The Science of Behavior Change

Instructors: Professors Katherine Milkman (kmilkman@wharton.upenn.edu) and Angela Duckworth (aduckworth@characterlab.org)

Office hours: Mondays, 1-1:30pm. Each student must sign up for one 15 minute slot with Katy and one 15 minute slot with Angela during the semester. Please sign up as needed via the online scheduling tool.

Teaching assistants: Heather Graci (hgraci@wharton.upenn.edu)

Schedule: Synchronous, interactive classes via Zoom on Wednesdays from 9:00am to 12:00pm. Students must log in using their University of Pennsylvania Zoom accounts. The typical class will follow the format below:

- 8:55: Zoom room open. Please use this time to address any tech problems (and feel free to email your TA to troubleshoot).
- 9:00: Introduction, housekeeping items, and opening activity.
- 9:15: Interactive discussion about the first assigned reading.
- 9:45: 15-MINUTE BREAK
- 10:00: Interactive discussion about other assigned readings.
- 10:45: 15-MINUTE BREAK
- 11:00: Guest speaker.

Course Overview

This seminar introduces advanced undergraduates to sustainable strategies for behavior change in health, education, and savings. It is intended for juniors and seniors who are seriously considering an advanced degree in behavioral science or a related field.

Weekly readings cover classic and current research from both psychology and economics. To help students develop the skill of reading and critiquing scientific literature, we assign different students to lead a portion of our class each week.

Although there are no formal prerequisites for this class, it is particularly well-suited to students who have taken (and enjoyed) courses like OIDD 290: Decision Processes, PPE 203/PSYC 265: Behavioral Economics and Psychology, PSYC 266: Positive Psychology, and MKTG 266: Marketing for Social Impact. Auditing is not permitted.

Class Participation

This seminar’s success will depend entirely on students’ level of participation. Students should attend each class and come prepared to discuss each assigned reading in detail. Read all assigned articles in entirety and very carefully before each class unless instructed to skim sections.

Assignments

1. Pairs Presentation
Pairs of students will be responsible for leading the discussion of assigned articles for each class. You and your partner should be prepared to do the following when you lead:
1. Lead a 5-minute activity (e.g., a thought experiment, a survey designed to illustrate a key point from the reading, paired conversations in Zoom break-out rooms) (5 minutes).
2. For each paper assigned, the presenters should note one key strength and one key weakness and then open the floor for discussion about other strengths and weaknesses of the research (1 minute per paper).
3. Be prepared to note key themes across the assigned readings, incorporating comments from the discussion to close the discussion segment of class (3 minutes total)

2. Behavior Change Program First-Person Experience (*propose program by 9/16, begin participating in program by 9/23, present observations about your experience on 11/18, and turn in paper by 12/2*)

Participate in one professional behavior change program of your choosing (e.g., Weight Watchers, StickK, Fabulous, Headspace, Zombies Run! 5k Training, Charity Miles 100). Write your own (4 to 5 page double-spaced, excluding references) report that:
   1. Describes the design of this program
   2. Relates this program to concepts discussed in the course
   3. Suggests improvements to this program, and
   4. Includes 5 to 10 references from the scientific literature.

In-class presentations will be 2 minutes in length and due on 11/18. Presentations may include slides, though they are not required. They should cover points 1-3 above. You can choose to participate in the same program as your other classmates, but each of you still must separately submit this form and complete all assignments independently. You will be grouped together for in-class presentations and notified in advance, though each of you should reflect on your own experiences.

*NOTE: For programs that are not free, course funds may be used to cover the cost of enrollment. Please work with the course TA to get approval for (1) your selected behavior change program (before enrolling) and (2) having any associated costs covered by the course.*

3. Literature Review (*Due: 10/14*)

You will be required to complete one (4 to 5 pages double-spaced, excluding references) literature review on a behavior change strategy. The paper should be in APA format (see [http://www.apastyle.org/](http://www.apastyle.org/)). You are encouraged to include 10 to 15 citations. Ideally, this literature review will cover a topic that becomes central to the focus of your final research proposal on a novel behavior change intervention (e.g., if your proposed behavior change intervention will rely heavily on reminders, a literature review on reminders would be the perfect choice).

4. Research Proposal for a Novel Behavior Change Intervention

1. Present your idea for a novel behavior change intervention in class on 10/28. You will receive written feedback on your idea from your peers and from us. You will have 2 to 3 minutes. We encourage you to prepare one PowerPoint slide to make it easier to follow
along given the short time frame. PowerPoint slides and/or handouts are entirely optional.

2. Give a final in-class presentation of an original research proposal for a field study of a specific behavior change technique on 12/9 (final day of class) -- either of your own invention or derivative of an already-studied technique. This (brief) presentation should include all of the aspects of the research proposal described below.

3. Your final paper is due at 5:00pm on 12/16 and will take the form of an 8-page, double-spaced research proposal that includes the following sections:
   a. Motivation for this behavior change intervention, including 10 to 12 references to the scientific literature
      i. What real-world problem does this intervention address and why is it important?
      ii. What contribution will the proposed study make to the scientific literature?
   b. Hypothesis
   c. Study design
      i. Study sample (e.g., college undergraduates; nursing home patients)
      ii. Procedure
   d. Anticipated results and, if the data do not fit this pattern, how you will interpret null findings
   e. Optionally, in the Appendix, scripts or other text constituting the behavior change intervention itself

The final paper will be graded based on the following criteria:

- Does it motivate the problem with a practical contribution?
- Does it motivate the problem scientifically? That is, is it offering a new/compelling idea? Does it add to the research literature?
- Does it cover relevant, key findings from the literature? Does it do so thoroughly and accurately?
- Does it have a well-developed hypothesis that is clearly articulated, compelling, and novel?
- Does it include a compelling study design for testing the hypothesis using field data? The control group should be thoughtful and the strengths and limitations of the study design should be well-articulated.
- Is it well-written and clear?

**Grading**
- 15% Class Participation
- 15% In-Class Presentation (in Pairs) on Assigned Readings
- 15% Literature Review
- 15% Behavior Change Experience Paper
- 40% Final Paper and Presentation (15% for in-class presentation and 25% for final paper)

**Late submission policy**: Late assignments will be penalized one point for every 24 hours late.
<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Lead</th>
<th>Student Presenter</th>
<th>Guest (11-11:45 am unless noted)</th>
<th>Deadlines</th>
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<tbody>
<tr>
<td>9/2</td>
<td>Introduction: Nudges and Boosts</td>
<td>Katy &amp; Angela</td>
<td>N/A</td>
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<tr>
<td>9/9</td>
<td>Pre-Commitment Strategies</td>
<td>Katy</td>
<td>Shaila Lothe &amp; Rachel Chu</td>
<td>Todd Rogers (9-9:45am)</td>
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<td>9/16</td>
<td>Make It Fun</td>
<td>Katy</td>
<td>Karthik Macherla &amp; Madison Jaffe</td>
<td>Ayelet Fishbach</td>
<td>Propose your choice of Behavior Change Program</td>
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<td>9/23</td>
<td>Goal Setting and Planning</td>
<td>Angela</td>
<td>Shalva Gozland &amp; Amanda Nerenberg</td>
<td>Neil Lewis</td>
<td>Begin Behavior Change Program by This Date</td>
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<tr>
<td>9/30</td>
<td>Beliefs and Appraisal</td>
<td>Angela</td>
<td>Isaac Spear &amp; Jean Chapiro</td>
<td>Seth Gillihan</td>
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<td>10/7</td>
<td>Social Motives to Change</td>
<td>Katy</td>
<td>Kevin Babitz &amp; Tiffany Schell</td>
<td>Robert Cialdini</td>
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<td>10/14</td>
<td>Salience</td>
<td>Angela</td>
<td>Bethany Hsiao &amp; Diana Sieh</td>
<td>Piyush Tantia</td>
<td>Literature Review Due</td>
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<td>10/21</td>
<td>Situation Modification</td>
<td>Angela</td>
<td>Maayan Waldman &amp; Uri Federman</td>
<td>Richard Thaler</td>
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<td>10/28</td>
<td>Defaults, Active Choice and Information Leakage</td>
<td>Katy</td>
<td>Andrew Zheng &amp; Gabrielle Hemlick</td>
<td>N/A</td>
<td>In-Class Presentation on Research Proposal Paper</td>
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<tr>
<td>11/4</td>
<td>Prosocial Nudges</td>
<td>Angela</td>
<td>Nicholas Plante &amp; Daisy Angeles</td>
<td>Maya Shankar</td>
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<td>11/11</td>
<td>Behaviorally-Informed Incentives</td>
<td>Katy</td>
<td>Mira Potter-Schwartz &amp; Austin Smith</td>
<td>Steven Levitt</td>
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<td>11/18</td>
<td>Habits</td>
<td>Angela</td>
<td>Zachary Drapkin &amp; Karen Herrera</td>
<td>Wendy Wood</td>
<td>In-Class Presentation on Behavior Change Experience</td>
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<td>12/2</td>
<td>When Are We Ready for Behavior Change?</td>
<td>Katy</td>
<td>Aaron Kahane &amp; Grace Seeley</td>
<td>Mitesh Patel</td>
<td>Behavior Change</td>
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Detailed Course Reading List

9/2: Introduction


*NOTE: Instead of reading the very dense results section, simply read the tables and figure.*


9/9: Pre-Commitment Strategies (Guest: Todd Rogers)

**Student Presenter: TBD**


9/16: Make It Fun (Guest: Ayelet Fishbach)

**Student Presenter: TBD**


incentives to increase physical activity among families: the BE FIT randomized clinical trial. *JAMA Internal Medicine, 177*(11), 1586-1593.


9/23: Goal Setting and Planning (Guest: Neil Lewis)

**Student Presenter: TBD**


9/30: Beliefs & Appraisal (Guest: Seth Gillihan)

**Student Presenter: TBD**


10/7: Social motives to change (Guest: Robert Cialdini)

**Student Presenter: TBD**


10/14: Salience (Guest: Piyush Tantia)

**Student Presenter: TBD**


NOTE: skim portions that focus on economic modeling (Section 4)


10/21: Situation Modification (Guest: Richard Thaler)

**Student Presenter: TBD**


10/28: Defaults, Active Choice, and Information Leakage (Guest: N/A, In-Class Presentation on Research Proposal Paper)

**Student Presenter: TBD**


11/4: Prosocial Nudges (Guest: Maya Shankar)

**Student Presenter: TBD**


**11/11: Behaviorally-Informed Incentives (Guest: TBD)**

*Student Presenter: TBD*


**11/18: Habits (Guest: N/A, In-Class Presentation on Behavior Change Experience)**

*Student Presenter: TBD*


**12/2: When Are We Ready for Behavior Change? (Guest: TBD)**

*Student Presenter: TBD*


12/9: Conclusion (Guest: N/A, Final In-Class Presentation on Research Proposal Paper)