Emotions, Decisions, and Action: Implications of Affective Mechanisms for Effective Patient Decision Making

Mary Frances Luce
Overview

• My Outline:
  – Does emotion help or hurt decision making?
  – Important distinctions
    • Low-road versus high-road affect?
    • Intuitive versus analytical tasks?
  – Implications from two example research findings:
    • Match affect to impulsive desired behavior (low road & intuitive)
    • Recognize that decision makers avoid emotional processing operations (high road & analytical)
• My Agenda: suggest (partial) frameworks for thinking about affect in medical decision making
Big Questions

• Does emotion help or hurt decision making?

• Is understanding emotion useful for helping patients make better decisions?
Big Questions: My answers

• Does emotion help or hurt decision making?
  – Both (or it wouldn’t be a big question)

• Is understanding emotion useful for helping patients make better decisions?
  – Yes (or it wouldn’t be worth thinking about)
Does Affect “Hurt” Decision Quality?

Affect Hurts

- Luce et al: Accuracy traded off in favor of minimizing negative emotion
- Slovic: Affect heuristic substitutes for rational analysis
- Hsee & Rottenstreich: Affect reduces sensitivity to scope, probability, logic
- Shiv et al.: Brain lesions hampering emotion improve decision making in investment task

Affect Helps

- Simon: Affect signals what is important
- Peters & Slovic: Affect leads towards gains, away from losses
- Loewenstein: Visceral cues are necessary for prediction of later reactions
- Bechara et al., Damasio: Brain lesions hampering emotion hamper decision making in gambling task
Two important contingencies

• Nature of the affect? e.g., Amount of Cognitive Activity: Low-road (intuitive, automatic) versus high-road*

• Nature of the task? e.g., intuitive versus analytical task continuum*

* Contingencies leverage the notion of non-conscious (or “automatic”) processing
Nature of the Affect?:
Amount of Cognitive Activity

Low-road (less cognition)
• Zajonc “preferences need no inferences”
• Emotion generated by automatic associations

• Health application: fear of word the cancer (or low-fat)

High-Road (cognition precedes)
• Lazarus: “a cognitivist’s reply”
• Emotion generated by cognitive appraisal, deliberation, assessment of goal-relevant implications

• Health application: anxiety generated by rumination on difficult tradeoffs between treatment (or dessert) options
Nature of the Task?

Intuitive Tasks
• Errors result from cognitive elaboration of irrelevant considerations such as reasons for a preference (Wilson)
• Common benchmark for accuracy is prediction of (own) later experience
• Preference *prediction* relies on *context matching* (Payne, Bettman & Schkade)
• *Health application*: prediction of satisfaction with outcomes, momentum for ongoing behavior

Analytical Tasks
• Errors result from insufficient cognitive elaboration due to substitution of simplified heuristic criteria (Kahneman)
• Common benchmark for accuracy is formal rules of logic or maximization
• Preference *construction* (design) relies on a *coherent* process (Payne, Bettman & Schkade)
• *Health application*: treatment choices characterized by difficult tradeoffs
## Example Projects

<table>
<thead>
<tr>
<th></th>
<th>Low-Road Affect</th>
<th>High-Road Affect</th>
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<tbody>
<tr>
<td>Intuitive Task</td>
<td>Luce, Kahn, Passyn</td>
<td>---</td>
</tr>
<tr>
<td>Analytical Task</td>
<td>---</td>
<td>Luce, Bettman, Payne; Drolet and Luce</td>
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</tbody>
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Luce, Kahn, Passyn

- Low-Road affect: subtle feelings generated by persuasive appeals
- Specific type: Certain (regret, guilt) versus uncertain (fear) feelings
  - E1: manipulate with fluency, measure intentions
  - E2: manipulate with narrative, measure behavior
- More Intuitive Task: repetitive, impulsive behavior (snack choice)
- Basic H: certain (uncertain) -> approach (avoid)
## E1: Manipulate Fluency and Measure Intentions

<table>
<thead>
<tr>
<th></th>
<th>Disfluent (Uncertain)</th>
<th>Fluent (Certain)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Approach</strong></td>
<td><strong>Good nutrition is important</strong></td>
<td><strong>Good nutrition is important</strong></td>
</tr>
<tr>
<td><strong>Avoid</strong></td>
<td>5.5</td>
<td>6.8</td>
</tr>
<tr>
<td><strong>junk food</strong></td>
<td>6.8</td>
<td>5.6</td>
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</tbody>
</table>

Intentions to eat healthy (9-point scales):

Interaction $p < .05$
E2: Manipulate Narrative and Measure Behavior

<table>
<thead>
<tr>
<th>Approach</th>
<th>Uncertain Narrative</th>
<th>Certain Narrative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach</td>
<td>2.5</td>
<td>2.8</td>
</tr>
<tr>
<td>Avoid</td>
<td>2.9</td>
<td>2.6</td>
</tr>
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Interaction p < .05
Luce, Bettman, Payne

• High-Road affect: Generated by implications of decision tradeoffs for valued goals

• Task(s): Difficult consumer decisions (choosing cars and apartments)

• Basic H: Tradeoff Difficulty -> Negative Emotion -> Avoidance
Some Findings

- Difficult Tradeoffs Lead to:
  - Greater status quo bias (stick with the default)
  - Greater asymmetric dominance bias (choose something because it’s clearly better than some terrible choice)
  - More decision deferral (paralysis by analysis)
  - Greater Prominence effects (choose the safest car even at prices that outstrip your earlier stated preference for safety over cost)

- These findings are mediated by:
  - Negative Emotion (suggests it’s a coping strategy)
  - Longer Response Times (suggests it’s not just a heuristic)

- Cognitive Business shuts down these effects (Drolet and Luce), suggesting they are high-road
Implications: Implicit Side

- LKP Studies: certainty breeds approach behavior, uncertainty avoidance
- Generalization: Match affect to desired action
  - Anger and pride (versus fear and hope) may create compliance with medicine (approach)
  - Some ability to experience coping (and resultant emotion) now might mitigate mis-prediction of coping later
Implications: Analytical Side

• LBP Studies: emotion-minimization goals shape decision strategy selection

• Generalization: Attend to the emotional costs of *making decisions*
  – Recognize that lexicographic statements (“survival is the most important thing”) may reflect coping rather than ‘true’ preference
  – Informed consent should avoid tortured responsibility and heightened regret
## Leveraging Emotion: Some Suggestions

### 1. Type of Decision Task

<table>
<thead>
<tr>
<th>Source of Affect during DM</th>
<th>Low Road Affect</th>
<th>High Road Affect</th>
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</thead>
<tbody>
<tr>
<td><strong>Intuitive</strong></td>
<td>“Closing the Gap”: match choice to experience so affect now predicts experience later</td>
<td>“How Will I Feel About It?”: Simulate various outcomes to dilute impact of specific, vivid ruminations</td>
</tr>
<tr>
<td><strong>Analytical</strong></td>
<td>“Gut-Level Signals”: use immediate affective reaction as importance signals</td>
<td>“Problem-Focused Coping”: structure tasks so that tradeoffs can be considered without signaling responsibility</td>
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