The Role of Emotional States on Decision Making
Simon (1983) “in order to have anything like a complete theory of rationality, we have to understand what role emotion plays in it.”
Types of Emotion?

• Ambient (Incidental) Emotions, e.g., sadness or fear or anger or happiness. See example elicitation task.

• Task (Integral) related emotional reactions and costs, e.g., more tradeoffs or particularly difficult tradeoffs such as the value of a life. See paper by Luce (1998). Also the idea of taboo tradeoffs.

• Affective reactions to a decision outcome (Experienced) reactions, e.g., regret and rejoicing.
Example of an Incidental Emotion Elicitation

• **Question 1:** What are 3-5 situations in your life that have made you the most ______? Please write two-three sentences about each situation in your life that has made you ________.

• **Question 2:** Now we would like you to describe in more detail the one situation in your life of the situations you listed above that has made you the most _________. This could be something you are presently experiencing or something from the past. Begin by typing what you remember of the ________-inducing event(s), and continue by typing as detailed a description of the event(s) as is possible.

• If you can, please write your description so that someone reading this might even get ________ just from learning about the situation. What is it like to be in this situation? Why does it make you so
FEAR
DISGUST
Features of emotions

• Emotions differ on valence – positive vs. negative.

• Emotions differ in terms of arousal level.

• Emotions may also differ in terms of “appraisal” dimensions, e.g., anger (vs. sadness) → more feelings of certainty. Other dimensions include degree of personal responsibility and control.

• Emotions differ in response/action tendencies, e.g., approach or avoidance. Disgust, for instance, is an avoidance emotion.
Emotional Reactions and their Influence on Decision Making

Ambient (Incidental) Emotion or Mood, e.g., fear or anger or sadness.

Task (Integral) related emotional reactions and costs, e.g., difficult tradeoffs such as the value of a life.

Anticipated emotions, e.g., regret

Processing during decision

Outcomes of decision

Anticipated regret is larger than anticipated rejoicing.

Fear may have a different impact than anger.
Some Specific Impacts of Emotions on Decisions

• Goal Effects – Directional Effects
  – Mood maintenance, e.g., in a happy mood you will not want to risk feeling worse. You will be more loss averse.
  – Mood repairs, e.g., in a sad mood you may want to make decisions that might make you feel better, e.g., in the context of decision making under risk you might take more risk, be less loss averse, or try to increase the probability of something good happening.

• Attention Effects
  – Different moods will increase attention to evaluatively consistent information, i.e., Mood congruency.

• Belief Effects
  – In a happy mood (compared to a sad mood) you may overestimate (give greater weight to) the probabilities of good things happening.

• Process Effects
  – Sadness tends to lead to more analytical processing while happiness tends to lead to more heuristic processing, e.g., you might not to work as hard when you are happy, if cognitive effort is aversive.
  – Ambient emotions may distract an individual from decision-making. Good and bad moods may cause you to process a decision task less.

• Generally, People lack good insight into the emotional influences on their decisions.
The idea that decisions often evoke negative emotions when they require resolution of conflicts between valued goals, e.g., cost versus safety in a car purchase.

Coping with the negative emotion arising from the decision task as a goal of the decision process.

- Problem focused and (versus) emotion focused coping strategies.

- Choice of an “avoidant” option as a way to cope with emotions. (Related to too many options?)
### CHOICE TASK PRESENTED TO SUBJECTS DURING EXPERIMENT ONE

<table>
<thead>
<tr>
<th>High Tradeoff Difficulty:</th>
<th>Price</th>
<th>Occupant Survival</th>
<th>Styling</th>
<th>Pollution Caused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low Tradeoff Difficulty:</td>
<td></td>
<td>Routine Handling</td>
<td></td>
<td>Sound System</td>
</tr>
<tr>
<td>Car A</td>
<td>Very Poor</td>
<td>Very Good</td>
<td>Average</td>
<td>Very Good</td>
</tr>
<tr>
<td>Car B</td>
<td>Average</td>
<td>Average</td>
<td>Best</td>
<td>Poor</td>
</tr>
<tr>
<td>Car C</td>
<td>Best</td>
<td>Worst</td>
<td>Very Poor</td>
<td>Average</td>
</tr>
<tr>
<td>Car D</td>
<td>Worst</td>
<td>Best</td>
<td>Poor</td>
<td>Worst</td>
</tr>
<tr>
<td>Car E</td>
<td>Poor</td>
<td>Very Poor</td>
<td>Good</td>
<td>Best</td>
</tr>
</tbody>
</table>

NOTE: Car A was associated with the status quo in the relevant condition. Car B was associated with asymmetric dominance, and the values of Car C were altered so that it was dominated by Car B, in the relevant condition. Thus, Car C’s attribute values were: Poor, Poor, Very Good, and Very Poor.
Luce (1998): Impact of Trade-off Difficulty on Avoidant Choice

<table>
<thead>
<tr>
<th>Status Quo</th>
<th>AsymDom</th>
<th>Prolong Search</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low TD*</td>
<td>.55</td>
<td>.53</td>
</tr>
<tr>
<td>High TD</td>
<td>.87</td>
<td>.82</td>
</tr>
</tbody>
</table>

(Choice Proportions from Luce, 1998)

*TD = Trade-off Difficulty
Grag, Inman, & Mittal, JCR, 2005

–Incidental Emotion Procedure used by Lerner. Write 3-5 things that make you most angry (sad) and then describe in detail a situation that made you most angry (sad). Manipulated between subjects.

Anger (+++++) = higher certainty appraisal = more heuristic processing.
Sadness (+++++) = lower certainty = more systematic processing.
Risk through the Eyes of the Beholder: Using Eye-Tracking & Facial Emotion Recognition to Study Responses to Natural Hazards (Wharton Risk Letter 2013)
Recap: The Constructed versus Revealed Preferences Controversy

- A common assumption made by economists is that “each individual has stable and coherent preferences” (Rabin, 1998). People are assumed to “know their preferences” and have the ability or skill to identify the option that maximized received value (Freeman, 1993).

- The Behavioral View: People do not have existing well-defined values for many objects. Expressions of preference are generally constructed at the time the valuation question is asked.
  - Expressed preferences = f( basic values for “highlighted” attributes, systematic error introduced by the task and context contingent heuristics that are used to combine information selectively, and random error or noise).
  - All of the above is also influenced by state of the decision maker both in terms of cognitive capabilities and emotions.
Wrap Up

• Compensatory versus Non-compensatory Choice Strategies.
• Highly Task and Context-dependent Preferences.
• Constructed versus revealed values.
• Emotions impact both how and what will be chosen.
• Implications for Decision Aiding?
• Implications for Government Regulation?