PA 4010
Public Affairs
Decision Making

SESSION 11: BEHAVIORAL MAPPING

WEDNESDAY SEPTEMBER 25

Agenda for Today

▶ Brief review of material from last class

▶ Quiz

▶ Review homework #2 answers

▶ Behavioral mapping overview (majority from Irrational Labs reading)

▶ Group work to re-enforce mapping strategy

Phenomenon	Definition	Example	Example Solution
Cognitive Limitation	People might have the cognitive capacity to make the rational decision.	You don't know what you don't know.	(fun) My friend estimating number of wedding dresses sold. (real) Filling out FASFA forms.	Simplification and/or reminders.
Imperfect Optimization	People may use heuristics instead of purely rational decision making due to constraints (time or cognitive).	Left digit bias.	Choice architecture / framing
Bounded self-control	People might act differently than they plan to or want to.	When you're tired, your will-power to stick to a diet might be diminished.	Choice architecture / framing
Context dependence	Evaluating outcomes based on a reference point rather than absolutely.	Game between JoJo and Caleb.	Choice architecture / framing

Phenomenon	Definition	Example	Example Solution
Cognitive Limitation			lification and/or ders.
Imperfect Optimization			ce architecture / ng
Bounded self-control			ce architecture / ng
Context dependence		rather than absolutely.	ce architecture / ng

Examples of Framing

- **Loss aversion**: People dislike losing something more than they like gaining something of equal magnitude:
    - Cited study in Sweden found that people were more aggressive about claiming deductions when they owed money than they were when they expected a refund (refund = paid too much already).
- **Flypaper effects**: Money tends to stays where it is allocated:
    - Cited study found that individuals were 10x more likely to buy children's clothes when the money was designated as "child benefit". Perhaps creates a moral obligation in parents to spend money on children.
- **Choice ordering**: People often default to first thing they read.
    - Voting may randomize the position of the candidates.

Examples of Framing

▶ **Product diversification**: People exhibit a bias towards diversification when presented with several options.

   ▶ Cited study finds that individuals are more likely to choose healthy food when presented with multiple health and unhealthy options, rather than multiple healthy and just a single unhealthy option.

▶ **Social Context**: People may alter their decisions based on how they perceive their behavior relative to their peers.

   ▶ Providing customers with the usage of neighbors (especially when individual usage is higher) reduces energy consumption.

Quiz

Answers for Homework 2

Three Phases of Behavioral Design

1 **Do a behavioral diagnosis.**
Identify your desired behavior and outline every step your users have to take to achieve it.

Behavioral Insights Paper Section 1:
Describe the Decision Context

2 **Identify psychological biases.**
Determine the barriers that get in the way of decisions and the benefits that motivate them.

Behavioral Insights Paper Section 2:
Identify Limitation to Decision-making

3 **Experiment.**
Choose one barrier to address and design an experiment to test an intervention.

Behavioral Insights Paper Section 3:
Propose an Intervention

https://irrationallabs.com/learn/our-method/

Step 1: Behavioral Diagnosis (Description)

1. Collect Data About the Problem
   - What is a policy or management problem that is of public importance and that is of interest to you?
   - Why is this a problem? Draw from literature.
   - Interview or observe people (optional for this assignment).

2. Pick a Key Behavior
   - Develop an understanding of current user behaviors.
   - Be uncomfortably specific.

3. Make a Behavioral Map
   - What is each and every step that a person has to complete to successfully reach their behavior? How people *actually* behave.

Step 1: Understand the problem

The first step in the behavioral design process is to define your problem clearly and concretely.

Managers encounter many types of problems in running their programs. Some problems are more likely to benefit from applications of behavioral science—we refer to these problems as having "behavioral" components—whereas others will be more responsive to traditional solutions. Below is an explanation of some of the types of problems that managers frequently encounter in labor and other social programs—problems that are likely to have a behavioral component.

Limiting our own biases

When trying to address an important problem, we often begin with a particular solution already in mind—one that we have used before that has been effective in solving similar problems. It is often tempting to move immediately to the design stage and begin adapting the solution to the problem at hand.

However, if we do so we can fall prey to "confirmation bias." When we believe that a certain solution is likely to be effective, we tend to look for information that reinforces that belief and discard information that conflicts with it. This is not something we do on purpose. It is simply a natural tendency that many of us fall into unless we specifically resist it. This first step, Understand the problem, and the next one, Diagnose behavioral bottlenecks, help limit the effects of our own biases during the behavioral design process.

Low take-up. *Fewer people than expected participate in a program that would benefit them.* Some DOL programs may be underused by their target populations. Many programs that have clear benefits may still suffer from low participation rates. In some cases, this may be due to ineffective outreach or education about the program's benefits. But sometimes the take-up problem persists even with strong marketing.

Poor follow-through. *People do not take all the steps needed to benefit from a program.* People may intend to take a certain action, but fail to do so. For example, they may intend to enlist workforce staff help to begin their job search soon after losing their jobs, but find it hard to get started.

False beliefs. *People misunderstand aspects of a program or base their choices, decisions, and actions on incorrect assumptions.* People may have misperceptions about DOL or other social programs that cause them to behave in unexpected ways. For example, people may not understand the eligibility rules for a program, and consequently do not apply when they could benefit from the support.

High attrition. *More people start a program than finish it.* People may start a program, but fail to complete it. For example, they may be required to attend a series of sessions to complete a program they opted to participate in, but they only attend the first or a few sessions and then drop out.

Be specific!

Bad description of the problem: "The program is not working"

Better description: "These could be reasons that are limiting the effectiveness of the program"

Test or gather data

Example from Practioner's Playbook

Table 1. Sample questions to discuss with program users

Topics	Sample questions	
Familiarity	☐ Have you heard of the program? ☐ What is the purpose of the program? ☐ Have you used the program?	*These are good questions for understanding low take-up and false beliefs.*
Perceptions	☐ What is the program's reputation? ☐ What is your personal impression of the program? ☐ How do others describe the program? ☐ What influenced your decision to use or not use the program? ☐ Would you recommend the program to a family member or friend? Why or why not?	
Goals	☐ What personal goals or needs did you expect the program to help you address? ☐ In what ways did the program do this well? ☐ In what ways did the program fall short of your expectations?	*These are good questions for understanding poor follow-through and high attrition.*
Needs	☐ What was it like when you used the program? ☐ Would you use the program in the future? Why or why not? ☐ If not, what would make you more likely to use the program? ☐ If you started the program, but stopped participating, what led to that? What would have helped you continue?	

Example: FAFSA Problem

Decision Context/Problem: Debt from student loans is crushing many U.S. college graduates. However, about 2M students who were eligible to receive grants from the government did not apply.

- Why is this a problem of public importance?

Specific Decision/Behavior: "Submit the FAFSA (Free Application for Federal Student Aid) before my state's deadline."

- What are the decision and action steps a person typically takes to complete this behavior?

START

Decide what colleges you will apply to

Go to guidance counselor's office and make an appointment

Show up to your appointment and ask the guidance counselor if there are ways to get funding for college

Skim the FAFSA booklet that you are given

DATA INSIGHT
FAFSA completion is strongly associated with postsecondary enrollment and persistence

DATA INSIGHT
15% of high school graduates who didn't apply didn't know it was an option!

DATA INSIGHT
In some states, as few as 33% of graduating seniors complete a FAFSA

Apply for college(s) (October-January)

Decide to complete the FAFSA (October - April)

Review the basic eligibility requirements

Look up your state's submission deadline and guidelines on www.fafsa.gov

Estimate your potential financial aid through FAFSA's online calculator, FAFSA4caster

DATA INSIGHTS
Eligible students miss out on an estimated $2.5+ billion in Pell grants because they didn't complete the FAFSA

32% of students who didn't apply assumed they weren't eligible

DATA INSIGHT
Every state is unique; at least 23 have aid deadlines BEFORE the federal deadline

It can take up to 3 days for accounts to be approved
DATA INSIGHT

Create FAFSA ID

Go to FAFSA.gov

Choose a new username and enter your Social Security number

Set your password and four security questions

Wait for account approval to start using your ID and submitting informationt

Gather all the information you'll need

Log in again (remember login info)

Fill out Student Information page 1

Fill out 20+ Student Information pages*

- Your driver's license and Social Security number (SSN)
- Your parents' SSNs and birthdates
- Your family's latest federal income tax returns
- W-2 forms
- Bank statements
- Records of untaxed income
- Information on your family's investments (real estate, money market funds, stocks, etc.)
- List of the school(s) you have applied to

Create save key

Start application

DATA INSIGHT
Completing the application takes an average of 30-60 minutes

- Enter last name
- Enter first name
- Enter middle initial
- Find/remember SSN
- Enter SSN
- Enter date of birth
- Scroll down
- Click 'Next' button

KEY BEHAVIOR

Submit FAFSA form

Step 2: Identify Limitations of Decision-making

3Bs

BEHAVIOR

The first B stands for Behavior (duh!). We can't solve any problems without identifying the behavior that needs to be changed.

BARRIERS

The second B stands for Barriers. Barriers add or decrease friction to completing a behavior. TLDR: make it easy for me to do!

BENEFITS

The third B stands for Benefits. Benefits add or decrease motivation to completing the behavior. TLDR: make me want to do it!

https://irrationallabs.com/learn/our-method/

Behavior: Biases & Heuristics

1. **Imperfect optimization**
   - ▶ Limited attention, limited computational capacity (fall back on heuristics)
     - ▶ Anchoring & Confirmation Heuristic
     - ▶ Availability & Representativeness Heuristic
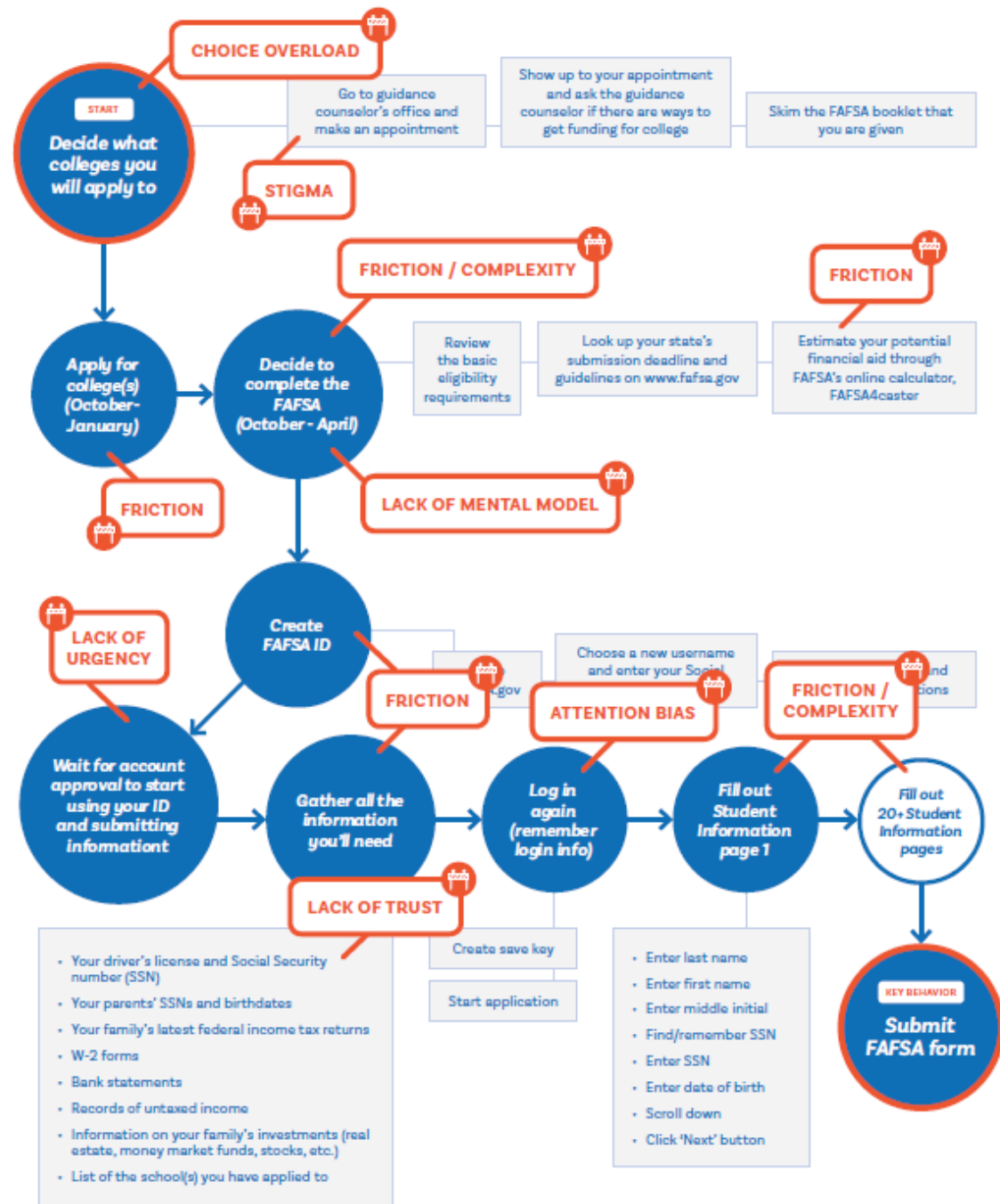2. **Bounded self-control**
   - ▶ Discrepancy between intentions and actual behaviors, procrastination
     - ▶ Self Control
     - ▶ Overconfidence, Optimism, and Planning Fallacy
3. **Context-dependent preferences**
   - ▶ Preferences dependent on framing (status quo, loss aversion), other regarding (social norms)
     - ▶ Framing and Loss Aversion
     - ▶ Social Influence and Norms

Cognitive Overload

Attention

Mental Models

Status Quo

Source: Madrian 2014

CHOICE OVERLOAD

START
Decide what colleges you will apply to

Go to guidance counselor's office and make an appointment

Show up to your appointment and ask the guidance counselor if there are ways to get funding for college

Skim the FAFSA booklet that you are given

STIGMA

FRICTION / COMPLEXITY

FRICTION

Apply for college(s) (October–January)

Decide to complete the FAFSA (October – April)

Review the basic eligibility requirements

Look up your state's submission deadline and guidelines on www.fafsa.gov

Estimate your potential financial aid through FAFSA's online calculator, FAFSA4caster

FRICTION

LACK OF MENTAL MODEL

Create FAFSA ID

Choose a new username and enter your Social

...gov

...and ...tions

LACK OF URGENCY

FRICTION

ATTENTION BIAS

FRICTION / COMPLEXITY

Wait for account approval to start using your ID and submitting information†

Gather all the information you'll need

Log in again (remember login info)

Fill out Student Information page 1

Fill out 20+ Student Information pages

LACK OF TRUST

Create save key

Start application

- Your driver's license and Social Security number (SSN)
- Your parents' SSNs and birthdates
- Your family's latest federal income tax returns
- W-2 forms
- Bank statements
- Records of untaxed income
- Information on your family's investments (real estate, money market funds, stocks, etc.)
- List of the school(s) you have applied to

- Enter last name
- Enter first name
- Enter middle initial
- Find/remember SSN
- Enter SSN
- Enter date of birth
- Scroll down
- Click 'Next' button

KEY BEHAVIOR
Submit FAFSA form

Step 3: Propose an Intervention

**See "Irrational Labs" page 17 for examples

Question	Main Barrier	Get Even More Specific	Solution Options
Do people remember it?	Attention	Availability Bias	Use reminders
Do people see it?	Attention	Saliency Bias	Make it salient
Do people want to see it?	Attention	Information Avoidance	Use deadlines and scarcity
Is the best option clear?	Cognitive Overload	Choice Overload	Use social proof, defaults, and relativity, and simplify
Do people lack time/energy?	Cognitive Overload	Scarcity/Depletion	Simplify the ask, increase the benefits of doing it today
Do people lack the confidence to make a decision now?	Cognitive Overload	Procrastination/Decision Paralysis	Make the ask feel easier: reduce or streamline choice, use social norms
Do people receive an immediate, concrete benefit?	Present Bias	Present Bias	Add immediate/concrete rewards, social proof, loss aversion, regret aversion
Is there a sense of urgency to act now?	Present Bias	Present Bias	Use deadlines and scarcity
Are people motivated, but not following through?	Present Bias	Intention-Action Gap, Self-Control	Use pre-commitment, implementation intentions

Behavioral Insights Paper Instructions

For this assignment, you will first identify a policy implementation or management context where behavioral or cognitive limitations to rational decision making may create a barrier to achieving the policy or program's intended outcomes. You will then apply the insights learned throughout the course to complete a decision analysis, resulting in a final behavioral insights paper. The paper is divided into three sections corresponding to different components of the course. The three sections are as follows: (1) describe the decision making process in this context, including implications of mistakes; (2) identify cognitive and behavioral limitations to rational decision making in this context, including specific heuristics or biases that may affect decisions; and (3) propose an intervention to address the limitations and improve the decision process.

You will work on the paper in stages throughout the semester. You will turn in a draft of Section 1 and Section 2 of the paper early in the semester, and then will turn in your revised Sections 1 and 2 along with Section 3 for the final paper due at the end of the semester. The full final paper should be no longer than 2,000 words (about 8 pages, 12 point font, double spaced).

Section 1: Describe the Decision Context (30 points)
- Decision Identification (10 pts). First, describe the decision context, including the policy or management area that you will use for your decision analysis, and *who* is making the decision. Second, identify the components of a rational decision in this context, including the problem to be solved, the decision maker's objectives, the alternatives available to the decision-maker, the potential consequences of the decision and tradeoffs that may be encountered.
- Behavioral Map (10 pts). What does the decision-making process look like this context? Diagram the decision process using a behavioral map, indicating the decision steps and action steps. You do not need to identify barriers to the decision process at this point, but simply provide an overall diagram of the decision process. See "Irrational Labs", Page 7 for an example related to FAFSA, and "Practioner's Playbook", Figure A1 page 28 for an example applied to retirement savings (only the "decision steps" and "action steps"). Provide a summary of your behavioral map in text, as well as a draft of your Behavioral Map as an Appendix. You will revise your Behavioral Map in Section 2 of this assignment, and will revise turn in one final revised Behavioral Map as an Appendix to your final assignment.
- Implications of Mistakes (10 pts). What types of mistakes or "suboptimal" decisions are common in this context? Why are mistakes or suboptimal decisions in this context problematic for individuals and/or for general public welfare? Make sure to draw from relevant external sources about your decision context and include citations.
- This section should be about 2-3 pages double-spaced, excluding figures and references.

Behavioral Insight Paper Examples

Decision Context	Decision Problem
Community Refugee and Immigration Services (CRIS)	Increasing the number of people who decide to volunteer for CRIS
Food pantry services (choice pantries in Columbus)	Helping individuals make healthy food choices at the food pantry
School Choice Programs in Ohio	Helping parents navigate their school choice options for children's education
Infant mortality and Celebrate One initiative	Helping pregnant women get the prenatal care that they need
Participatory budgeting for city government	Improving the decisions of residents who engage in a participatory budgeting process
Voting behaviors of college students	Increasing the number of college students who vote in an election
City government funding of local park services	Improving government official decisions around which programs to cut
ICE policies for international students	Helping international college students navigate the complexity and uncertainty of US immigration policies
Cash bail reform	Improving judicial (judge) decision-making around setting bail amounts
Improving health outcomes for people with Type 1 Diabetes	Increasing patient adherence to medications by increasing awareness of financial support programs

With the remaining time, let's practice making a decision map.

Group	Decision Context (Broader)	Decision Problem (Specific)
Elizabeth, Alexander, Brian, Molly, Fatoumata	Disability accessibility	Maximize the uptake of eligible OSU students for ADM agreements.
Mariata, Lily, Isaac, Connor, Maceda	Newborn health outcomes	Increase usage of pre-natal vitamins and care.
Chloe, Zaneta, Maeli, Hunter	Mental health awareness	Better connect students needing mental health help with resources.
Noelle, Caleb, Zach, Drake	Usurious financial system	Reduce prevalence of payday loans.