



NYU

**ROBERT F. WAGNER GRADUATE
SCHOOL OF PUBLIC SERVICE**

PADM-GP 2139

Behavioral Economics and Policy Design

Fall 2019

Instructor and Class Information

- Professor Tatiana Homonoff
- Email: tah297@nyu.edu
- Office Hours: Wednesday 3:30-4:30, Puck 3046
- Class meeting times: Wednesdays, 9/4/19–12/18/19, 4:55-6:35pm
- Class location: GCASL 369

Course Prerequisite

CORE-GP 1011: Statistics; CORE-GP 1018: Microeconomics (or equivalent).

Course Description

Standard economic theory assumes that individuals are fully rational decision-makers; however, that is often not the case in the real world. Behavioral economics uses findings from lab and field experiments to advance existing economic models by identifying ways in which individuals are systematically irrational. This course gives an overview of key insights from behavioral science and identifies ways in which these findings have been used to advance policies on education, health, energy, taxation, and more. Additionally, this course will review how government agencies and non-profit organizations have used behavioral insights to improve social policy.

Learning Assessment Table

| Course Learning Objective Covered | Corresponding Assignment Title |
|---|---------------------------------------|
| 1. Interpret empirical results from research papers for a policy audience | Weekly Assignments; Bias Presentation |
| 2. Demonstrate knowledge of key theories and policy findings from the field of behavioral economics | Final Exam |
| 3. Apply insights from behavioral economics to policy design | Policy Proposal |

Required Readings

- Thaler, Richard H., and Cass R. Sunstein. **Nudge: Improving decisions about health, wealth, and happiness.** Yale University Press, 2008.
- Excerpts from the following books (provided on NYU Classes):
 - Kahneman, Daniel. **Thinking, Fast and Slow.** New York: Farrar, Straus and Giroux, 2011. Hereafter, referred as TFS.
 - Mullainathan, Sendhil and Eldar. Shafir. **Scarcity: Why Having Too Little Means so Much.** New York: Times Books, Henry Holt and Company, 2013.
 - Ariely, Dan. **Predictably Irrational: the Hidden Forces That Shape Our Decisions.** New York: Harper Perennial, 2010.

Course Requirements

- Semi-weekly assignments
 - Writing assignments (3): 30%
 - Data visualization tweets (3): 15%
- Group bias presentation: 10%
- Final Exam: 35%
- Participation: 10%

Semi-weekly Assignments

Researchers working in public policy must frequently adapt their writing style turning a technical, academic journal article into a policy brief for government officials, a New York Times article, a National Public Radio spot, or a tweet. One of the main goals of this class is to learn to digest academic research to make economics insights understandable to a policy audience. These semi-weekly assignments will give students practice in four types of policy writing:

- Opinion editorials
- Policy briefs
- Policy proposals
- Data visualization tweets

Students will submit semi-weekly assignments via NYU Classes. These will be graded as check ++, check+, check, check minus, no credit which corresponds to 100/95/85/75/0. Late writing assignments will lose 10 points per 24 hour period starting at the beginning of class in which the assignment is due. One make-up tweet is available to earn additional credit for those with late assignments. Descriptions of the assignments are below.

Group Presentations

Teams of 4-5 students will be assigned to a “heuristic or bias” and asked to give a short presentation to the class (one per week) describing the theory and relating the findings to policy. Details of the assignment below.

Final Exam

A final written exam will take place during finals period at the same time and location as lecture. Any students with disabilities requiring special exam procedures should contact me as soon as possible to arrange accommodations.

Participation

Students will be evaluated on their contributions to the class discussion, not on attendance.

Academic Integrity

Academic integrity is a vital component of Wagner and NYU. All students enrolled in this class are required to read and abide by [Wagner's Academic Code](#). All Wagner students have already read and signed the [Wagner Academic Oath](#). Plagiarism of any form will not be tolerated and students in this class are expected to report violations to me. If any student in this class is unsure about what is expected of you and how to abide by the academic code, you should consult with me.

Henry and Lucy Moses Center for Students with Disabilities at NYU

Academic accommodations are available for students with disabilities. Please visit the [Moses Center for Students with Disabilities \(CSD\) website](#) and click on the Reasonable Accommodations and How to Register tab or call or email CSD at (212-998-4980 or mosescsd@nyu.edu) for information. Students who are requesting academic accommodations are strongly advised to reach out to the Moses Center as early as possible in the semester for assistance.

NYU's Calendar Policy on Religious Holidays

[NYU's Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. Please notify me in advance of religious holidays that might coincide with exams to schedule mutually acceptable alternatives.

Overview of the Semester

| Lecture | Topics | Overview Reading | Assignments: Due at class start |
|---------|---|--|--|
| Sept 4 | Intro to Prospect Theory | TFS ch.25-26 | |
| Sept 11 | The Endowment Effect | TFS ch.27 | |
| Sept 18 | Econometrics Review; Loss Aversion Applications | Econometrics review; Nudge ch.1 | |
| Sept 25 | Loss Aversion cont.; Probability Weighting | TFS ch.29 | Writing Assignment 1 |
| Oct 2 | Present Bias; Commitment Devices | Nudge, ch.2 | Presentation 1 |
| Oct 9 | Defaults | Nudge, ch.11 | Tweet 1 Presentation 2 |
| Oct 16 | Choice Overload; Nudging Debate | Nudge Intro & ch. 9; NYT articles | Tweet 2 Presentation 3 |
| Oct 23 | Intrinsic vs. Extrinsic Motivation | Predictably Irrational, ch.4 | Presentation 4 |
| Oct 30 | Social Comparison | Nudge, ch.3 | Tweet 3 Presentation 5 |
| Nov 6 | Salience and Attention | Chetty Senate Testimony | Writing Assignment 2 Presentation 6 |
| Nov 13 | Scarcity | Scarcity ch. 1&5 | Presentation 7 |
| Nov 20 | Applying Behavioral Economics I | EO 13707 Guidance; SBST Reports (skim) | Tweet 4 (Make-up) |
| Nov 27 | Thanksgiving – No Class | | |
| Dec 4 | Applying Behavioral Economics II: Guest | | Writing Assignment 3 |
| Dec 11 | Review Session | | |
| Dec 18 | Final Exam | | |

Writing Assignments

These assignments provide practice in policy writing of different styles. The first two assignments are reading responses on economics journal articles, while the final assignment asks students to put themselves in the shoes of a behavioral economics researcher and design a novel policy intervention around a policy goal of their choosing.

All three assignments should be one page maximum (roughly 500 words) and should pay particular attention to the behavioral models addressed in the reading (Assignments 1 & 2) or used as motivation for the design of the intervention (Assignment 3) and how it differs from the standard model.

Writing assignment #1: Opinion Editorial

Article: "The Behaviorist Goes to School: Leveraging Behavioral Economics to Improve Educational Performance" by Levitt, List, Neckermann, and Sadoff. There are many parts of this paper, but focus your discussion on the experiments involving loss aversion.

Style: Think New York Times, The Economist, The Atlantic, NPR, etc. This type of article describes the policy context and findings from academic research, but also expresses the opinions of the author. These articles are aimed at an audience with little-to-no economics or policy experience and are meant to be informative, but also engaging. Please include:

- Description of the policy context and prior research
- Summary of the policy intervention and it relates to behavioral economics
- Key finding(s) from the evaluation
- Your personal critique: Do you think this is a good policy? What are your reservations, if any (ethical, logistical, etc.)? Do you believe the findings from the study (if not, why not)? Can you suggest any other policies based on these findings? Be creative!

Writing Assignment #2: Policy Brief

Article: "Can social information affect what job you choose and keep?" by Coffman, Featherstone, and Kessler

Style: You have just read the study above and want to convey the findings to other policymakers. If you could only give the key stakeholders a one-page summary of the program findings – what would it say? Policy briefs differ from opinion editorials in that they are (i) intended for a more technically-informed audience and (ii) only include the research findings, not your personal opinions. Please use the following section headings to organize your brief:

- Policy Objective – goal of intervention
- Behavioral Insight – which behavioral economics theory is being applied?
- Background – policy context
- Methods – sample population, empirical method (e.g., RCT, diff-in-diff...) details of policy
- Results – describe main results of the intervention
- Conclusion

Writing Assignment #3: Policy Proposal

Imagine that you are a member of the former White House's Social and Behavioral Sciences Team (<https://sbst.gov/>) and that you are collaborating with a public sector partner (government agency, non-profit, etc.). It is your job to identify a well-defined policy goal of your research partner that you believe can be improved through behavioral science. You will then design a policy intervention based on behavioral economics insights to better achieve this goal. Note that not all problems can be solved with behavioral interventions, so make sure you are selecting a problem that you believe can be addressed with the policy levers we have discussed in this course. You will then describe how you and your agency partner will evaluate the effectiveness of your intervention using a randomized control trial. Make sure to address the points below:

1. **Define the policy problem:** What is the policy goal? Make sure that you are selecting a well-defined, measurable policy outcome that is likely to be a goal of your research partner (e.g., take-up of a government program, tax compliance rate, etc.).
2. **Diagnosis:** Describe the cognitive biases that stand in the way of the policy goal and why behavioral interventions might be of use in this context.
3. **Design the intervention:** Identify your behavioral intervention. Special attention will be given to how your intervention relates to your diagnosis – i.e., your intervention should be directly informed by the biases described in your diagnosis. Be concise, specific, and creative!
4. **Test:** Design your own randomized control trial (RCT) to evaluate your intervention. Be specific – for example: Who is your sample population and how will you recruit them? What data would you need to collect? How will you randomize your sample into experimental groups?
5. **Feasibility:** What are some factors that may hinder your analysis? These may include political feasibility, financial costs, logistical difficulties, sample size considerations, ability to randomize, ethical concerns, etc.

Data Visualization Tweets

Many of the papers we will read for this class can be summarized in one key finding...then the rest of the paper is devoted to trying to convince the reader that the finding is correct. However, academics don't always make it easy for readers to find that main point!

For these assignments, you will read an academic article, identify the finding that summarizes the main takeaway from the paper, and create a graphical depiction of that finding accompanied by a 280 character or less tweet. Do NOT simply recreate an existing figure from the paper – you must create your own graph/figure. Feel free to be creative with your data visualization, but make sure it represents a quantitative finding of the effect of the intervention. While there are many interesting findings in each paper, your assignments will be graded on your ability to identify and correctly describe the main causal effect(s) of the intervention.

Note: These tweets do NOT actually need to be tweeted! Just follow the tweet format. Additionally, for ease of interpretation/grading, please include a footnote on which table or page you found the data used in your graphical depiction.

Tweet 1: "Put Your Money Where Your Butt Is: A Commitment Contract for Smoking Cessation" by Gine, Karlan, and Zinman

Tweet 2: "Designed to Fail: Effects of the Default Option and Information Complexity on Student Loan Repayment" by Cox, Dynarski, and Kriesman

Tweet 3: "Pay Enough or Don't Pay at All" by Gneezy and Rustichini (focus on the volunteering experiment results only)

(MAKE-UP ASSIGNMENT) Tweet 4: "Information Disclosure, Cognitive Biases, and Payday Borrowing" by Bertrand and Morse

Examples

1. Castleman & Page (2014). "Freshman Year Financial Aid Nudges: An Experiment to Increase FAFSA Renewal and College Persistence"
 - Op-ed: [NYT Article](http://www.nytimes.com/2015/01/18/upshot/helping-the-poor-in-higher-education-the-power-of-a-simple-nudge.html?_r=0) http://www.nytimes.com/2015/01/18/upshot/helping-the-poor-in-higher-education-the-power-of-a-simple-nudge.html?_r=0
 - Policy Brief: [SBST Annual Report](https://sbst.gov/#report) <https://sbst.gov/#report>
2. Homonoff (2018). "Can Small Incentives Have Large Effects? The Impact of Taxes versus Bonuses on Disposable Bag Use"
 - Op-ed: [The Conversation](https://theconversation.com/paper-or-plastic-how-disposable-bag-bans-fees-and-taxes-affect-consumer-behavior-48858) <https://theconversation.com/paper-or-plastic-how-disposable-bag-bans-fees-and-taxes-affect-consumer-behavior-48858>
 - Policy Brief: [World Bank Blog](http://blogs.worldbank.org/impactevaluations/the-case-for-sticks-over-carrots-its-in-the-bag-guest-post-by-tatiana-homonoff) <http://blogs.worldbank.org/impactevaluations/the-case-for-sticks-over-carrots-its-in-the-bag-guest-post-by-tatiana-homonoff>
 - Tweet: https://twitter.com/katy_milkman/status/612248981989625856

Group Presentations

Each group of 3-4 students will be assigned one “heuristic or bias” to present. Groups will be assigned by Professor Homonoff. I have listed one or two articles on each of the topics – often the pioneering article on that specific theory – but you should feel free to do your own literature search since there may be many other great examples in subsequent research. These articles can be very challenging so you should feel free to skip the more technical sections.

Each presentation should be roughly 10 minutes long and include slides that your fellow classmates can use as a study guide. Please submit a copy of your slides the night before class. The presentations should include the following:

- Describe the heuristic/bias introduced in the reading
- Give an example question or scenario that highlights the meaning of the bias. If possible, test your audience to see if they fall prey to the bias!
- Present at least one example from the assigned readings or your own literature review that shows evidence of this cognitive bias in the lab or field
- Describe at least one example not discussed in the readings of how this cognitive bias could impact behavior in meaningful ways in the real world, ideally focusing on some economic outcome (consumption, labor supply, tax compliance, health, etc.).

Example: Representativeness Heuristic

Readings: Tversky & Kahneman (1974) Section I; Nudge ch.1

Group 1: Availability Bias

Readings: Tversky & Kahneman (1974) Section II; Nudge ch.1

Group 2: Anchoring and Adjustment

Readings: Tversky & Kahneman (1974) Section III; Nudge ch.1

Group 3: Hot-Hand Fallacy

Readings: Gilovich, Vallone, Tversky (1985); Chen, Moskowitz, Shue (2016)

Group 4: Left-Digit Bias

Readings: Lacetera, Pope, Sydnor (2012)

Group 5: Overconfidence

Readings: Kruger and Dunning (1999); Camerer and Lovallo (1999)

Group 6: Confirmation Bias

Readings: Lord, Ross, Lepper (1979), Bernhardt, Krasa, and Polborn (2008)

Group 7: Projection Bias

Readings: Loewenstein, O'Donoghue, Rabin (2003); Conlin, O'Donoghue, Vogelsang (2007)

Additional Readings

Lecture 1: Loss Aversion

- **[Required Reading]** Kahneman, Daniel, and Amos Tversky (1979) "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, XLVII (1979), 263-291.

Lecture 2: The Endowment Effect

- **[Required Reading]** Kahneman, Daniel, Jack L. Knetsch, and Richard H. Thaler. "Anomalies: The endowment effect, loss aversion, and status quo bias." *The journal of economic perspectives* (1991): 193-206.

Lecture 3: Loss Aversion Applications

- **[Required Reading]** Homonoff, Tatiana A. 2018. "Can Small Incentives Have Large Effects? The Impact of Taxes versus Bonuses on Disposable Bag Use." *American Economic Journal: Economic Policy*, 10 (4): 177-210.
- Pope, Devin G., and Maurice E. Schweitzer. "Is Tiger Woods loss averse? Persistent bias in the face of experience, competition, and high stakes." *The American Economic Review* 101.1 (2011): 129-157.
- Allen, Eric J., Patricia M. Dechow, Devin G. Pope, and George Wu. "Reference-dependent preferences: Evidence from marathon runners." *Management Science* (2016).
- Rees-Jones, Alex. "Quantifying Loss-Averse Tax Manipulation, *The Review of Economic Studies*, Volume 85, Issue 2, 1 April 2018, Pages 1251–1278.
- Engström, Per, Katarina Nordblom, Henry Ohlsson, and Annika Persson. "Tax compliance and loss aversion." *American Economic Journal: Economic Policy* 7, no. 4 (2015): 132-164.

Lecture 4: Loss Aversion and Education; Probability Weighting

- **[Required Reading – again]** Kahneman, Daniel, and Amos Tversky (1979) "Prospect Theory: An Analysis of Decision under Risk", *Econometrica*, XLVII (1979), 263-291.
- **[Required Reading]** Levitt, Steven D., et al. "The behavioralist goes to school: Leveraging behavioral economics to improve educational performance." *American Economic Journal: Economic Policy* 8.4 (2016): 183-219.
- Field, Erica. "Educational Debt Burden and Career Choice: Evidence from a Financial Aid Experiment at NYU Law School." *American Economic Journal: Applied Economics* (2009): 1-21.
- Hossain, Tanjim, and John A. List. "The behavioralist visits the factory: Increasing productivity using simple framing manipulations." *Management Science* 58.12 (2012): 2151-2167.
- Imas, Alex, Sally Sadoff, and Anya Samek. "Do people anticipate loss aversion?" *Management Science* 63.5 (2016): 1271-1284.

Lecture 5: Present Bias & Commitment Devices

- **[Required Reading]** Giné, Xavier, Dean Karlan, and Jonathan Zinman. "Put your money where your butt is: a commitment contract for smoking cessation." *American Economic Journal: Applied Economics* 2.4 (2010): 213-35.
- Hastings, Justine, and Ebonya Washington. 2010. "The First of the Month Effect: Consumer Behavior and Store Responses." *American Economic Journal: Economic Policy* 2.2 (2010): 142-62.
- Shapiro, Jesse M. "Is there a daily discount rate? Evidence from the food stamp nutrition cycle." *Journal of Public Economics* 89.2 (2005): 303-325.
- Royer, Heather, Mark Stehr, and Justin Sydnor. "Incentives, commitments, and habit formation in exercise: evidence from a field experiment with workers at a fortune-500 company." *American Economic Journal: Applied Economics* 7.3 (2015): 51-84.
- DellaVigna, Stefano, and Ulrike Malmendier. "Paying not to go to the gym." *The American Economic Review* (2006): 694-719.
- Read, Daniel, George Loewenstein, and Shobana Kalyanaraman. "Mixing virtue and vice: Combining the immediacy effect and the diversification heuristic." *Journal of Behavioral Decision Making* 12.4 (1999): 257.
- Jones, Damon. 2010. "Information, Preferences, and Public Benefit Participation: Experimental Evidence from the Advance EITC and 401(k) Savings." *American Economic Journal: Applied Economics*, 2 (2): 147-63

Lecture 6: Defaults

- **[Required Reading]** Madrian, Brigitte, and Dennis Shea (2001) "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior." *Quarterly Journal of Economics*, 116: 1149-1187.
- **[Required Reading]** Cox, James C., Daniel Kreisman, and Susan Dynarski. "Designed to Fail: Effects of the Default Option and Information Complexity on Student Loan Repayment." No. w25258. National Bureau of Economic Research, 2018.
- Haggag, Kareem, and Giovanni Paci. "Default tips." *American Economic Journal: Applied Economics* 6.3 (2014): 1-19.
- Samuelson, William, and Richard Zeckhauser. "Status quo bias in decision making." *Journal of risk and uncertainty* 1.1 (1988): 7-59.
- Blumenstock, Joshua, Michael Callen, and Tarek Ghani. 2018. "Why Do Defaults Affect Behavior? Experimental Evidence from Afghanistan." *American Economic Review*, 108 (10): 2868-2901.
- Thaler, Richard, and Shlomo Benartzi (2004) "Save More Tomorrow: Using Behavioral Economics to Increase Employee Savings," *Journal of Political Economy*, February, Vol. 112.1, Part 2, pp. S164-S187.

Lecture 7: Choice Overload & Libertarian Paternalism

- **[Required Reading]** New York Times articles:
 - The Power of Nudges, for Good and Bad
 - How Uber Uses Psychological Tricks to Push Its Drivers
 - The Curious Politics of the 'Nudge'
 - Nudges Aren't Enough for Problems Like Retirement Savings
- Johnson, Eric J., and Daniel Goldstein. "Do defaults save lives?" *Science* (2003): 1338-1339.
- Glaeser, Edward L. Paternalism and psychology. No. w11789. National Bureau of Economic Research, 2005.
- Iyengar, Sheena S., and Mark R. Lepper. "When choice is demotivating: Can one desire too much of a good thing?" *Journal of personality and social psychology* 79.6 (2000): 995.
- Iyengar, Sheena S., and Emir Kamenica. "Choice proliferation, simplicity seeking, and asset allocation." *Journal of Public Economics* 94.7 (2010): 530-539.

Lecture 8: Intrinsic vs. Extrinsic Motivation

- **[Required Reading]** Gneezy, U., and A. Rustichini (2000) "Pay enough or Don't pay at All" *Quarterly Journal of Economics*, 791-810.
- Deci, Edward L. "Effects of externally mediated rewards on intrinsic motivation." *Journal of personality and Social Psychology* 18.1 (1971): 105.
- Gneezy, Uri, and Aldo Rustichini. "A fine is a price." *The Journal of Legal Studies* 29.1 (2000): 1-17.
- Heyman, James, and Dan Ariely. "Effort for payment a tale of two markets." *Psychological Science* 15.11 (2004): 787-793.
- Ariely, Dan, Anat Bracha, and Stephan Meier. "Doing good or doing well? Image motivation and monetary incentives in behaving prosocially." *The American Economic Review* (2009): 544-555.
- Mellström, Carl, and Magnus Johannesson. "Crowding out in blood donation: was Titmuss right?" *Journal of the European Economic Association* 6.4 (2008): 845-863.
- Lacetera, Nicola, Mario Macis, and Robert Slonim. "Will there be blood? Incentives and displacement effects in pro-social behavior." *American Economic Journal: Economic Policy* 4.1 (2012): 186-223.

Lecture 9: Social Comparison

- **[Required Reading]** Allcott, Hunt. "Social norms and energy conservation." *Journal of Public Economics* 95.9 (2011): 1082-1095.
- **[Required Reading]** Coffman, Lucas C., Clayton R. Featherstone, and Judd B. Kessler. "Can social information affect what job you choose and keep?" *American Economic Journal: Applied Economics* 9.1 (2017): 96-117.

- Goldstein, Noah, Robert Cialdini, and Vladas Griskevicius (2008). "A Room with a Viewpoint: Using Norm-Based Appeals to Motivate Conservation Behaviors in a Hotel Setting." *Journal of Consumer Research*, Vol. 35, pages 472-482.
- Bond, Robert M., et al. "A 61-million-person experiment in social influence and political mobilization." *Nature* 489.7415 (2012): 295-298.
- Schultz, P. Wesley, et al. "The constructive, destructive, and reconstructive power of social norms." *Psychological science* 18.5 (2007): 429-434.
- Allcott, Hunt, and Todd Rogers. "The Short-Run and Long-Run Effects of Behavioral Interventions: Experimental Evidence from Energy Conservation." *The American Economic Review* 104.10 (2014): 3003-3037.
- Allcott, Hunt, and Judd B. Kessler. The welfare effects of nudges: A case study of energy use social comparisons. No. w21671. National Bureau of Economic Research, 2015.
- Hallsworth, Michael, John A. List, Robert D. Metcalfe, and Ivo Vlaev. "The behavioralist as tax collector: Using natural field experiments to enhance tax compliance." *Journal of Public Economics* 148 (2017): 14-31.

Lecture 10: Salience and Attention

- **[Required Reading]** Chetty, Raj, Adam Looney, and Kory Kroft. 2009. "Salience and Taxation: Theory and Evidence." *American Economic Review*, 99(4): 1145-77.
- Gallagher, Kelly Sims, and Erich Muehlegger. "Giving green to get green? Incentives and consumer adoption of hybrid vehicle technology." *Journal of Environmental Economics and management* 61.1 (2011): 1-15.
- Chetty, Raj, and Emmanuel Saez. 2013. "Teaching the Tax Code: Earnings Responses to an Experiment with EITC Recipients." *American Economic Journal: Applied Economics*, 5(1): 1-31.
- Finkelstein, Amy. "E-ztax: Tax salience and tax rates." *The Quarterly Journal of Economics* 124.3 (2009): 969-1010.
- Goldin, Jacob, and Tatiana Homonoff. "Smoke gets in your eyes: cigarette tax salience and regressivity." *American Economic Journal: Economic Policy* 5.1 (2013): 302-336.

Lecture 11: Scarcity

- **[Required Reading]** Bertrand, Marianne, Sendhil Mullainathan, and Eldar Shafir. "A behavioral-economics view of poverty." *The American Economic Review* 94.2 (2004): 419-423.
- **[Required Reading]** Bertrand, Marianne, and Adair Morse. "Information disclosure, cognitive biases, and payday borrowing." *The Journal of Finance* 66.6 (2011): 1865-1893.
- Shah, Anuj K., Sendhil Mullainathan, and Eldar Shafir. "Some consequences of having too little." *Science* 338.6107 (2012): 682-685.
- Mani, Anandi, Sendhil Mullainathan, Eldar Shafir, and Jiaying Zhao. "Poverty impedes cognitive function." *Science* 341, no. 6149 (2013): 976-980.

- Carvalho, Leandro S., Stephan Meier, and Stephanie W. Wang. "Poverty and economic decision-making: Evidence from changes in financial resources at payday." *American Economic Review* 106, no. 2 (2016): 260-84.
- Dean Spears (2011) "Economic Decision-Making in Poverty Depletes Behavioral Control," *The B.E. Journal of Economic Analysis & Policy*: Vol. 11: Issue 1 (Contributions), Article 72.

Lecture 12: Behavioral Economics and Government I

- **[Required Reading]** Executive Order 13707 Guidance Document
- **[Required Reading]** Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 127(3), 1205-1242.
- Bhargava, S., & Manoli, D. (2015). Psychological frictions and the incomplete take-up of social benefits: Evidence from an IRS field experiment. *American Economic Review*, 105(11), 3489-3529.
- Castleman, B. L., & Page, L. C. (2016). Freshman year financial aid nudges: An experiment to increase FAFSA renewal and college persistence. *Journal of Human Resources*, 51(2), 389-415.
- Social and Behavioral Sciences Team, Annual Report (2015, 2016)

Lecture 13: Behavioral Economics and Government II

- Behavioral Insights Team, Update Report 2013-2015
- World Development Report, "Mind, Society, and Behavior"
- Ideas42, Behavioral Design Team Playbook