

EMOTION AND COGNITION

Emotion: immediate / specific response to internal feelings or external stimuli. The response may be positive / negative.



Theories of emotion:

- Charles Darwin (1872) • James-Lange (1884) • Cannon Bard (1927)
- Schachter and Singer (1962) • Lazarus (1982) • Le Doux (1996)

• **Darwin (1872)** - emotions are vestigial patterns of action and have an evolutionary meaning.
(Biological explanation)

• **James-Lange theory of emotion** - claimed that external stimuli cause a physiological change & the interpretation of this change is emotion.

[Stimulus → arousal → emotion]



• **Cannon Bard theory of emotion (1927)** - proposed that emotional stimuli cause 2 parallel processes at the same time: physiological response and a conscious emotional response.

[Stimulus → arousal
 → emotion]

• **Schachter and Singer two-factor theory** - emotions were a result of two-stage processing: first a physiological response, then a cognitive interpretation

↳ explains why we have the same physiological response to 2 different emotions.

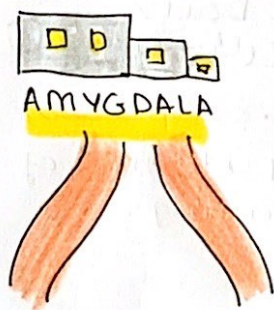


Richard Lazarus (1982) Theory of Appraisal - He claimed that initial cognitive appraisal precedes physiological changes.

- The quality and intensity of emotions are controlled through the process of initial appraisal.

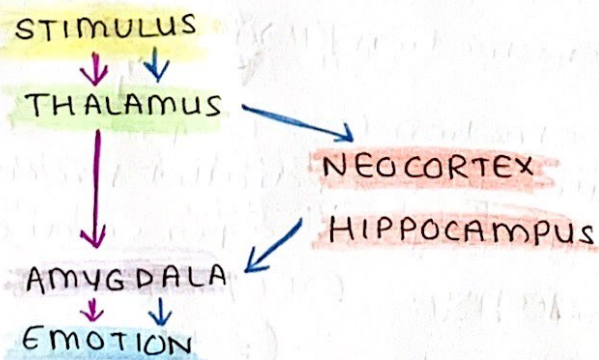
Arousal → appraisal → emotion

Joseph Le Doux (1996) - studied fear conditioning and described 2 pathways to the amygdala.



→ **fast pathway** - leads from perceiving the stimulus to thalamus and then amygdala, producing an emotional response.

→ **slow pathway** - leads from the stimulus to thalamus, then primary sensory cortex, association cortex, hippocampus, amygdala, and the response.



- fast pathway
- slow pathway

→ our brain simultaneously produces a quick, direct emotional reaction. It triggers a sophisticated process of cognitive interpretation.

→ allows us to be flexible in our reaction

→ long pathway processes information more deeply and modify the initial emotional response.

The influence of emotion on cognition

↳ The interaction between cognition and emotion in behaviour is bidirectional.

How does emotion influence cognition?

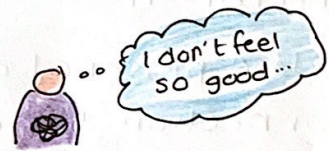
↳ Many of the biases are caused by emotional variables.

- the meta-goal of minimizing the experience of negative emotion in the adaptive decision-maker framework.
- the tendency to avoid potential losses in framing effect
- cognitive dissonance

$x =$ 😊, 😞

↓ -ve 😞

LOSS



The theory of flashbulb memory



↳ proposed by Roger Brown and James Kulik (1977)

↳ 2 variables that have to attain high levels in order for flash bulb memory to occur

surprise



personal consequentiality (causes emotional arousal)



↳ when these variables attain that level, they trigger a **maintenance mechanism**: overt & covert rehearsal.

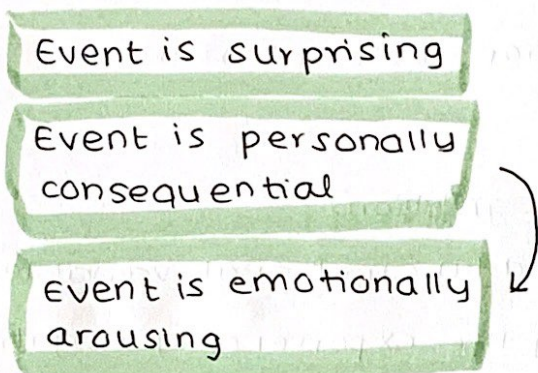
1. **mechanism of formation**: photographic representation of events that are surprising and personally consequential and therefore emotionally arousing.



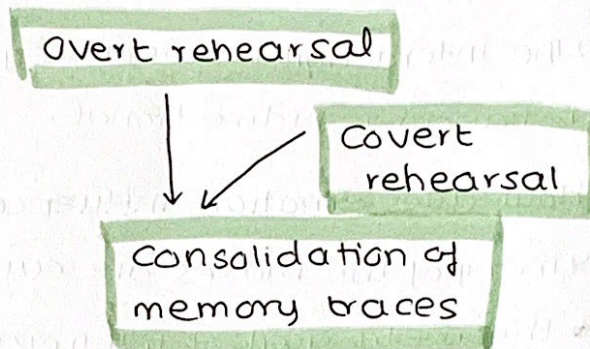
2. **mechanism of maintenance**: overt rehearsal and covert rehearsal.



model of formation



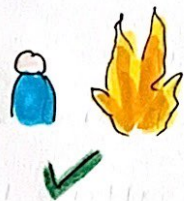
model of maintenance



Flashbulb memories have a unique neural basis.

↳ But only hearing about the event doesn't trigger this mechanism.

↳ close personal experience is necessary for this neural connection to get activated.



→ amygdala is involved in remembering emotional stimuli

Sharot et al (2007) ✓

Sharot et al (2004)

Vividness of flashbulb memories - photographic encoding or subsequent rehearsal

Neisser et al (1996) → both the studies demonstrate

Bohannon (1988) ✓ that rehearsal after event

makes an important contribution to the vividness of flash bulb memories.

↳ rehearsal or emotion experienced? → hard to tell as in correlational studies it is hard to separate the 2 variables.

R/Y



Accuracy of flash bulb memories:

↳ flash bulb memories are special in terms of their perceived accuracy.

↳ the original event, may not be accurate but people are confident about their memory of the event.

◦ Neisser and Harsch (1992) ◦ Talarico and Rubin (2003)

Limitations of flash bulb memory-

◦ distinctiveness of subjective experiences about flash bulb memories still need to be explained further.

◦ most research studies focus on public events accompanied by negative emotional experiences.

↓

the experience is hard to manipulate ∴ the use of correlational studies