Framing Effects
and Affective Forecasting

Psychology 355: Cognitive Psychology
Instructor: John Miyamoto
05/31/2018: Lecture 10-4

Note: This Powerpoint presentation may contain macros that I wrote to help me create the slides. The macros aren’t needed to view the slides. You can disable or delete the macros without any change to the presentation.
• Risky choice - the study of people's decisions when choosing among courses of action that involve uncertainty and risk.
  o Risk attitude - people tend to be risk averse for gains and risk seeking for losses.
  o Framing effect - people's choices among risky options is affected by the way that the options are described, even if the objective choices remain the same.

• Affective forecasting - the study of how people attempt to predict their feelings if particular outcomes occur.
  o The Focusing Illusion: How focusing on an issue exaggerates the importance of the issue.
Framing Effects

Definition: A *framing effect* has occurred if people’s preferences change when:

a) the description of the choice problem is changed, and ...

b) the content of the choice problem is not changed

- By “content” I mean the logical structure of the problem. If two problems are logically equivalent, they have the same content.
- The content is the same if different versions of the problem have the same probabilities and the same outcomes – only the wording or "framing" of the problem changes.

Basic Principle of Rational Choice: The framing of a problem should not affect the decisions of a rational agent (preference should not change as a function of problem description).

- When a framing effect is found, it is a violation of this principle of rational choice.
Reflection Effect (not a framing effect):
People are generally risk averse for gains and risk seeking for losses.

By itself, a reflection effect is not a framing effect, but .... reflection effects can be part of what causes a framing effect.

How to create a framing effect:

• Change the wording of the choices to emphasize gains or to emphasize losses.

  Emphasize gains in the options  ➔  Become more risk averse

  Emphasize losses in the options  ➔  Become more risk seeking
Asian Disease Problem: Gain Frame

- **Problem 1**: Imagine that the US is preparing for the outbreak of an unusual Asian disease, which is expected to kill 600 people. Two alternative programs to combat the disease have been proposed.

- If Program A is adopted, **200 people will be saved**.

- If Program B is adopted, there is **1/3 probability that 600 people will be saved**, and **2/3 probability that no people will be saved**.

- Which of the two programs would you favor?
Asian Disease Problem: Loss Frame

• **Problem 2:** Imagine that the US is preparing for the outbreak of an unusual Asian disease, which is **expected to kill 600 people**. Two alternative programs to combat the disease have been proposed.

• If Program C is adopted **400 people will die**.

• If Program D is adopted
  - there is **1/3 probability that nobody will die**, and
  - **2/3 probability that 600 people will die**.

• Which of the two programs would you favor?
Asian Disease Problem: Results

Problem 1 [N = 152]:  (Gain Frame ➔ Risk Averse Choice)

• If Program A is adopted, 200 people will be saved.  [72 %]

• If Program B is adopted, there is 1/3 probability that 600 people will be saved, and 2/3 probability that no people will be saved.  [28 %]

Problem 2 [N = 155]:  (Loss Frame ➔ Risk Seeking Choice)

• If Program C is adopted 400 people will die.  [22 %]

• If Program D is adopted there is 1/3 probability that nobody will die, and 2/3 probability that 600 people will die.  [78 %]

A **framing effects** is a change in preference that is due *only* to the way that the options are described.

- The logical structure of the choice remains the same in the different frames.

- In the Asian disease problem:
  - The gain frame and loss frame versions of the problem are logically identical but...
  - People have different preferences depending on whether the outcomes are described as potential gains or potential losses.
    - An emphasis on gains elicits risk averse behavior. An emphasis on losses elicits risk seeking behavior. (Remember: People tend to be risk averse for gains and risk seeking for losses.)
    - This pattern of behavior constitutes a framing effect. Preferences differ depending on whether potential gains or potential losses are emphasized.
Comment on the Name: "The Asian Disease Problem"

- Goldstein discusses the Asian Disease Problem, but the textbook does not refer to it by this name.
  - See the Demonstration on p. 384 and Figure 13.7 (p. 385).
  - The most common name for this problem in the cog psych literature is the "Asian Disease Problem."

- Goldstein points out that the typical results for the Asian Disease Problem exhibits a framing effect, but the textbook does not discuss the relationship between this framing effect and the reflection effect (as was done in this lecture.)
Why Are Preference Anomalies Important?

To make better decisions, we need to understand what influences our decisions.

- Preference anomalies are situations where people's preferences systematically violate norms for rational decisions.
- Preference anomalies are found in the decisions of policy makers, medical professionals, financial analysts, and other people with important decision making roles.

• Cog psych experiments have demonstrated that decisions are influenced by:
  
  ..... emphasis on gains or emphasis on losses.
  
  ..... mental accounting – the way that the costs & payoffs are presented.
  
  ..... loss aversion – the inordinate pain of relinquishing a possession.
  
  ..... sunk costs – over-commitment to previous investments.

Not discussed in Psych 355; not on the final exam
Affective Forecasting

• Affective forecasting – predicting how we will feel if different outcomes were to occur.
  ♦ Brickman et al. – Small differences in life satisfaction between paraplegics and lottery winners.
  ♦ Sackett & Torrance report that the general public rated life on chronic dialysis as 39 whereas patients who were treated with chronic dialysis rated it as 56 (100 point scale).
  ♦ Mellers & McGraw – Women who did not want to be pregnant, awaiting pregnancy test results at a Planned Parenthood clinic, anticipated more negative affect if they found out they were pregnant than they actually did feel if they turned out to be pregnant.

• The study of affective forecasting is part of a more general area of research, the psychology of happiness.
Why Do People Have Difficulty With Affective Forecasting?

• People have incomplete or inaccurate self-theories.
• Response to novel experiences is hard to anticipate.
• Affective set point – overall happiness/unhappiness is determined by internal personal factors. People sometimes fail to take this into account.

• Possible biases:
  - Focusing illusion
  - Impact bias
  - Duration neglect
Focusing Illusion

- Focusing illusion – if attention is focused on some but not all of attributes\(^a\) of an option, these attributes will have greater influence over the predicted affective outcome than they will if the outcome is actually experienced.

\(^a\) An "attribute" is a discernable quality of the option; other words for the same idea would be "aspects of an option" or "issues regarding an option."
How Would You Feel If You Were ______?


- Participants were working women. Participants were asked ....
  
  (a) to state the percentage of time they were in a bad mood on the preceding day, and ....

  (b) to predict the percentage of time a woman similar to themselves would be in a bad mood if she were in specific social categories

- Contrasting social categories:
  
<table>
<thead>
<tr>
<th>Income</th>
<th>Age &amp; Living Status</th>
<th>Health Insurance</th>
</tr>
</thead>
<tbody>
<tr>
<td>$20,000</td>
<td>40 yrs &amp; living alone</td>
<td>no insurance</td>
</tr>
<tr>
<td>$100,000</td>
<td>40 yrs &amp; married</td>
<td>has insurance</td>
</tr>
</tbody>
</table>

- Since some women were in each of these categories, we can compare predicted differences to actual differences.

How Would You Feel If You Were _____? - Results
Would You Feel If You Were ______? - Results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Group</th>
<th>Percentage of time in a bad mood</th>
<th>Actual</th>
<th>Predicted</th>
<th>Actual difference</th>
<th>Predicted difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Household income</td>
<td>&lt;$20,000</td>
<td>32.0</td>
<td>57.7</td>
<td></td>
<td>12.2</td>
<td>32.0***</td>
</tr>
<tr>
<td></td>
<td>&gt;$100,000</td>
<td>19.8</td>
<td>25.7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Woman over 40 years old</td>
<td>Alone</td>
<td>21.4</td>
<td>41.1</td>
<td></td>
<td>-1.7</td>
<td>13.2***</td>
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<tr>
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<td>27.9</td>
<td></td>
<td></td>
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<tr>
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<td>64.3</td>
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<td></td>
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<td>19.1</td>
<td>22.3</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Fringe benefits</td>
<td>No health insurance</td>
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<td>49.7</td>
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***p < 0.001.

- In general, ACTUAL difference < PREDICTED difference
- The effects of good or bad circumstances were exaggerated.
  - Good or bad circumstances do have an effect, but not as much as predicted.
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- **Focalism (a.k.a. the focusing illusion)** – people tend to overestimate the impact of variables that they focus on.
Focusing Illusion - Summary

• Focusing on any one aspect of a larger situation exaggerates its perceived impact on quality of life.

• Schkade and Kahneman (1998),

"Nothing in life is quite as important as you think it is while you are thinking about it."
Comments Regarding the Final Exam

• Bring a scantron form; bring a pencil for the scantron form.

• One essay question
  ♦ You do not need to bring a blue book to the exam.
  ♦ Obviously bring a pen if you prefer to write with a pen.

• All other questions will be multiple choice, or true/false, or short answer (fill in a few words)

• Approximate distribution of questions:
  ♦ 50% Chapters 1 – 8
  ♦ 50% Chapters 9, 10, 12, 13
  ♦ +1 essay question
Materials for Studying for the Final Exam

• Obviously, look at the lecture slides, your section notes, and the textbook.

• Available on the Psych 355 webpage:
  ♦ What will be covered on the Final Exam?
    https://faculty.washington.edu/jmiyamot/p355/final.topics.htm
  ♦ Study questions for all chapters
    (https://faculty.washington.edu/jmiyamot/p355/p355.htm#StuQs)
  ♦ See the Spring 2016 Psych 355 exams. Use the version without answer key as well as with the answer key.
Suggestions for Studying for the Final Exam

• Spaced practice is better than massed practice.

• Generate your own ideas with respect to the course material – they will serve as retrieval cues.
  ♦ Create good associative links to information that you want to remember. E.g., does the study material remind you of anything else that you know? E.g., does the study material help to explain something about your own experience?

• Test yourself without an answer key in front of you.

• Memory tricks:
  ♦ Create interactive images that capture ideas that you want to remember.
  ♦ Try to relate facts or ideas to yourself.
  ♦ Study in an environment that is similar to the test environment.
  ♦ Memorization (maintenance rehearsal) is an ineffective memory aid.

Good Luck!
Best of Luck

• Don’t overstress for the exam.

  Focusing illusion – your exam performance seems more important than it really is (for your future happiness).

• Have a good break