

- 2011 – 2013 **Ph.D., Behavior Analysis Program in Experimental and Applied Psychological Science, Utah State University, Department of Psychology, 2013**
Thesis research: “*Token reinforcement and resistance to change*”
Supervisor: Timothy A. Shahan, Ph.D.
- 2007 – 2011 **M.S., Behavior Analysis Program in Experimental and Applied Psychological Science, Utah State University, Department of Psychology, 2011**
Thesis research: “*Examining the effects of reinforcement context on relapse of observing*”
Supervisor: Timothy A. Shahan, Ph.D.
- 2002 - 2006 **B.S., Arizona State University, Department of Psychology, 2006**
Laboratory Manager, Killeen Operant Laboratory (2004-2007); Research: *Progressive ratio schedules of reinforcement; Timing with opportunity costs*
Supervisor: Peter R. Killeen, Ph.D.

Honors

- 2020 National Institute on Drug Abuse Director’s Travel Award, College on Problems of Drug Dependence
- 2016 Early Career Award, Society for Experimental Psychology and Cognitive Science, American Psychological Association, Division 3
- 2016 Outstanding Reviewer, Elsevier Journals, *Behavioural Processes*

Press

- 2016 Paper selected by Editor to be featured in a weekly highlights column Particularly Exciting Experiments in Psychology (PeePs). PeePs is a free summary of ongoing research trends common to six APA journals that focus on experimental psychology.

Environment Isn't the Only Kind of Context That Guides Behavior. (American Psychological Association, December 8, 2016). <http://www.apa.org/pubs/highlights/peeps/issue-83.aspx>

Funding and Grant-Seeking Behavior

External

Ongoing Support

K01 DA044456

Agency: National Institutes of Health/National Institute on Drug Abuse

Training in Translational Methods for Assessing Behavior Change and Relapse Mechanisms

03/01/18 – 02/28/2023

This project aims to establish a new model for studying the basic mechanisms underlying behavior change and relapse with adult daily smokers. These processes are crucial for understanding what makes treatment work and why individuals relapse. A model that addresses underlying processes could reduce clinical research cost and increase treatment effectiveness by better utilizing the preclinical research base to validate new and existing treatment elements.

Role: PI

Total costs: \$620,000

P20GM103644

Agency: National Institutes of Health/National Institute on General Medical Sciences
Vermont Center on Behavior and Health (VCBH)

09/15/13 – 07/31/2023

Our center investigates relationships between personal behavior patterns (e.g., substance abuse, sedentary lifestyle, medication non-adherence) and risk for chronic disease and premature death. The overarching focus is on developing and evaluating clinical interventions for these risk behaviors and examining biases in decision-making.

Role: Project Director (PI: Higgins)

Total costs: \$11,563,458

5P20GM103644

Agency: National Institutes of Health/National Institute on General Medical Sciences
VCBH COBRE Project: Loss Aversion and Cigarette Smoking

08/01/21 – 07/31/23

The role of personal behaviors in poor health outcomes is now widely acknowledged. One of the advances leading to this point was the observation of systematic decision-making bias among individuals with substance use disorders (SUDs). Loss aversion (LA) refers to the tendency for the experience of a loss to produce a stronger hedonic effect than an equivalent gain. One basic unanswered question for LA, and any potential bias, is the extent to which it is independent of socio-demographic factors (e.g., gender, educational attainment) and other SUD-related decision-making biases, such as delay discounting (DD). The proposed experiment aims to establish the relationship between LA and SUD by addressing three goals. First is to understand the relationship between LA and vulnerability to cigarette smoking. Second is to study the independence of that association from DD. Third is to assess the relative strength and independence of LA and DD with other substance use (alcohol, other drugs) as well as other behavioral-health problems (sleep disturbance, depressed mood).

Role: Project Director

Total costs: \$750,000

Internal

- 2021 Department of Psychological Science Grant: Feasibility and interest survey for a departmental mobile research laboratory. Total costs: \$500
- 2020 University of Vermont Fellowships, Opportunities, & Undergraduate Research Award: Mini Grant to support Julian Kafka's Honors Thesis research project titled, "Exploring Differences in Associative Learning and Risk and Loss Aversion Across Individuals and Populations." Total costs: \$400

Under Review

R01 CA274530

Agency: National Institutes of Health/National Cancer Institute

Testing the causal role of loss aversion in cigarette smoking and other substance use

07/01/2022 – 06/30/2027

Health-related decisions, such as those that contribute to sustained cigarette smoking despite risk of great loss due to cancer, other health, and social consequences, may be influenced by several biases that have been well-characterized by the field of Behavioral Economics. We recently found that cigarette smokers were less loss averse than a control group matched on important sociodemographic factors. This project aims to examine whether there is a causal relationship

between loss aversion and cigarette smoking and use of other substances. Loss aversion may be a novel target for prevention interventions that seek to lower cancer risk.

Role: PI

Total costs: \$1,980,000

Not Awarded

2018 National Institutes of Health Loan Repayment Program (role: PI)

2018 National Institute on Drug Abuse R21 – Imaging the inhibition and renewal of instrumental actions. (role: co-PI with Scott Mackey) (Impact score: 30)

Peer reviewed publications (listed in reverse chronological order)

Collaborators: *graduate student ** undergraduate student

[Google Scholar](#) · [Research Gate](#)

1. **Thrailkill, E.A.**, DeSarno, M., & Higgins, S. T. (In press). Loss aversion and risk for cigarette smoking and other substance use. *Drug and Alcohol Dependence*.
2. **Thrailkill, E. A.** & Alcalá, J. A. (In press). Relapse after incentivized choice in humans: A model for studying behavior change. *Experimental and Clinical Psychopharmacology*.
3. Bouton, M. E., Allen, S. M.**, Tavakkoli, A.**, Steinfeld, M. R.* , & **Thrailkill, E. A.** (2021). Effect of context on the instrumental reinforcer devaluation effect produced by taste aversion learning. *Journal of Experimental Psychology: Animal Learning and Cognition*, 47(4), 476–489.
4. **Thrailkill, E. A.**, Michaud*, N., & Bouton, M. E. (2021). Reinforcer predictability and stimulus salience in discriminated operant habit learning. *Journal of Experimental Psychology: Animal Learning and Cognition*, 47, 183-199.
5. Bouton, M. E., **Thrailkill, E. A.**, Trask, S., & Alfaro*, F. (2020). Correction of response error vs. stimulus error in the extinction of discriminated operant learning. *Journal of Experimental Psychology: Animal Learning and Cognition*, 46, 398-407.
6. **Thrailkill, E. A.**, Todd, T. P., & Bouton, M. E. (2020). Effects of CS duration, intertrial interval, and I/T ratio on appetitive Pavlovian conditioning. *Journal of Experimental Psychology: Animal Learning and Cognition*, 46, 243-255.
7. Thomas*, C. M., **Thrailkill, E. A.**, Bouton, M. E., & Green, J. T. (2020). Inactivation of the prelimbic cortex attenuates operant responding in both physical and behavioral contexts. *Neurobiology of Learning and Memory*, 171, 107189.
8. Bouton, M. E., Broomer*, M., Rey, C. N., & **Thrailkill, E. A.** (2020). Unexpected food outcomes can return a habit to goal-directed action. *Neurobiology of Learning and Memory*, 169, 107163.
9. Rey, C. N., **Thrailkill, E. A.**, Goldberg**, K. L., & Bouton, M. E. (2020). Relapse of operant behavior after response elimination with an extinction or an omission contingency. *Journal of the Experimental Analysis of Behavior*, 113, 124-140.

10. Steinfeld*, M., Alcalá*, J. A., **Thrailkill, E. A.**, & Bouton, M. E. (2019). Renewal in a heterogeneous behavior chain: Extinction of the first response prevents renewal of a second response when it is separately extinguished and returned to the chain. *Learning and Motivation*, *68*, 101587.
11. **Thrailkill, E. A.**, Ameden**, W. P., & Bouton, M. E. (2019). Resurgence in humans: Reducing relapse by increasing generalization between treatment and testing. *Journal of Experimental Psychology: Animal Learning and Cognition*, *45*, 338-349.
12. **Thrailkill, E. A.**, Trask, S., Alcalá*, J., Vidal*, P., & Bouton, M. E. (2018). Stimulus control of actions and habits: A role for reinforcer predictability and attention in the development of habitual behavior. *Journal of Experimental Psychology: Animal Learning and Cognition*, *44*, 370-384.
13. **Thrailkill, E. A.**, Porritt, F., Kacelnik, A., & Bouton, M. E. (2018). Maintaining performance in searching dogs: Evidence from a rat model that training to detect a second (irrelevant) stimulus can maintain search and detection responding. *Behavioural Processes*, *157*, 161-170.
14. **Thrailkill, E. A.**, Kimball*, R., Craig, A. R., Podlesnik, C. A., & Kelley, M. E. (2018). Basic and translational evaluation of spontaneous recovery of operant responding. *Journal of the Experimental Analysis of Behavior*, *109*, 238-252.
15. Miles*, O. W., **Thrailkill, E. A.**, Linden**, A., May, V., Bouton, M. E., & Hammack, S. E. (2017). Pituitary adenylate cyclase-activating peptide in the bed nucleus of the stria terminalis mediates stress-induced reinstatement of cocaine seeking in rats. *Neuropsychopharmacology*, *43*, 978–986.
16. **Thrailkill, E. A.**, & Bouton, M. E. (2017). Factors that influence the persistence and relapse of discriminated behavior chains. *Behavioural Processes*, *141*, 3-10.
17. Bouton, M. E., **Thrailkill, E. A.**, Bergeria*, C., & Davis*, D. (2017). Preventing relapse after incentivized choice treatment: A laboratory model. *Behavioural Processes*. *141*, 11-18.
18. Trask*, S., **Thrailkill, E. A.**, & Bouton, M. E. (2017). Occasion setting, inhibition, and the contextual control of extinction in Pavlovian and instrumental (operant) learning. *Behavioural Processes*, *137*, 64-72.
19. Todd, T. P., & **Thrailkill, E. A.** (2017). Extinction. In A. Wenzel (Ed.), *The sage encyclopedia of abnormal and clinical psychology* (Vol. 7, pp. 1408-1410). Thousand Oaks, CA: SAGE Publications Ltd.
20. **Thrailkill, E. A.**, & Bouton, M. E. (2017). Effects of outcome devaluation on instrumental behaviors in a discriminated heterogeneous chain. *Journal of Experimental Psychology: Animal Learning and Cognition*, *43*, 88-95.
21. **Thrailkill, E. A.**, Trott**, J. M., Zerr**, C. L., & Bouton, M. E. (2016). Contextual control of chained instrumental behaviors. *Journal of Experimental Psychology: Animal Learning and Cognition*, *42*, 401-414.
22. **Thrailkill, E. A.**, & Bouton, M. E. (2016). Extinction and the associative structure of heterogeneous instrumental chains. *Neurobiology of Learning and Memory*, *133*, 61-68.

23. **Thraillkill, E. A.**, Porritt, F., Kacelnik, A., & Bouton, M. E. (2016). Increasing the persistence of a heterogeneous behavior chain: Studies of extinction in a rat model of search behavior of working dogs. *Behavioural Processes*, 129, 44-53.
24. **Thraillkill, E. A.**, & Bouton, M. E. (2016). Extinction of chained instrumental behaviors: Effects of consumption extinction on procurement responding. *Learning & Behavior*, 44, 85-96.
25. **Thraillkill, E. A.**, & Bouton, M. E. (2015). Extinction of chained instrumental behaviors: Effects of procurement extinction on consumption responding. *Journal of Experimental Psychology: Animal Learning and Cognition*, 41, 232-246.
26. **Thraillkill, E. A.**, & Bouton, M. E. (2015). Contextual control of instrumental actions and habits. *Journal of Experimental Psychology: Animal Learning and Cognition*, 41, 69-80.
27. **Thraillkill, E. A.**, Epstein, L. H., & Bouton, M. E. (2014). Effects of inter-food interval on the variety effect in an instrumental food-seeking task: Clarifying the role of habituation. *Appetite*, 84, 43-53.
28. **Thraillkill*, E. A.**, & Shahan T. A. (2014). Temporal integration and instrumental conditioned reinforcement. *Learning & Behavior*, 42, 201-208.
29. ***Thraillkill*, E. A.**, & Shahan T. A. (2012). Resistance to change and relapse of observing. *Journal of the Experimental Analysis of Behavior*, 97, 279-302.
30. Podlesnik*, C. A., **Thraillkill*, E. A.**, & Shahan, T. A. (2012). Differential reinforcement and resistance to change of divided attention performance. *Learning & Behavior*, 40, 158-169.
31. Podlesnik*, C. A., Jimenez-Gomez*, C., **Thraillkill*, E. A.**, & Shahan, T. A. (2011). Temporal context, preference, and resistance to change. *Journal of the Experimental Analysis of Behavior*, 96, 191-213.
32. Barker*, D. J., Sanabria, F., Lasswell*, A., **Thraillkill*, E. A.**, Pawlak*, A. P., & Killeen, P. R. (2010). Bright light as a practical aversive stimulus for the albino rat. *Behavioural Brain Research*, 214, 402-408.
33. Sanabria, F., **Thraillkill**, E. A.**, & Killeen, P. R. (2009). Timing with opportunity cost: Concurrent schedules improve peak timing. *Learning & Behavior*, 37, 217-229.
34. Sanabria, F., & **Thraillkill**, E.** (2009). Pigeons (*Columba livia*) approach Nash Equilibrium in Experimental Matching Pennies Competitions. *Journal of the Experimental Analysis of Behavior*, 91, 169-183.
35. Killeen, P. R., Posadas-Sanchez*, D., Johansen, E. B. & **Thraillkill**, E. A.** (2009). Progressive ratio schedules of reinforcement. *Journal of Experimental Psychology: Animal Behavior Processes*, 35, 35-50.

Publications submitted or in revision

Thraillkill, E. A. & Rey, C. N. Pavlovian learning: An introduction for Behavior Analysts

Thraillkill, E. A. & Kafka, J. An effect of experience on loss aversion

In preparation

Thrailkill, E. A. Persistence, elimination, and recovery of human discriminated operant behavior

Thrailkill, E.A., DeSarno, M., & Higgins, S. T. Intersection of loss aversion and substance-free reward in predicting cigarette smoking and other substance use.

Presentations

Talks – Invited

1. **Thrailkill, E. A.** (2021, November). Loss aversion and risk for cigarette smoking and other substance use. 2021 NIDA-NIAAA Mini-Convention, Frontiers in Addiction Research Poster Session.
2. **Thrailkill, E. A.** (2021, May). Persistence and relapse of operant behavior: An overview and some data. Discussant, Association for Behavior Analysis International Convention (Virtual).
3. **Thrailkill, E. A.** (2021, March). Making loss aversion appear, disappear, and reappear in people. Biobehavioral Cluster Seminar, Department of Psychological Science, University of Vermont, Burlington, VT.
4. **Thrailkill, E. A.** (2019, September). Product diversity and harm reduction, Vermont Center on Behavior and Health, Tobacco Regulatory Science Seminar. Burlington, VT.
5. **Thrailkill, E. A.** (2019, August). Generalization of behavior change as an approach to reducing relapse: Parallel studies of instrumental extinction in humans and extension to smoking. Poster presented at 1st Collaborative Research on Addiction at NIH (CRAN) Mentored K Career Development Awardee Meeting. NIH campus, Bethesda, MD.
6. **Thrailkill, E. A.** (2018, October). Processes underlying behavior change in humans and rats. Vermont Center on Behavior and Health Trainee Seminar, University of Vermont, Burlington, VT.
7. **Thrailkill, E. A.** (2018, May). Associative analysis of behavior chains. Systems and Behavioral Neuroscience Seminar, Department of Psychological and Brain Sciences Dartmouth College, Hanover, NH.
8. **Thrailkill, E. A.,** & Bouton, M. E. (2016, May). Persistence and relapse in heterogeneous behavior chains. Annual meeting of the Society for the Quantitative Analysis of Behavior, Chicago, IL.

Talks – International Conferences

1. **Thrailkill, E. A.** (2019, April). Generalization from treatment to test weakens relapse of instrumental behavior in humans. Paper presented at Associative Learning Symposium XXIII, Gregynog Hall, Wales, UK.
2. **Thrailkill, E. A.,** & Bouton, M. E. (2015, March). Associative analysis of heterogeneous instrumental chains. Paper presented at Associative Learning Symposium XIX, Gregynog Hall, Wales, UK.

Talks – National Conferences

1. **Thrailkill, E. A.** (2021, August). Reinforcer predictability and the contextual control of discriminated operant extinction. American Psychological Association Convention (Virtual).

2. **Thrailkill, E. A., & Bouton, M. E.** (2019, May). Resurgence in humans: Increasing generalization between treatment and testing reduces relapse. Annual convention of the Association for Behavior Analysis International, Chicago, IL.
3. **Thrailkill, E. A., & Bouton, M. E.** (2014, May). Contextual control of actions and habits. Annual convention of the Association for Behavior Analysis International, Chicago, IL.
4. **Thrailkill, E. A., & Shahan, T. A.** (2014, May). Temporal integration and conditioned reinforcement. Annual Convention of the Association for Behavior Analysis International, Chicago, IL.
5. **Thrailkill, E. A., & Shahan, T. A.** (2013, May). Extinction, relapse, and behavioral momentum II: Novel stimuli and spontaneous recovery. Annual Convention of the Association for Behavior Analysis International, Minneapolis, MN.
6. **Thrailkill, E.A.***, & Shahan T. A. (2010, May). Resistance to change and relapse of observing. Annual Convention of the Association for Behavior Analysis International, San Antonio, TX.

Talks – Regional Conferences

1. **Thrailkill, E. A. & Kafka, J.** (2021, March). Extinction and renewal of discriminated operant behavior in humans. Annual meeting of the Eastern Psychological Association (Virtual)
2. **Thrailkill, E. A., Thorpe**, C. N., & Bouton, M. E.** (2020, March). Goal-directed and habitual behavior chains in rats and humans. Annual meeting of the Eastern Psychological Association, Boston, MA. (Virtual)
3. Thomas*, C. M., **Thrailkill, E. A.**, Bouton, M. E., & Green, J. T. (2020, March). Prelimbic cortex inactivation attenuates operant responding in both physical and behavioral contexts. Annual meeting of the Eastern Psychological Association, Boston, MA.
4. Michaud*, N., **Thrailkill, E. A.**, & Bouton, M. E. (March, 2020). Stimulus salience and reinforcer predictability in the formation of habits. Annual meeting of the Eastern Psychological Association, Boston, MA.
5. **Thrailkill, E. A., & Bouton, M. E.** (2019, March). Discriminative properties of the alternative reinforcer can reduce resurgence in humans. Annual meeting of the Eastern Psychological Association, New York, NY.
6. **Thrailkill, E. A., & Bouton, M. E.** (2019, February). Resurgence of extinguished operant responding in humans depends on lack of generalization from the treatment context. Neuroscience, Behavior, and Health Research Forum, University of Vermont, Burlington, VT.
7. **Thrailkill, E. A., Ameden, W.****, & Bouton, M. E. (2018, March). Factors that influence the resurgence of an extinguished instrumental response in humans. Annual meeting of the Eastern Psychological Association, Philadelphia, PA.
8. **Thrailkill, E. A.** (2017, June). Resurgence in rats and humans: Effects of alternative reinforcer distribution. 6th Vermont Summer Summit, University of Vermont, Burlington, VT.
9. **Thrailkill, E. A., & Bouton, M. E.** (2017, March). What is the goal of the procurement response in a behavior chain? Annual meeting of the Eastern Psychological Association, Boston, MA.

10. **Thrailkill, E. A.**, & Bouton, M. E. (2017, January). The next response, but not the reinforcer, is the goal of behavior in a chain. Neuroscience, Behavior, and Health Research Forum, University of Vermont, Burlington, VT.
11. **Thrailkill, E. A.**, Bergeria, C.*, Davis, D.*, & Bouton, M. E. (2016, March). Relapse following the removal of incentives for desired behavior. Annual meeting of the Eastern Psychological Association, New York, NY.
12. Trott, J. M.**, **Thrailkill, E. A.**, & Bouton, M. E. (2016, March). Renewal of an extinguished behavior in the context of a preceding response. Annual meeting of the Eastern Psychological Association, New York, NY.
13. **Thrailkill, E. A.**, Trott, J. M.**, & Bouton, M. E. (2015, June). Relapse of an extinguished heterogeneous behavior chain. 5th Vermont Summer Summit, Dartmouth College, Hanover, NH.
14. **Thrailkill, E. A.**, & Bouton, M. E. (2015, March). An associative analysis of behavior chains. Annual meeting of the Eastern Psychological Association, Philadelphia, PA.
15. **Thrailkill, E. A.**, & Bouton, M. E. (2014, March). Extinction of instrumental behavior chains. Annual meeting of the Eastern Psychological Association, Boston, MA.
16. **Thrailkill, E. A.**, Todd, T. P. & Bouton, M. E. (2014, March). Trial and intertrial durations in appetitive Pavlovian conditioning. Annual meeting of the Eastern Psychological Association, Boston, MA.
17. **Thrailkill, E. A.**, & Shahan T. A. (2011, February) Resistance to change and renewal of rats' alcohol self-administration. Annual Intermountain Graduate Research Symposium, Logan, UT.
18. **Thrailkill, E. A.**, & Shahan T. A. (2010, February). Reinstatement, renewal, and resurgence of observing: Analogs of relapse of attending. Annual Intermountain Graduate Research Symposium, Logan, UT.

Posters – International

1. **Thrailkill, E. A.** Thorpe, C. A.**, & Bouton, M. E. (2020, October). Behavior chains reveal associative structure in human instrumental learning. Poster presented at the University of New South Wales Workshop on Expectation, Perception and Cognition (Virtual).

Posters – National

1. Thomas, C. M. P.*, **Thrailkill, E. A.**, Bouton, M., & Green, J. T. (2021, October). The role of the prelimbic cortex in renewal of extinguished behavior based on a return to a satiated interoceptive context. Annual meeting of the Society for Neuroscience, Chicago, IL.
2. **Thrailkill, E. A.**, & Thorpe, C. A.** (2021, February). Translation of Behavior Chains to Understand Habit Learning. Society for Research on Nicotine and Tobacco (Virtual)
3. **Thrailkill, E. A.**, Thorpe, C. A.**, & Bouton, M. E. (2020, June). Behavior Chains Reveal Common Associative Mechanisms Across Rats and Humans. College on Problems of Drug Dependence, Hollywood, FL. (Virtual)

4. Thomas, C. M. P.*, **Thrailkill, E. A.**, Bouton, M., & Green, J. T. (2019, October). Inactivation of the prelimbic cortex attenuates operant responding in both physical and behavioral contexts. Annual meeting of the Society for Neuroscience, Chicago, IL.
5. Bouton, M. E., Allan, S.** , Tavakkoli, A.** , Steinfeld, M.* , & **Thrailkill, E. A.** (2019, October). Separating goal-directed action from habit: Role of the context in which taste aversion learning occurs in creating the reinforcer devaluation effect. Annual meeting of the Society for Neuroscience, Chicago, IL.
6. **Thrailkill, E. A.**, Trask, S., & Bouton, M. E. (2017, October). Can discriminated operants become habits? Annual meeting of the Pavlovian Society, Philadelphia, PA.
7. Steinfeld, M*., **Thrailkill, E. A.**, & Bouton, M. E. (2017, October). Extinction of procurement prevents renewal of consumption when an extinguished consumption response is returned to a heterogeneous chain. Annual meeting of the Pavlovian Society, Philadelphia, PA.
8. **Thrailkill, E. A.**, Rojas, G.** , & Bouton, M. E. (2016, October). How to Break a Habit. Annual meeting of the Pavlovian Society, Jersey City, NJ.
9. Miles, O. W.* , **Thrailkill, E. A.**, Bouton, M. E., & Hammack, S. E. (2015, October). Intra-BNST PACAP reinstatement to cocaine seeking in rats. Annual meeting of the Society for Neuroscience, Chicago, IL.
10. **Thrailkill, E. A.**, & Bouton, M. E. (2014, September). Trial and intertrial durations in appetitive Pavlovian conditioning. Annual meeting of the Pavlovian Society, Seattle, WA.
11. **Thrailkill, E. A.***, & Shahan, T. A. (2013, May). Token reinforcement and resistance to change. Annual meeting of the Society for Quantitative Analysis of Behavior, Minneapolis, MN.
12. **Thrailkill, E. A.***, & Shahan, T. A. (2012, May). Behavioral momentum and disinhibition of extinguished operant responding. Annual meeting of the Society for Quantitative Analysis of Behavior, Seattle, WA.
13. **Thrailkill, E. A.***, Podlesnik, C. A.* , & Shahan, T. A. (2010, May). Resistance to change of divided attention performance. Annual meeting of the Society for Quantitative Analysis of Behavior, San Antonio, TX.
14. **Thrailkill, E.A.***, Podlesnik, C.A.* , & Shahan, T.A. (2008, May). Divided attention and the matching law: Compound sample performance is sensitive to variations in relative reinforcement experienced with the elements alone. Annual meeting of the Society for Quantitative Analysis of Behavior, Chicago, IL.
15. **Thrailkill, E.**** (2007, May). Preference for free choice and for variable response location: Pigeons want to do it where they want to do it. Annual meeting of the Society for Quantitative Analysis of Behavior, San Diego, CA.

Posters – Regional

1. Kafka, J.** & **Thrailkill, E. A.** (2021, March) Loss and risk aversion in relation to individual differences and range manipulations. Annual meeting of the Eastern Psychological Association, Virtual

2. Mackey, S., Pomazi, O.** , Palermo, V.** , Grubinger, N.** , & **Thrailkill, E. A.** (2018, March). Stress narrative favors habit-based control of instrumental behavior in humans. Poster presented at the annual Dartmouth Neuroscience Day, Hanover, NH.
3. **Thrailkill, E. A.**, Murphy, N. A.** , Bouton, M. E. (2018, March). Does a “salient stimulus” promote habit formation? Poster presented at the annual Dartmouth Neuroscience Day, Hanover, NH.
4. **Thrailkill, E. A.**, & Bouton, M. E. (2014, March). Contextual control of actions vs. habits. Annual meeting of the Eastern Psychological Association, Boston, MA.
5. **Thrailkill, E.A.***, & Shahan T.A. (2010, April). Resistance to change of Pigeon sign tracking behavior. Annual meeting of the Four Corners Association for Behavior Analysis, Park City, UT.
6. **Thrailkill, E.A.***, Podlesnik, C.A.* , & Shahan, T.A. (2009, March). Divided attention and the matching law: Compound sample performance is sensitive to variations in relative reinforcement experienced with the elements alone. Annual Intermountain Graduate Research Symposium, Logan, UT. (*Awarded Best Poster Presentation*)

Posters – Local

1. **Thrailkill, E. A.**, DeSarno, M., & Higgins, S. T. (2021, October). Loss aversion and risk for cigarette smoking and substance abuse. 9th annual Vermont Center on Behavior and Health Conference, Burlington, VT.
2. Thorpe, C. A.** , & **Thrailkill, E. A.** (2020, April). Habit formation in behavior chains: A comparative evaluation in humans and rats. University of Vermont, Annual Student Research Conference. Burlington, VT.
3. Michaud, N.* , Rifkin, M.** , Murphy, N.** , **Thrailkill, E. A.**, & Bouton, M. E. (2019, February). Stimulus salience and reinforcer predictability in the formation of habits. Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.
4. Rifkin, M.** , **Thrailkill, E. A.**, & Bouton, M. E. (2018, August). Can extensive training produce a habit under stimulus control? Annual meeting of the UVM Neuroscience, Behavior, and Health, Summer Neuroscience Undergraduate Research Fellowship Program, Burlington, VT.
5. **Thrailkill, E. A.**, Alcalá, J.* , Vidal, P.* , Trask, S., & Bouton, M. E. (2018, January). Can discriminated operants become habits? Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.
6. Stephenson, H.** , Steinfeld, M.* , **Thrailkill, E. A.**, & Bouton, M. E. (2017, August). Role of surprise is reverting habits into goal-directed actions. Annual meeting of the UVM Neuroscience, Behavior, and Health, Summer Neuroscience Undergraduate Research Fellowship Program, Burlington, VT.
7. **Thrailkill, E. A.**, Bergeria, C.* , Davis, D.* , & Bouton, M. E. (2016, October). Preventing relapse after incentivized choice treatment: A laboratory analysis. 4th annual Vermont Center on Behavior and Health Conference, Burlington, VT.
8. **Thrailkill, E. A.**, Rojas, G.** , & Bouton, M. E. (2016, October). How to Break a Habit. 4th annual Vermont Center on Behavior and Health Conference, Burlington, VT.

9. Rojas, G.**, **Thraikill, E. A.**, & Bouton, M. E. (2016, August). How to Break a Habit. Annual meeting of the UVM Neuroscience, Behavior, and Health, Summer Neuroscience Undergraduate Research Fellowship Program, Burlington, VT.
10. Trott, J. M.**, **Thraikill, E. A.**, & Bouton, M. E. (2016, January). Renewal of extinguished behavior in the context of a preceding response. Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.
11. Bergeria, C.*, Davis, D.*, **Thraikill, E. A.**, & Bouton, M. E. (2015, October). Relapse after incentivized choice treatment in a new animal model. 3rd annual Vermont Center on Behavior and Health Conference, Burlington, VT.
12. **Thraikill, E. A.**, Trott, J. M.**, & Bouton, M. E. (2015, October). Relapse after the extinction of a heterogeneous behavior chain. 3rd annual Vermont Center on Behavior and Health Conference, Burlington, VT.
13. Treffals, J.**, Miles, O. W.*, Schepers, S. T.*, **Thraikill, E. A.**, Hammack, S. E., Bouton, M. E., & May, V. (2015, August). Neurological and behavioral mechanisms of stress induced drug relapse. Annual meeting of the UVM Neuroscience, Behavior, and Health, Summer Neuroscience Undergraduate Research Fellowship Program, Burlington, VT.
14. **Thraikill, E. A.**, & Bouton, M. E. (2015, January). An associative analysis of instrumental behavior chains. Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.
15. Miles, O. W.*, **Thraikill, E. A.**, Bouton, M. E., & Hammack, S. E. (2015, January). Intra-BNST PACAP reinstatement to cocaine seeking in rats. Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.
16. Zerr, C. L.**, **Thraikill, E. A.**, Bouton, M. E. (2014, August). Extinction of instrumental chained procurement and consumption behavior is context specific. Annual meeting of the UVM Neuroscience, Behavior, and Health, Summer Neuroscience Undergraduate Research Fellowship Program, Burlington, VT.
17. **Thraikill, E. A.**, & Bouton, M. E. (2014, January). Contextual control of actions vs. habits. Annual meeting of the Vermont Chapter of the Society for Neuroscience, Burlington, VT.

Chaired Symposia

Learning Keynote Address: Amy L. Odum, Ph.D. Annual meeting of the Eastern Psychological Association, New York, NY. (March 3-5, 2022)

Paper Session 5, Nicotine Reduction. 9th Annual Vermont Center on Behavior and Health Conference, Burlington, VT. (held online October 7-8, 2021)

Fred S. Keller Memorial Keynote Address: Warren Bickel, Ph.D. Annual meeting of the Eastern Psychological Association, Philadelphia, PA. (held online March 5-6, 2021)

Learning Keynote Address: Yael Niv, Ph.D. Annual meeting of the Eastern Psychological Association, Philadelphia, PA. (held online March 5-6, 2021)

Learning Papers I: Habits, Extinction, and Recovery (2020, March). Annual meeting of the Eastern Psychological Association, Boston, MA. (held online June 17-18, 2020)

Learning Papers: Enhancing Extinction (2019, March). Annual meeting of the Eastern Psychological Association, New York, NY.

Learning Papers: Context, Renewal, and Resurgence. (2018, March). Annual meeting of the Eastern Psychological Association, Philadelphia, PA.

Learning II: Outcome Associations. (2015, March). Annual meeting of the Eastern Psychological Association, Philadelphia, PA.

Conditioned Reinforcement. (2010, May). Annual convention of the Association for Behavior Analysis International, San Antonio, TX.

Teaching Experience

Courses

Learning (Undergraduate/Graduate)

Behavioral Economics and Decision Making (Undergraduate/Graduate)

Online Data Collection (Undergraduate/Graduate)

Courses Taught

Spring 2022 **University of Vermont**, Psychological Science (PSYS) 211: Learning – Instructor

Spring 2021 **University of Vermont**, Psychological Science (PSYS) 198T: Undergraduate Research – Instructor

Spring 2013 **Utah State University**, Psychology (PSY) 3400: Analysis of Behavior: Advanced – Instructor & Laboratory Instructor

Fall 2012 **Utah State University**, Psychology (PSY) 3400: Analysis of Behavior: Advanced – Instructor & Laboratory Instructor

Spring 2012 **Utah State University**, Psychology (PSY) 3400: Analysis of Behavior: Advanced – Instructor & Laboratory Instructor

Fall 2011 **Utah State University**, Psychology 3400: Analysis of Behavior: Advanced – Laboratory Instructor

Guest Lectures

Fall 2021 **University of Vermont**, Psychological Science (PSYS) 111: Learning, Cognition, and Behavior – Loss Aversion

Spring 2019 **Dartmouth College**, Psychology 22: Learning – Neural Bases of Habits and Goal-directed Actions

- Spring 2016 **Dartmouth College**, Psychology 22: Learning – Contextual Control of Instrumental Actions, Habits, and Extinction
- Fall 2015 **Dartmouth College**, Psychology 88: Independent Library Research –Instrumental Extinction
- Fall 2013 **University of Vermont**, Psychology 205: Learning – Wagner’s SOP and AESOP Models of Associative Learning

Training in Inclusive Teaching

Summer 2021 **Boston University**, NSF Inclusive STEM Teaching Project Certificate ID: [ede5cfce4d6e4e74aba1c36692283bd2](#)

Ph.D. Thesis Committee Member

2017 Scott Schepers – UVM, Psychological Science

Ph.D. Research Rotation Supervisor

2019 Mariana Wingood – UVM, Nursing and Health Sciences

Research Mentorship (**Undergraduate, **Graduate, *Postdoctoral, Current)

Honors Theses***, University of Vermont:

Julian Kafka (2019-2021), Katie Thorpe (2019-2020), Wesley Ameden (2017-2018), Jeremy Trott (2015-2016)

NSF Summer Neuroscience Undergraduate Research Fellows***, University of Vermont:

Melissa Rifkin (2018), Henry Stephenson (2017), Gerardo Rojas, (2016), John Teffalls (2015), Christopher Zerr (2014)

Research Trainees, University of Vermont:

Joseph Carpenter (Psychology, 2014)**, Emily Aubuchon (Neuroscience, 2015)***, Charlotte Robson (Neuroscience, 2015)***, Cecilia Bergeria (Psychological Science, 2015)**, Danielle Davis (Psychological Science, 2015)**, Michael Steinfeld (Psychological Science, 2016)**, Lauren Banister (Psychology, 2017)***, Catalina Rey (Psychiatry, 2017)*, José Alcalá (Psychological Science, 2017)**, Paula Balea (Psychological Science, 2018)**, Nick Murphy (Psychological Science, 2018)***, Felipe Alfaro (Psychological Science, 2018)**, Katie Thorpe (Neuroscience, 2018)***, Nicky Paulson (Psychological Science, 2018)***, Wesley Ameden (Psychological Science, 2017)***, Julian Kafka (Psychological Science, 2019)***, Grace Winick (Psychological Science, 2021)***, Maggie Palmiero (Psychological Science, 2021)***

Research Trainees***, Utah State University (Fall 2008-Spring 2013):

Christina Stacey (Psy 4950), Brianna Fernandez (Psy 4950), Jordan Tait (Psy 4950), Andrew Adams (Psy 3400 laboratory volunteer), Jordan Hansen (Psy 4950), McKay Mattingly (Psy 4950), Lance Hinton (Psy 4950), Eric Milman (Psy 3400 teaching laboratory volunteer), Ashley Humphries (Psy 3400 teaching laboratory volunteer), Melissa Ballard (Psy 4950), Eric Richardson (Psy 4950), Bistra Bogoev (Psy 4950)

Laboratory Ambassador, Arizona State University (Summer 2006): Barrett Summer Scholars Program

Service

Institutional

from 2018 UVM Graduate College Faculty

Organizational

from 2020 Program Chair for Learning Area - Eastern Psychological Association

2019-2020 Assistant to Program Chair (David Kearns) for Learning Area - Eastern Psychological Association

Award Reviewer

2016, 2017, 2020 APA Division 25 SEAB Basic Behavior Analysis Dissertation Award

Board of Editors

from 2018 *Journal of the Experimental Analysis of Behavior*

Invited Reviewer (alphabetical order)

Behavioural Processes, Experimental and Clinical Psychopharmacology, International Journal of Neuropsychopharmacology, Journal of Behavior Therapy and Experimental Psychiatry, Journal of the Experimental Analysis of Behavior, Journal of Experimental Psychology: Animal Learning and Cognition, Journal of Experimental Psychology: Learning, Memory, and Cognition, Learning & Behavior, Learning & Memory, Learning and Motivation, Neurobiology of Learning and Memory, New Ideas in Psychology, Psychological Record, Psychology & Neuroscience, Quarterly Journal of Experimental Psychology

Professional Memberships

2007 – present Association for Behavior Analysis International
2007 – present Society for the Quantitative Analysis of Behavior
2013 – present Pavlovian Society
2013 – present Eastern Psychological Association
2016 – present American Psychological Association (Divisions 3, 6, 25, and 28)
2018 – present Society for Research on Nicotine and Tobacco
2020 – present College on Problems of Drug Dependence