the woods, you hear a noise. You think you see a bear coming towards you. Your heart starts pounding and, at the same time, you realize you are afraid. This sequence of events is best explained by which theory of emotion?

A. James-Lange theory
B. two-factor theory
C. Cannon-Bard theory
D. Schacter-Singer theory
PSY 101: Mini-quiz Question

According to the Schacter-Singer two-factor theory of emotion, which of the following is the correct sequence of events when a car drives directly toward us and we experience emotion?

A. see an oncoming car; heart pounds; experience fear
B. see an oncoming car; heart pounds and, at the same time, fear is experienced
C. see an oncoming car; experience fear
D. see an oncoming car; heart pounds and, at the same time, the arousal is cognitively labeled; experience fear
Theories of Emotion
Cognition can define emotion

Schachter and Singer’s experiment:
• IV 1: Told to expect effects of drug or not
Theories of Emotion
Cognition can define emotion

Schachter and Singer’s experiment:
• IV 2: Confederate acting either euphoric or irritated
Theories of Emotion

Cognition can define emotion

Schachter and Singer’s experiment:

- **DV**: Participants emotion (either euphoric or irritated)
Theories of Emotion
Cognition can define emotion

Dutton and Aron’s experiment:
• IV 1: Capilano bridge or control (non-scary) bridge
Theories of Emotion
Cognition can define emotion

Dutton and Aron’s experiment:
• IV 2: Interviewer male or female
Theories of Emotion
Cognition can define emotion

Dutton and Aron’s experiment:
• **DV:** Whether the men (participants) accepted the interviewer’s phone number, & whether they called the interviewer back; and the sexual content of survey responses to the Thematic Apperception Test (TAT)
Theories of Emotion
Cognition can define emotion

Dutton and Aron’s experiment:
• **Prediction:** Fear participants felt by being on the scary/shaky/high bridge would be misinterpreted as sexual arousal when in the presence of female interviewer.
Theories of Emotion
Cognition can define emotion

Dutton and Aron’s experiment:

• Results

<table>
<thead>
<tr>
<th></th>
<th>Male Confederate</th>
<th>Female Confederate</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Control Bridge</td>
<td>Scary Bridge</td>
</tr>
<tr>
<td>Accepted Phone #</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Called</td>
<td></td>
<td></td>
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<tr>
<td>Sexual Content</td>
<td></td>
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<tr>
<td></td>
<td>27%</td>
<td>30%</td>
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<tr>
<td></td>
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<td>29%</td>
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<tr>
<td></td>
<td>0.61</td>
<td>0.80</td>
</tr>
</tbody>
</table>

• There’s a confound to this study, what is it?
• What did Dutton & Aron do in their 2\textsuperscript{nd} experiment to control for this confound?
Theories of Emotion

Cognition does not always precede emotion

Fearful

Happy

http://www.whalenlab.info/
Theories of Emotion

Cognition does not always precede emotion

- Event
- Appraisal
- Emotional response

Lazarus/Schachter-Singer

Zajonc/LeDoux
How do we express/communicate emotion?

Darwin’s Cool Ideas
(From “The Expression of Emotions in Man and Animals,” 1872)

• Expressions of emotions are innate (inborn), not learned
• Meaning of certain patterns of nonverbal emotional expression is understood by all members of the species
• Expression have adaptive value, because they control the behavior of others (ex: ward off attacks, courting)
How do we express/communicate emotion?

Darwin’s Cool Ideas
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• Expression have adaptive value, because they control the behavior of others (ex: ward off attacks, courting)
• Displaying a facial activity associated with a behavior (ex: smiling) leads to feeling the emotion (happiness)
  -(Subjective emotions follow automatic physiological reactions)
• People (and chimps) physically mimic the responses of others particularly in distress
How do we express/communicate emotion?

1. Verbal Communication

2. Nonverbal Communication
   A. Kinesics- body language, facial expressions
   B. Proxemicons- Distance, eye contact

3. Paralinguistics – speech signal (minus content) – tone, pitch, volume
Kinesics
How do we express/communicate emotion?

- Gait: the way someone walks; provides information about a person’s personality
How do we express/communicate emotion?

• Study showed videos of people in black with reflecting tape walking in dark room

  Ages: 5-7   13-14   26-28   75-80
  – People accurately guessed gender and age
  – Youthful gait associated with strength, happiness, power
How do we express/communicate emotion?

• Inmates chose their victims based on gait
  – (Grayson & Stein, 1981)
How do we express/communicate emotion?

- Sexual orientation?
How do we express/communicate emotion?

- Eye Contact and Liking

<table>
<thead>
<tr>
<th>Scale</th>
<th>Participant:</th>
<th>Eyes</th>
<th>Hands</th>
<th>Partner:</th>
<th>Eyes</th>
<th>Hands</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Partner:</td>
<td>Eyes</td>
<td>Hands</td>
<td></td>
<td>Eyes</td>
<td>Hands</td>
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<tr>
<td>Affection</td>
<td>62.4</td>
<td>53.0</td>
<td>52.8</td>
<td>54.6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respect</td>
<td>67.4</td>
<td>58.8</td>
<td>54.6</td>
<td>60.5</td>
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</table>
How do we express/communicate emotion?

- Six basic, universal emotional expressions
  - FEAR
  - SURPRISE
  - HAPPINESS
  - ANGER
  - DISGUST
  - SADNESS
How do we express/communicate emotion?

- Six basic, universal emotional expressions in babies

- FEAR
- SURPRISE
- HAPPINESS
- ANGER
- DISGUST
- SADNESS
How do we express/communicate emotion?

• Are emotions communicative?
How do we express/communicate emotion?

- Are emotions communicative?
  (Kraut & Johnson, 1979)

People smile much more when doing an activity with someone else rather than doing it alone.
How do we express/communicate emotion?

Detecting emotions

Which one is different?

- People are quickest at detecting an angry face in a happy group compared to finding a happy face.

(adapted from Hansen & Hansen, 1988)
Close your eyes!
Close your eyes!

• How many of you thought about a

A) woman
B) man
How do we express/communicate emotion?

Detecting emotions

• Maybe not true (Becker et al., 2007, 2011)?
  – Costs and benefits of perceiving anger and happiness vary depending on whether the encoder (the person making the face) was male or female.
  – People were faster and more accurate at decoding angry expressions on male faces and at detecting happy expressions on female faces.
  – The search for happiness?
  – What about dogs?
    • https://www.youtube.com/watch?v=eK7wp2xWOo4
How do we express/communicate emotion?

Cultural Display Rules

- Culture sets rules for
  - Eye Contact
  - Personal Space in Conversation
  - Emotional Display (would you laugh at a funeral?)
  - Men vs. Women →

![Bar graph showing the number of expressions for Sad, Happy, and Scary films for Men and Women.](image)
How do we express/communicate emotion?

Cultural Display Rules

• Emblem: Gesture that’s universal, but only within one culture
How do we express/communicate emotion?

- **Facial Feedback Hypothesis** - Physical facial emotional displays (e.g. smiling) lead to emotion being felt.
Lie Detection

Freud (1905): “No mortal can keep a secret. If his lips are silent, he chatters with his fingertips; betrayal oozes out of him at every pore.”
Lie Detection

• Can experts catch a liar?
  – The story of Aldrich Ames
Lie Detection

- Can experts catch a liar?

<table>
<thead>
<tr>
<th>Observer Groups</th>
<th>Accuracy Rates</th>
</tr>
</thead>
<tbody>
<tr>
<td>College students</td>
<td>52.82</td>
</tr>
<tr>
<td>CIA, FBI, and military</td>
<td>55.67</td>
</tr>
<tr>
<td>Police investigators</td>
<td>55.79</td>
</tr>
<tr>
<td>Trial judges</td>
<td>56.73</td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>57.61</td>
</tr>
<tr>
<td>U.S. Secret Service agents</td>
<td>64.12</td>
</tr>
</tbody>
</table>
Lie Detection

Percentage

80%

<table>
<thead>
<tr>
<th></th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Innocent people</strong></td>
<td>60%</td>
</tr>
<tr>
<td><strong>Guilty people</strong></td>
<td>80%</td>
</tr>
</tbody>
</table>

- Red: Judged innocent by polygraph
- Blue: Judged guilty by polygraph
Lie Detection

Left prefrontal cortex

Anterior cingulate cortex
Lie Detection

- Duchenne (genuine) smile vs. fake smile
Chapter Review

• How do psychologists define emotion?
• What are basic theories of emotion? How do these theories differ?
• How do cognition and emotion relate?
• How do we communicate emotions?
• How do we catch a liar? Should we use polygraphs? What about fMRIs?
• Question(s) from textbook on material not covered in class: Experienced Emotion (pp. 475 - top of 486)
• The rest of Chapter 12 (pp. 486 – 511) will not be covered on the exam.