Paul Stillman

Yale School of Management November 2022 <u>www.paulstillman.com</u> <u>Google Scholar</u>

Teaching Statement

Research Statement

DEIB Statement

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EDUCATION AND ACADEMIC EMPLOYMENT

Yale School of Management

Associate Research Scientist, Department of Marketing, 2021 – Present. Advisor: Ravi Dhar Post-Doctoral Associate, Department of Marketing, 2018 – 2021. Advisor: Ravi Dhar

Ohio State University

Post-Doctoral Researcher, Data Analytics, 2015 – 2018. Advisors: Zhong-Lin Lu and Skyler Cranmer Ph.D., Social Psychology, 2015. Advisors: Kentaro Fujita and William Cunningham M.A., Social Psychology, 2011

Cornell University

B.A. cum laude, Psychology, 2009. Advisor: Thomas Gilovich

RESEARCH INTERESTS

Self-Control • Motivation • Goal Pursuit • Judgment and Decision-Making • Sustainable Consumption • Computational Modeling • Data Analytics • Machine Learning • Consumer Neuroscience

JOB MARKET PAPER

Stillman, P. E. & Kaitlin Woolley. Undermining desire: Reducing unhealthy choices by highlighting short-term (vs. long-term) costs. Under 3rd round review (no further data needed), Journal of Consumer Research. Draft available <u>here</u>

Abstract: What motivates consumers to avoid unhealthy behaviors (e.g., consuming sugar, energy drinks, and fast food)? Traditional interventions and lay intuition suggest that to motivate themselves, consumers can consider the negative long-term health consequences of their decisions. Yet, consumers still struggle to avoid unhealthy behaviors. Eight experiments (N = 4,606) offer a different approach. We find that considering short-term costs of unhealthy behaviors (e.g., irritability or indigestion after eating sugar) better curbs these behaviors than considering long-term costs or no costs. We theorize that short-term costs are more effective at reducing unhealthy behavior because they are more strongly associated with the act of consumption, both in terms of immediate timing and perceived likelihood of costs occurring. As such, short-term costs are better at undermining the reason for consuming unhealthily: anticipated enjoyment of the consumption experience. We test this process by (1) demonstrating mediation via increased association strength and subsequent decreased anticipated enjoyment, (2) manipulating the association strength between consumption and costs (i.e., same cost realized sooner vs. later), and (3) demonstrating moderation via consumers' goal for eating unhealthily. These results identify a powerful, but underutilized self-regulation strategy – emphasizing short-term costs of unhealthy consumption – with implications for consumers and marketers.

PUBLICATIONS

- Melnikoff, D. E., Ryan Carlson, and Paul E. Stillman*. (*in press*). The Structure of immersive and engaging activities: Insights from a computational model of flow. In A. W. Kruglanski, A. Fishbach, & C. Kopetz (Eds.) *Explorations in Goal Systems*. Oxford University Press, Oxford, England. *senior author
- Melnikoff, D. E., Ryan Carlson, and **Paul E. Stillman***. (2022). A computational theory of the subjective experience of flow. *Nature Communications, 13,* 2252. [OSF] **senior author*
- Melnikoff, D. E., Thomas C. Mann, Paul E. Stillman, Xi Shen, and Melissa J. Ferguson. (2021). Tracking prejudice: A mouse-tracking measure of evaluative conflict predicts discriminatory behavior. Social Psychological and Personality Science, 12, 266-272. [OSF]
- Wilson, J. D., Melanie Baybay, Rishi Sankar, **Paul E. Stillman**, and Abbie M. Popa. (2021). Analysis of population functional connectivity data via multilayer network embeddings. *Network Science*, 9, 99-122.
- Stillman, P. E., Ian Krajbich, and Melissa J. Ferguson. (2020). Using dynamic monitoring of choices to predict and understand risk preferences. Proceedings of the National Academy of Sciences, 117, 31738-31747. [OSF]
- Stillman, P. E., Zhong-Lin Lu, and Kentaro Fujita. (2020). Construal level shifts integration and segregation of the brain network. *Journal of Experimental Psychology: General*, 149, 382-390. [OSF]
- Stillman, P. E., Hyojin Lee, Xiaoyan Deng, H. Rao Unnava, and Kentaro Fujita. (2020). Examining consumers' sensory experiences with color: A consumer neuroscience approach. *Psychology & Marketing**, 37, 995-1007.
 *Special issue on color research in marketing
- Stillman, P. E. and Melissa J. Ferguson. (2019). Decisional conflict predicts impatience. Journal of the Association for Consumer Research, 4, 47-56. [OSF]
- Stillman, P. E., James D. Wilson, Matthew J. Denny, Bruce Desmarais, Skyler J. Cranmer, and Zhong-Lin Lu. (2019). A consistent organizational structure across multiple functional subnetworks of the human brain. *NeuroImage, 197,* 24-36. [OSF]
- Stillman, P. E., Kentaro Fujita., Oliver Sheldon, and Yaacov Trope. (2018). From "Me" to "We": The role of construal level in promoting maximized joint outcomes. Organizational Behavior and Human Decision Processes, 147, 16-25.
- Stillman, P. E., Xi Shen, and Melissa J. Ferguson. (2018). How mouse-tracking can advance social cognitive theory. *Trends in Cognitive Sciences, 22,* 531-543.
- Lopez, R. B., **Paul E. Stillman**, Todd F. Heatherton, and Jonathan B. Freeman. (2018). Minding one's reach (to eat): The promise of computer mouse-tracking to study self-regulation of eating. *Frontiers in Nutrition*, *5*, 43.
- Stillman, P. E., Danila Medvedev, and Melissa J. Ferguson. (2017). Resisting temptation: Tracking how self-control conflicts are successfully resolved in real-time. *Psychological Science*, 28, 1240-1258. [OSF]
- Stillman, P. E., Hyojin Lee, Xiaoyan Deng, H. Rao Unnava, William A. Cunningham, and Kentaro Fujita. (2017). Neurological evidence for the role of construal level in future-directed thought. *Social Cognitive and Affective Neuroscience*, 12, 937-947.

- Stillman, P. E., James D. Wilson, Matthew J. Denny, Bruce Desmarais, Shankar Bhamidi, Skyler J. Cranmer, and Zhong-Lin Lu. (2017). Statistical modeling of the default mode brain network reveals a segregated highway structure. *Scientific Reports*, 7, 11694. [OSF]
- Luttrell, A., **Paul E. Stillman**, Adam Hasinski, and William A. Cunningham. (2016). Neural dissociations in attitude strength: Distinct regions of cingulate cortex track ambivalence and certainty. *Journal of Experimental Psychology: General, 145,* 419-433.
- Stillman, P. E., Jay J. Van Bavel, and William A. Cunningham. (2015). Valence asymmetries in the human amygdala: Task relevance modulates amygdala responses to positive more than negative affective cues. *Journal of Cognitive Neuroscience*, 4, 842-851.
- Stillman, P. E., Thomas D. Gilovich, and Kentaro Fujita. (2014). Predicting group outcomes from brief exposures. Social Cognition, 32, 71-82.
- Cunningham, W. A., Kristen Dunfield, and **Paul E. Stillman.** (2014). Affective dynamics: Iterative reprocessing in the production of emotional responses. In L. F. Barrett and J. A. Russell (Eds.) *Psychological construction of emotion*. New York, NY: Guilford.
- Cunningham, W. A., Kristen Dunfield, and **Paul E. Stillman.** (2013) Emotional states from affective dynamics. *Emotion Review, 5,* 344-355.

Working Papers

- Stillman, P. E. and Kaitlin Woolley. Undermining desire: Reducing unhealthy choices by highlighting short-term (vs. long-term) costs. Under 3rd round review, Journal of Consumer Research, available <u>here</u>
- Stillman, P. E., Anna Gavrieli, Jane Upritchard, Chavanne Hanson, Treeny Ahmed, Jonathan Kaplan, Ravi Dhar, and Michiel Bakker. Sustainable eating: How to craft an effective sustainability labeling system. Under 2nd round review, Journal of the Association for Consumer Research, available <u>here</u>
- Stillman, P. E., James D. Wilson, and Melissa Ferguson. How we resist: Using functional trajectory analysis to examine models of self-control. *In preparation, available <u>here</u>*
- Desai, N., Phoung Le, **Paul E. Stillman,** Kentaro Fujita, and Ian Krajbich. Diffusion modeling reveals that highlevel construal reduces the positive evaluation of immediate rewards in intertemporal choice. *Under review, JEP:G*

TEACHING INTERESTS

Consumer Behavior • Data Analytics • Marketing Analytics • Digital Marketing • Marketing Research • Consumer Insights • Marketing Management • Advanced Statistics • Judgment and Decision-Making • Pricing • Consumer Neuroscience

HONORS, AWARDS, GRANTS & FELLOWSHIPS

2019	Art in Research Award (University-wide competition), Third Place, Yale University
2015	Brewer Research Award, Ohio State University
2014-2015	Thomas M. Ostrom Chair, Ohio State University
2012	Judgment and Decision-Making SPSP Preconference Travel Award

2011	SPSP Student Travel Award
2010-2015	National Science Foundation Graduate Research Fellowship
2008	Einhorn Discovery Grant, Cornell University
2008	Undergraduate Independent Research Grant, Cornell University
2008	National Science Foundation Research Experience for Undergraduates Fellowship, UCLA
2007	National Science Foundation Research Experience for Undergraduates Fellowship, Oklahoma State, 2007

PATENTS

Cranmer, S., Bhamidi, S., Desmarais, B., Denny, M., Lu, Z.-L., Stillman, P., & Wilson, J. US Patent No. 11,062,450, 2021, "Systems and methods for modeling neural architecture", granted on July 13, 2021.

CONFERENCE PRESENTATIONS

TALKS

- Stillman, P. E., Wilson, J. D., & Ferguson, M. J. (2022, October). *The Dynamics of Self-Control*. Talk presented at the annual meeting of the Association for Consumer Research, Denver, CO.
- Stillman, P. E., Ahmed, T., & Dhar, R. (2022, October). Sustainable Eating: How to Craft an Effective Sustainability Labeling System. Talk presented at the Climate Change preconference for the annual meeting of the Association for Consumer Research, Denver, CO.
- *Stillman, P. E., Wilson, J. D., & Ferguson, M. J. (2022, October). *How We Resist Temptation: Using Functional Trajectory Analysis to Test Competing Models of Self-Control*. Talk presented at the annual meeting of the Society for Experimental Social Psychology, Philadelphia, PA. * *denotes symposium chair*
- Stillman, P. E., & Woolley, K. (2021, October). Undermining desire: The persuasive power of short-term (vs. long-term) consequences of indulging. Talk presented at the annual meeting of the Association for Consumer Research (virtual conference).
- Stillman, P. E., & Woolley, K. (2021, October). Undermining desire: When and why emphasizing short-term costs reduces indulgence. Talk presented at the annual meeting of the Society for Experimental Social Psychology, Santa Barbara, CA.
- *Stillman, P. E., & Woolley, K. (2021, May). *The persuasive power of immediate (vs. delayed) costs of indulging.* Talk presented at the annual meeting of the Society for the Science of Motivation (virtual conference). * *denotes symposium chair*
- Stillman, P. E., & Woolley, K. (2020, March). Resisting temptation by highlighting short-term costs. Talk presented at the annual meeting of the Society for Consumer Psychology, Huntington Beach, CA.
- Stillman, P. E., Krajbich, I., & Ferguson, M. J. (2019, November). Conflict under risk: Using dynamic monitoring of choices to predict and understand risk preferences. Talk presented at the annual meeting of the Association for Consumer Research, Atlanta, GA.

- Stillman, P. E. & Ferguson, M. J. (2019, February). Reactive versus proactive control: Using mouse-tracking to understand how people resolve self-control conflicts. Talk presented at the annual meeting of the Society of Personality and Social Psychology, Portland, OR.
- Stillman, P. E., Krajbich, I., & Ferguson, M. J. (2018, November). Harnessing motor conflict to predict and understand choices under risk. Talk presented at the annual meeting of the Society for Judgment and Decision-Making, New Orleans, LA.
- Stillman, P. E. & Ferguson, M. J. (2018, October). *Decisional conflict predicts myopia*. Talk presented at the annual meeting of the Association for Consumer Research, Dallas, TX.
- *Stillman, P. E. & Ferguson, M. J. (2018, March). Using mouse-tracking to probe theories of self-control. Talk presented at the annual meeting of the Society of Personality and Social Psychology, Atlanta, GA. * denotes symposium chair
- Stillman, P. E., Wilson, J. D., Denny, M. J., Desmarais, B., Bhamidi, S., Cranmer, S. J., & Lu, Z. (2017, October). Modeling the default mode network using the correlation generalized exponential random graph model. Talk presented at the annual Data Institute conference, San Francisco, CA.
- Stillman, P. E., Luttrell, A., Cranmer, S. J., & Petty, R. (2017, June). Investigating the dynamic interplay between political ideology and one's social network: A longitudinal study of college freshmen. Talk presented at the Political Networks Conference, Columbus, OH.
- Stillman, P. E. & Ferguson, M. J. (2016, January). (mouse) Tracking self-control: New evidence for how self-control decision processes unfold in real-time. Talk presented at the Judgment and Decision Making preconference at the annual meeting of the Society of Personality and Social Psychology, San Diego, CA.
- Stillman, P. E. & Ferguson, M. J. (2016, January). (mouse) Tracking self-control: New evidence for how self-control decision processes unfold in real-time. Talk presented at the Social Cognition preconference at the annual meeting of the Society of Personality and Social Psychology, San Diego, CA.
- *Stillman, P. E., Fujita, & Sheldon, O. (2015, May). *Maximizing efficiency in goal-conflict decisions: The role of construal level.* Symposium presented at the annual meeting of the Society for Study of Motivation, New York, NY. * *denotes symposium chair*
- Stillman, P. E., Fujita, & Sheldon, O. (2014, May). *High-level construal promotes efficient goal pursuit*. Talk presented at the annual meeting of the Midwestern Psychological Association, Chicago IL.
- Stillman, P. E., Fujita, K., Smith, P. K., & Sheldon, O. (2013, May). *Power promotes considerations of goal progress*. Talk presented at the annual meeting of the Midwestern Psychological Association, Chicago IL.
- Stillman, P. E., Fujita, K., & Sheldon, O. (2012, November). On the psychology of economic efficiency: How delaying rewards promotes maximizing net gains across parties in mixed-motive settings. Talk presented at the annual meeting of the Society for Judgment and Decision-Making, Minneapolis, MI.
- Stillman, P. E., Fujita, K, & Sheldon, O. (2012, May). *Goal progress and construal level*. Talk presented at the annual meeting of the Midwestern Psychological association, Chicago, IL.

Stillman, P. E., Gilovich, T. D., & Fujita, K. (2011, May). Thin slicing cohesion: On the accuracy and utility of brief-exposure judgments of group-level characteristics. Talk presented at the annual meeting of the Midwestern Psychological association, Chicago, IL.

POSTERS

- Stillman, P. E., Lu, Z.-L., & Fujita, K. (2017, October). Level of construal shifts functional organization of the brain network. Poster presented at the 6th Consumer Neuroscience Satellite Symposium, Toronto, ON.
- Stillman, P. E., Wilson, J. D., Denny, M. J., Desmarais, B., Bhamidi, S., Cranmer, S. J., & Lu, Z. (2017, March). Modeling the default mode network using the correlation generalized exponential random graph model. Poster presented at the annual meeting of the Social and Affective Neuroscience Society, Los Angeles, CA.
- Stillman, P. E., Lee, H., Deng, X., Unnava, H. R., Cunningham, W. A., & Fujita, K. (2017, January). The neural correlates of temporal distance traversal and level of construal. Poster presented at the Social Cognition preconference at the annual meeting of the Society of Personality and Social Psychology, San Antonio, TX.
- Stillman, P. E., Lee, H., Deng, X., Unnava, H. R., Cunningham, W. A., & Fujita, K. (2016, April). The neural correlates of temporal distance traversal and level of construal. Poster presented at the annual meeting of the Social and Affective Neuroscience Society, New York City, NY.
- Stillman, P. E, Han, H. A., & Fujita, K. (2015, February). *Low-level construal facilitates behavioral execution of goals*. Poster presented at the annual meeting of the Society of Personality and Social Psychology, Long Beach, CA.
- Stillman, P. E, Fujita, K., & Sheldon, O. (2015, February). Maximizing efficiency in goal-conflict situations: The role of construal. Poster presented at the Social Cognition preconference at the annual meeting of the Society of Personality and Social Psychology, Long Beach, CA.
- Stillman, P. E, Fujita, K., & Sheldon, O. (2014, February). *Promoting efficient goal pursuit via high-level construal*. Poster presented at the annual meeting of the Society of Personality and Social Psychology, Austin, TX.
- Stillman, P. E. & Cunningham, W.A. (2013, April). *Abstraction in affective imagery: A preliminary analysis*. Poster presented at the annual meeting of Social and Affective Neuroscience, San Francisco, CA.
- Stillman, P. E, Fujita, K., & Sheldon, O. (2012, June). On the psychology of economic efficiency: How delaying rewards promotes maximizing net gains across all parties in mixed-motive dilemmas. Poster presented at the meeting for Behavioral Decision Research in Management, Boulder, CO.
- Stillman, P. E, Fujita, K., & Sheldon, O. (2012, January). Biggest bang for the buck: Higher-level construals promote maximizing reward efficiency in mixed-motive dilemmas. Poster presented at the Judgment and Decision-Making preconference at the annual meeting of the Society of Personality and Social Psychology, San Diego, CA. *JDM preconference travel award winner
- Stillman, P. E, Fujita, K., & Sheldon, O. (2011, November). *High-level construals promote efficiency maximization*. Poster presented at the annual meeting of the Society of Judgment and Decision Making, Seattle, WA.
- Stillman, P. E. & Cunningham, W. A. (2011, March). A *meta-analysis of the orbitofrontal cortex*. Poster presented at the "Opportunities and Challenges in Social Neuroscience" conference, Utrecht, The Netherlands.
- Stillman, P. E, Fujita, K., & Sheldon, O. (2011, January). *Taking one for the team or ignoring the group: A construal level take on social dilemmas.* Poster presented at the annual meeting of the Society of Personality and Social Psychology, San Antonio, TX.

*SPSP student travel award.

Stillman, P. E., Gilovich, T. D., & Fujita, K. (2010, November). Thin slicing cohesion: On the accuracy and utility of briefexposure judgments of group-level characteristics. Poster presented at the annual meeting of the Society for Judgment and Decision Making, St. Louis, MO.

Stillman, P. E. (2010, January). *Thin slicing the group*. Poster presented at the annual meeting of the Society of Personality and Social Psychology, Las Vegas, NV.

TEACHING & MENTORING

Teaching Assistant

Negotiations (MGT 887), Assisting: Dr. Ayelet Fishbach, Yale School of Management (1 semester)

Course Instructor of Record

Social Psychology with Writing Component (Psych 2367.01), Ohio State University (2 semesters) Social Psychology (Psych 3325), Ohio State University (1 semester)

Mentoring

2015 - 2016	Graduate advisor (with M. Ferguson) for the senior honors thesis project of Danila Medvedev
2014 - 2015	Graduate advisor (with K. Fujita) for the senior honors thesis project of Megan Middleton
2013 - 2014	Graduate advisor (with K. Fujita) for the senior honors thesis project of John Entingh

PROFESSIONAL SERVICE

2020-Present	Founding member: Racial Justice Subcommittee (subcommittee of the Yale Postdoc
	Association) – Started an annual 5K run for Brionna Taylor (which we have put on two years
	running, raising over \$7000 total for local organizations), organized a discussion series on anti-
	Asian racism in the wake of the Atlanta shootings, and organized a keynote symposium on
	integrating activism with research. Currently leading the effort to conduct our first ever climate
	survey of post-docs.
2014-2015	Ostrom Athenaeum Chair – Managed the Ostrom Athenaeum lab space for the social
	psychology program, in addition to creating a new webpage for the social psychology program
2012-2014	Recruitment Coordinator (Chair) - Managed and organized the weekend for prospective
	students
2010-2015	Mobile Laptop Lab manager - managed a cluster of six laptops used by researchers to collect
	data in the field

WORK EXPERIENCE

As part of my post-doc with the Yale Center for Customer Insights, I have had extensive experience consulting with Fortune 100 companies. In this work, I synthesize and translate existing behavioral science work, as well as conduct novel research in order to address the challenges faced by these market leaders. Below, I have highlighted some of the projects I have been most involved in.

- Google: Lead researcher and co-project manager that seeks to understand how Google can support employees to make healthier and more environmentally sustainable choices across food, fitness, and transportation.
 - Food: I led a 4-site international field study in Google cafes (London, Chicago, Sao Paulo, Singapore, Sydney) which found that increasing the attractiveness of names of vegetarian dishes increased choice share of those dishes. I am currently leading a research effort to investigate ways to communicate carbon emission information that most effectively increases choice share of plant-rich foods, which will culminate with a field study once work-from-home (WFH) concludes.

- Health and Performance: Helped develop fitness archetypes to better understand the different fitness goals Googlers have as well as the distinct barriers to exercise that they face. Assisted with the rapid switch during COVID-19 to providing employee fitness classes digitally, including analyzing consumer feedback from online fitness classes. Currently fielding a survey to understand how Googlers' exercise habits shifted during WFH, and how to best support them to re-engage with Google fitness offerings.
- Transportation: Supported a micro-transit pilot program (in essence: free Uber rides to work) to help decrease reliance on single-rider vehicles to get to the office. Currently assisting with a bike-towork pilot program to help tailor incentives, communications, and other support programs (e.g., a "buddy system") to encourage employees to bike to work.
- PepsciCo
 - Produced an extensive literature and market review of how to promote self-control and goal-pursuit to aid PepsiCo in its development of a health and wellness app. This led to a multi-university case competition in which MBAs produced novel ideas to drive wellness app engagement.
 - Did novel research on Quaker Oats to identify ways to combat negative perceptions of Quaker Oats (e.g., "it's for old people"). Found that highlighting the protein content of Quaker Oats ("As much protein as an egg") significantly increased favorability and purchase intentions.
- Ashoka University (India) Partnered with Ashoka University (funded by the Gates Foundation) to assist in behavioral science projects:
 - Led a project aimed at increasing the adoption of cashless payment options amongst rural Indians.
 - Produced a literature review and conducted novel research detailing when and why celebrity endorsement is effective in promoting health related behavior change (e.g., nutritional supplements for pregnant women).
- Prada:
 - Investigated the psychology of price increases, and when consumers will more readily accept paying more for luxury goods. Notable findings: consumers more readily accept price increases when it goes towards improving labor conditions/wages or reducing the carbon footprint of production.

ADDITIONAL TRAINING

2015	Summer Institute in Social and Personality Psychology (SISPP), conducted at Northeastern University, Boston, MA
2013	Summer training course in fMRI, conducted at University of Michigan, Ann Arbor, MI
2010	Teaching of Psychology summer seminar, Columbus, OH
2009	Carnegie Mellon Center for Behavioral Decision Research summer internship, Pittsburgh, PA

Programming Expertise

R, Python, Shell, MATLAB, Java, C++

PROFESSIONAL MEMBERSHIPS

Association for Consumer Research (ACR) Society for Consumer Psychology (SCP) Society for Judgment and Decision-Making (SJDM) Society for Study of Motivation (SSM) Society for Personality and Social Psychology (SPSP) Society for Affective Neuroscience (SAN)

SELECTED PUBLIC OUTREACH

Essay: "Devil versus angel: When do they shift into action in the face of temptation?" Paul Stillman & Melissa Ferguson, *The Conversation*, August 21, 2017.

Radio Coverage: Interview with Claudia Hammond of BBC World Service Radio. July 22, 2017.

REFERENCES

- Ravi Dhar, Ph.D. Professor, Marketing, Yale School of Management Email – <u>ravi.dhar@yale.edu</u>
- Melissa Ferguson, Ph.D. Professor, Psychology, Yale University Email – <u>melissa.ferguson@yale.edu</u>

Kentaro Fujita, Ph.D. – Professor, Psychology, Ohio State University Email – <u>fujita.5@osu.edu</u>