

HAYLEY M. DORFMAN, PHD

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www.hayleydorffman.com

EMPLOYMENT

Harvard University, Cambridge, MA 2019 - present
ORISE Intelligence Community Postdoctoral Fellow
Advisor: Dr. Elizabeth Phelps

EDUCATION

Harvard University, Cambridge, MA 2014 - 2019
Ph.D., Psychology
Advisor: Dr. Samuel Gershman

Boston University, Boston, MA 2004 - 2008
B.A., Psychology
B.A., Political Science

PUBLICATIONS

Dorfman HM & Bhui R. (in revision). Ambiguity and confirmation bias in reward learning. ([preprint](#))

Fan H, Dong B, Benkelman D, Rodman AM, **Dorfman HM**, Glimcher P, Phelps EA. (in revision). Working Just to Know: Exerting Effort for Non-Instrumental Information Under Risk. ([preprint](#))

Castillo J*, Fan H*, Karaman OT, Shu J, Stussi Y, Kredlow AM, Vranos S, Oyarzun JP, **Dorfman HM**, Sambrano D, Hirst W, Phelps EA. (2024). Overestimating the intensity of negative emotion in autobiographical memory: evidence from the 9/11 attack and Covid-19 pandemic. *Cognition & Emotion*, 1-16.

Dorfman HM, Dong B, McLaughlin K, Phelps EA. (2025). The influence of early-life adversity on beliefs about agency and reinforcement learning. *Learning & Memory*, 32(1), a054047.

Dorfman HM*, Tomov MS*, Cheung B, Clarke D, Gershman SJ*, Hughes BL*. (2021). Causal inferences gates corticostriatal learning. *Journal of Neuroscience*, 41(32), 6892-6904.

Cohen AO, Nussenbaum K, **Dorfman HM**, Gershman SJ, Hartley CA. (2020). The rational use of causal inference to guide reinforcement learning changes with age. *npj Science of Learning*, 5(1), 1-9.

Dorfman HM, Gershman SJ. (2019). Controllability governs the balance between Pavlovian and instrumental action selection. *Nature Communications*, 10(1), 1-8.

Dorfman HM, Bhui R, Hughes BL, & Gershman SJ. (2019). Causal inference about good and bad news. *Psychological Science*, 30(4), 516-525.

Tomov MS, **Dorfman HM**, & Gershman SJ. (2018). Neural computations underlying causal structure learning. *Journal of Neuroscience*, 38(32), 7143-7157.

Hosking JG, Kastman EK, **Dorfman HM**, Samanez-Larkin GR, Baskin Sommers A, Kiehl KA, Newman JP, Buckholtz JW. (2017). Disrupted Prefrontal Regulation of Striatal Subjective Value Signals in Psychopathy. *Neuron*, 95(1), 221-231.

Rodman AM, Kastman EK, **Dorfman HM**, Baskin-Sommers A, Kiehl KA, Newman JP, Buckholtz JW. (2016). Selective Mapping of Psychopathy and Externalizing to Dissociable Circuits for Inhibitory Self-Control. *Clinical Psychological Science*, 4(3), 559-571.

Dorfman HM, Buckholtz JW. (2015). Imaging Genetics of Antisocial Behavior and Psychopathy. In: *Imaging Genetics: Principles and Practices*. Kristi Bigos, Ahmad Hariri and Daniel Weinberger (eds.). Oxford University Press. (Invited chapter).

Dorfman HM, Buckholtz JW. (2015). Social Behavior: A Penny for Your Shocks. *Current Biology*, 25(14), R600–R601. (Invited submission).

Dorfman HM, Buckholtz JW. (2015). Neurogenetics of Antisociality. In: *Handbook of Biosocial Criminology*. Matt DeLisi and Michael Vaughn (eds.). Routledge. (Invited chapter).

Dorfman HM, Meyer-Lindenberg A, Buckholtz JW. (2014). Neurobiological Mechanisms for Impulsive-Aggression: The Role of MAOA. In: *The Neuroscience of Aggression*. Andreas Meyer-Lindenberg and Klaus Miczek (eds.). Springer. 297-313. (Invited chapter).

MANUSCRIPTS IN PREPARATION

Dorfman HM, Phelps EA. (in prep). Emotional arousal modifies implicit and explicit sense of agency.

Dorfman HM, Fan H, Aime-Sityanin G, Phelps EA. (in prep). Individual differences in seeking and avoiding threatening information.

Dorfman HM, Karaman OT, Phelps EA. (in prep; preregistered). Negative mood does not influence foraging behavior.

Hegefeld H, Somerville LH, **Dorfman HM***, Rodman AM*. (in prep). Computational modeling of social evaluative predictions reveals adolescents and adults use heuristics differently.

Hegefeld H, Powers KE, Gershman SJ, Somerville LH, **Dorfman HM***, Rodman AM*. (in prep). Neural feedback signals differentially guide impression updating of self and others across development.

Dorfman HM, Hopkins A, Roiser J, Sidarus N. (in prep; preregistered). Quantifying negative attribution biases in mental health.

Chen K, **Dorfman HM**, Mason L. (in prep). It's all my fault: A mechanistic account of mood-based causal attribution.

PRE-REGISTRATIONS (for unpublished manuscripts)

Impact of mood on foraging decisions ([link](#))

Maladaptive attribution in depression ([link](#))

INVITED TALKS

Department of Computer Science Colloquium Tufts University Medford, MA	2026
Curiosity, Information-Seeking, and Exploration Conference Brown University Providence, RI	2025
Social Computation and Representation Lab Talk Series (PI: Joseph Barnby) King's College London London, UK	2025
Department of Experimental Psychology Colloquium University College London London, UK	2025
Department of Psychology Colloquium Royal Holloway, University of London Egham, UK	2025
Seminar Series Center for Cognitive and Brain Health Northeastern University Boston, MA	2024
Neuroscience & Mental Health Group (PIs: Jonathan Roiser, Oliver Robinson) 2024 Institute of Cognitive Neuroscience University College London London, UK	
Department of Psychology Seminar Northwestern University Chicago, IL	2024
Department of Psychology Seminar University of California, Davis Davis, CA	2024
International Summer School in Affective Sciences	2022

Invited Keynote Speaker/Faculty
University of Geneva, Switzerland

Lerner Lab (PI: Jennifer Lerner)
Harvard Kennedy School, Cambridge, MA

2022

Behavioural Control Seminar
Donders Institute for Brain, Cognition, & Behaviour
Radboud University, Netherlands

2021

Cognitive Neuroscience Colloquium
Institute for Systems Neuroscience, University Medical Center
Hamburg, Germany

2021

Brown University Cognition Seminar
Brown University, Providence, RI

2018

Schiller Lab (PI: Daniela Schiller)
Icahn School of Medicine, New York, NY

2018

Phelps Lab (PI: Elizabeth Phelps)
NYU, New York, NY

2018

Delgado Lab (PI: Mauricio Delgado)
Rutgers University, Newark, NJ

2018

Morality Lab (PI: Liane Young)
Boston College, Chestnut Hill, MA

2018

Moral Psychology Research Lab (PI: Fiery Cushman)
Harvard University, Cambridge, MA

2018

Harvard Intergroup Neuroscience Lab (PI: Mina Cikara)
Harvard University, Cambridge, MA

2016

Boston Area Moral Psychology Group
Cambridge, MA

2016

CONFERENCE TALKS & SYMPOSIA

#denotes mentee

*denotes equal contribution

Dorfman HM. Story-driven science: Leveraging visuals and narratives to enhance engagement and collaboration. Game on: Leveraging Gamification in Cognitive and Computational Neuroscience. Reinforcement Learning and Decision-Making Conference, 2025. Dublin, Ireland.

Dorfman HM. Individual differences in seeking and avoiding threatening information under uncertainty. Trends in Psychology Summit, 2025. Cambridge, MA.

Dorfman HM. Individual differences in seeking and avoiding threatening information under uncertainty. Symposium co-presenters: Erie Boorman, Nadja Ging-Jehli, Mimi Liljeholm (chair), Sean Ostlund (chair). Neural and computational basis of uncertainty in judgement and decision-making. Winter Brain Conference, 2025. Lake Tahoe, CA.

Dorfman HM. Individual differences in seeking and avoiding threatening information under uncertainty. Intelligence Community Science & Technology Annual Conference, 2024. McLean, VA.

Dorfman HM. Computational and neural mechanisms of causal inference. Symposium co-presenters: Ivan Grahek (chair), Mimi Liljeholm, Daniel Polani. Neurocomputational accounts of agency. Cognitive Neuroscience Society Annual Meeting, 2023. San Francisco, CA.

Dorfman HM. Causal inference explains asymmetric learning of positive and negative outcomes. Social Affective Neuroscience Society Annual Meeting, 2018. Brooklyn, NY.

Dorfman HM. Causal inference explains asymmetric learning of positive and negative outcomes. New England Research in Decision-Making Annual Conference, 2018. Cambridge, MA.

Dorfman HM. Causal inference explains asymmetric learning of positive and negative outcomes. Trends in Psychology Summit, 2018. Cambridge, MA.

Dorfman HM. Computational and neural mechanisms of agency. Women in Psychology Harvard-MIT Data Blitz, 2018. Cambridge, MA.

CONFERENCE POSTER PRESENTATIONS (SELECTED)

Hegefeld HM[#], **Dorfman HM***, Rodman AM*. Strategies for social-decision-making differ in adolescence and adulthood: A computational approach. Flux Developmental Cognitive Neuroscience Congress, 2025. Dublin, Ireland.

Dorfman HM, Fan H, Phelps EA. Individual differences in seeking and avoiding threatening information under certainty. Reinforcement Learning & Decision-Making Conference, 2025. Dublin, Ireland.

Dorfman HM, Phelps EA. Individual differences in seeking and avoiding threatening information. Society for Neuroeconomics Annual Meeting, 2024. Cascais, Portugal.

Hegefeld HM[#], Leshin J, **Dorfman HM***, Rodman AM*. Age-related differences in the associations between self-protection from social evaluation and mental health: A computational approach. Flux Developmental Cognitive Neuroscience Congress, 2024. Baltimore, MD.

Dorfman HM, Bhui R. Ambiguity and confirmation bias in reward learning. Society for Neuroeconomics Annual Meeting, 2023. Vancouver, Canada.

Fan H, Dong B[#], Benkelman D[#], Rodman AM, **Dorfman HM**, Glimcher P, Phelps EA. Bidding with Effort: Using Grip Force to Assess the Value of Information. Society for Neuroeconomics Annual Meeting, 2023. Vancouver, Canada.

Dorfman HM, Dong B[#], McLaughlin KA, Phelps EA. Early-life adversity influences agency-modulated reinforcement learning. Computational Psychiatry Conference, 2023. Dublin, Ireland.

Dong B[#], **Dorfman HM**, McLaughlin KA, Phelps EA. Perceptions of experienced early-life adversity and agency-modulated reinforcement learning. Social Affective Neuroscience Society Annual Meeting. Santa Barbara, CA.

Bhui R*, **Dorfman HM***, Gershman SJ. Ambiguity and confirmation bias in reward learning. Society for Mathematical Psychology Preconference, 2022. Boston, MA.

Bhui R*, **Dorfman HM***, Gershman SJ. Ambiguity and confirmation bias in reward learning. Psychonomic Society Annual Meeting, 2022. Boston, MA.

Fan H*, Castillo J*, Karaman OT, Shu J, Stussi Y, Kredlow MA, Vranos S, Oyarzun JP, **Dorfman HM**, Sambrano D, Phelps EA. Overestimating stress experienced early during the pandemic is associated with decreased emotional well-being. Association of Behavioral and Cognitive Therapies Annual Conference, 2022. New York, NY. [Symposium talk].

Rodman AM, **Dorfman HM**, Powers KE, Gershman SJ, Somerville LH. Neural feedback signals differentially guide impression updating of self and others across development. Flux Congress, 2022. Paris, France.

Bhui R*, **Dorfman HM***, Gershman SJ. Ambiguity and confirmation bias in reward learning. Reinforcement Learning and Decision Making Conference, 2022. Providence, RI.

Castillo J*, Fan H*, Karaman OT, Shu J, Stussi Y, Kredlow MA, Vranos S, Oyarzun JP, **Dorfman HM**, Sambrano D, Phelps EA. Overestimating stress experienced early during the pandemic is associated with decreased emotional well-being. Social and Affective Neuroscience Society Annual Conference, 2022. Virtual.

Nussenbaum K, Cohen AO, **Dorfman HM**, Shen X, Sardar H, Valencia D, Glover M, Gershman SJ, Hartley CA. Developmental change in the use of causal inference to guide reinforcement learning. Reinforcement Learning and Decision Making Conference, 2019. Montreal, Canada.

Cohen AO, Nussenbaum K, **Dorfman HM**, Shen X, Sardar H, Valencia D, Glover M, Gershman SJ, Hartley CA. Age-related change in the effects of causal judgments on learning from reinforcement. Social and Affective Neuroscience Society Annual Conference, 2019. Miami, FL.

Jaroszewski AC, Millner A, **Dorfman HM**, & Nock MK. Suicidal Participants Demonstrate Decreased Inhibitory Control in Relation to Suicide-Related Information: A Pilot Study. Society for Research in Psychopathology, 2017. Denver, CO.

Dorfman HM, Patzelt EH, Prater-Fahey M[#], Buckholtz JW. The Cost of Aggression: Predicting Behavior Using a Value-Based Discounting Model. Society for Neuroscience Annual Conference, 2016. San Diego, CA.

Hosking JG, Kastman EK, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Prefrontal Regulation of Striatal Value Signals is Disrupted in Psychopathy. Harvard Center for Brain Science Research Symposium, 2015. Cambridge, MA.

Hosking JG, Kastman EK, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Prefrontal Regulation of Striatal Value Signals is Disrupted in Psychopathy. Society for Neuroscience Annual Meeting (Nanosymposium), 2015. Washington, D.C.

Patzelt E, Kastman EK, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Impulsive Choice Behavior Predicts Exaggerated Reinforcement Learning Signals within Corticostriatal Circuitry. Social and Affective Neuroscience Society Annual Meeting, 2015. Boston, MA.

Buckholtz JW, Kastman EK, **Dorfman HM**, Newman JP, and Kiehl KK. The Value of Psychopathy: Aberrant Computation of Subjective Value During Intertemporal Choice in Incarcerated Males with Psychopathy. American Psychology Law Society, 2014.

Dorfman HM, Kastman E, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Corticostriatal Structural Differences Dissociate Impulsive-Antisocial Behavior from Psychopathy. Cognitive Neuroscience Society, 2014. Boston, MA.

Kastman E, Patzelt E, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Striatal Hypersensitivity to Immediate Reward Drives Self-Control Deficits in Psychopathy. Cognitive Neuroscience Society Annual Meeting, 2014. Boston, MA.

Patzelt E, Kastman E, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Corticolimbic Circuit Dysfunction Drives Reinforcement Learning Deficits in Incarcerated Antisocial Offenders. Cognitive Neuroscience Society Annual Meeting, 2014. Boston, MA.

Dorfman HM, Kastman E, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Parsing self-control in incarcerated criminals: Impulsive-antisocial behavior tracks variability in corticostriatal circuit structure. Society for Neuroscience Annual Meeting, 2013. San Diego, CA.

Kastman E, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Parsing Self-Control in Incarcerated Criminals: Aberrant Striatal Function Underlies Biased Assignment of Subjective Value to Immediate Rewards in Psychopathic Offenders. Society for Neuroscience Annual Meeting, 2013. San Diego, CA.

Millner AJ, **Dorfman HM**, Kastman E, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Parsing self-control in incarcerated criminals: Aggression and impulsive-antisocial behavior track variability in reward-related corticostriatal circuit function. Society for Neuroscience Annual Meeting, 2013. San Diego, CA.

Buckholtz JW, Kastman E, **Dorfman HM**. Biased input regulation of striatal reactivity comprises a circuit-level mechanism for human self-control. Society for Neuroscience Annual Meeting, 2013. San Diego, CA.

Rodman AM, Kastman E, **Dorfman HM**, Baskin-Sommers A, Kiehl KK, Newman JP, Buckholtz JW. Parsing Self-Control in Incarcerated Criminals: Selective Mapping of Psychopathy and Externalizing to Functional Circuits for Response Inhibition and Interference Suppression. Society for Neuroscience Annual Meeting, 2013. San Diego, CA.

Buckholtz JW, Kastman E, **Dorfman HM**, Kiehl KK, Newman JP. Incarcerated Psychopaths Overvalue Immediate Rewards During Decision-Making. Society for Affective Neuroscience Annual Meeting, 2013. San Diego, CA.

FELLOWSHIPS & AWARDS

- ORISE Intelligence Community Postdoctoral Research Fellowship, \$261,000 2023-2026
- CIFAR Neuroscience of Consciousness Winter School Participant 2023
- National Science Foundation SBE Postdoctoral Research Fellowship, \$138,000 2021-2023
- George W. Goethals Award for Excellence in Teaching 2021
- Graduate School of Arts & Sciences Dissertation Completion Fellowship, \$36,472 2018
- Derek Bok Center Excellence in Teaching Award 2016
- Sackler Scholar Programme in Psychobiology Stipend Award, \$14,000 2016

RESEARCH FUNDING

Active

3Rs Grant Scheme 2026-2027
University New South Wales
Title: *“An open-source computational model for complex learning and behaviour”*
Amount awarded: AU\$68,934
Role: Co-investigator (PI: Jean-Richard-dit-Bressel)

Mind, Brain, & Behavior Interdisciplinary Mind Grant 2026-2027
Harvard University
Title: *“Perceived complexity in human and artificial agents as a determinant of attribution and reinforcement learning biases”*
Amount awarded: \$5,000
Role: PI

Completed

- William A. Talley Research Innovation Fund, \$40,000 2022
- Mind, Brain, & Behavior Young Investigator Award, \$5,000 2020
- Norman Anderson Fund Research Grant, Harvard University, \$3,500 2017
- Restricted Funds Travel Grant, Harvard University, \$500 2017
- Restricted Funds Travel Grant, Harvard University, \$500 2016
- Stimson Fund Research Grant, Harvard University, \$1,000 2015

TEACHING & MENTORING

- Prospective PhD & RA Event in Psychology (PPREP) Fall, 2023
Mentor
- Prospective PhD & RA Event in Psychology (PPREP) Fall, 2022
Mentor
- PSY971: Contemporary Issues in Psychology Fall, 2021

Instructor

- Prospective PhD & RA Event in Psychology (PPREP) Mentor Fall, 2021
- Fellowship of Research Staff at Harvard (FRESH) Postdoctoral Mentor Fall, 2020
- Prospective PhD & RA Event in Psychology (PPREP) Mentor Fall, 2020
- Harvard Psychology Peer Mentorship Coalition Member Spring, 2020
- PSY1702: The Emotional Mind (Leah Somerville) Grader, Harvard University Fall, 2019
- Summer Research Opportunity Intern Program Peer Mentor Summ, 2018
- PSY1702: The Emotional Mind (Leah Somerville) Grader, Harvard University Fall, 2018
- PSY15: Social Psychology (Fiery Cushman) Head Teaching Fellow, Harvard University Spring, 2018
- PSY1900: Introduction to Statistics for the Behavioral Sciences (Patrick Mair) Teaching Fellow, Harvard University Fall, 2017
- Harvard University Bureau of Study Council Tutor Fall, 2017
- PSY15: Social Psychology (Fiery Cushman) Teaching Fellow, Harvard University Fall, 2016
- Undergraduate Research Assistant advisor Students supervised: Gaston Aime Sityanin (currently: research assistant, Harvard), Yuhan Shi (currently: PhD student, Carnegie Mellon), Grace Benkelman*** (currently: Operations Associate), Emily Dial** (currently: PhD student, Tufts University), Ecem Sena Uluegeci (currently: undergraduate, Harvard College), Bryan Dong (currently: research assistant, Harvard), Nayleth Lopez-Lopez (currently: Law student, BU School of Law), Ann Carroll* (currently: Clinical intern, Massachusetts Brigham & Women Hospital), Lauren DiNicola* (currently: Faculty, UVA), Mahalia Prater-Fahey (currently: Postdoc, King's College London), Malte Zopfs* (currently: medical student, Central Institute for Mental Health, Mannheim, Germany) *honors thesis student
Harvard College Program for Research in Science & Engineering student *Harvard College Build Learning through Inquiry in the Social Sciences student

PROFESSIONAL SERVICE

Organizing Committee Member
Curiosity, Information Seeking & Exploration Conference, 2025

Providence, RI

https://ciseconf.github.io/CISE_2025/

Committee Member
Harvard University Psychology Mentorship Committee
Cambridge, MA

Co-founder, former President, Advisory Board Member
Harvard University Women in Psychology (WiP)

Cambridge, MA
<https://women.psychology.harvard.edu/>

Committee Member
Harvard University Psychology Climate Committee
Cambridge, MA

Ad-Hoc Reviewer

Journals

- Neuroscience & Biobehavioral Reviews
- JAMA Psychiatry
- Cerebral Cortex
- Nature Communications
- Social Cognitive and Affective Neuroscience
- Psychiatric Genetics
- Neuroimage
- Neuroimage Clinical
- Translational Psychiatry
- Journal of Cognitive Neuroscience
- Psychological Science
- Journal of Experiment Psychology: General
- Cognition
- Cognition & Emotion
- Emotion
- Psychological Review
- Frontiers in Psychology
- Motivation and Emotion
- PLOS Computational Biology
- eLife
- PNAS Nexus

Conference Proceedings

- Cognitive Science Society
- Social Affective Neuroscience Society
- Reinforcement Learning and Decision Making

PROFESSIONAL AFFILIATIONS

- Computational Psychiatry
- Society for Neuroscience
- Cognitive Neuroscience Society
- Reinforcement Learning & Decision Making
- Society for Neuroeconomics
- American Psychological Association
- Association for Psychological Science
- Social and Affective Neuroscience Society
- Sigma Delta Epsilon (Graduate Women in Science)
- Society for Research in Psychopathology