

Katherine Dyer, Ph.D.
Assistant Professor of Psychology
Eckerd College
St. Petersburg, FL

Contact Information

Email: dyerk@eckerd.edu

Phone: (727) 864-8543

Education

Doctor of Philosophy in Psychological Science at Kent State University, 2023

- Behavioral Neuroscience Concentration
- Dissertation: “Identifying the Mechanisms Responsible for Serial Pattern Learning in Rats: A Reductionist Approach”

Master of Arts in Psychology at the University of North Carolina Wilmington, 2018

- Psychological Science Concentration
- Master’s Thesis: “Symmetry in Rats Using a Go, No-Go Procedure”

Bachelor of Arts in Psychology at the University of North Carolina Wilmington, 2016

- Magna Cum Laude, University and Departmental Honors
- Honors Thesis: “Studying Stimulus Equivalence in Rats”

Research Experience

Animal Cognition and Neuroscience Lab at Kent State University

Graduate Research Assistant, July 2018-May 2023

- Developed procedures to study serial pattern learning in rats
- Wrote IACUC protocols
- Collected data using octagonal operant chambers and touchscreen chambers
- Performed unilateral bipolar electrode surgeries on rats
- Performed bilateral cannula implant surgeries on rats
- Performed brain infusions via cannula on rats
- Performed brain perfusions on rats
- Trained and supervised undergraduate researchers
- Analyzed data via Excel and SPSS
- Performed subcutaneous and intraperitoneal injections on adolescent and adult rats
- Shaped rats to respond to a touchscreen with brain stimulation reward
- Reviewed articles on topics related to research being conducted
- Supervised undergraduate researcher awarded a McNair scholarship
- Prepared drug (scopolamine, ketoprofen) solutions
- Prepared chemical solutions (paraformaldehyde, sucrose, monobasic, dibasic, saline)
- Identified and ordered materials for surgical and experimental procedures
- Repaired broken tubing and wiring in operant chambers
- Monitored animal care and welfare
- Administered veterinarian-recommended treatments

Analysis of Behavior, Behavioral Pharmacology, and Comparative Cognition Lab at UNCW

Graduate Research Assistant, August 2016-May 2018

- Developed procedures to study working memory, episodic memory, and concept learning in rats
- Proficient in SPSS, Sigma Plot, Excel, and PowerPoint
- Wrote Med-PC programs
- Recorded data via Med-PC software

- Collected data using automated olfactometers/operant chambers
- Collected data using the Odor Span Task in arena and radial arm maze apparatuses
- Trained and supervised undergraduate and graduate researchers
- Performed subcutaneous and intraperitoneal injections on adult rats
- Monitored animal care and welfare
- Washed and replaced cages for rats, mice, and pigeons
- Monitored environmental conditions of animal colony and testing rooms
- Assisted with inter-rater scoring for various lab procedures
- Organized lab tasks and appropriately delegated tasks to other lab members
- Maintained lab equipment, including operant chambers with olfactometers
- Formatted research posters
- Supervised undergraduates applying for supplies grants
- Reviewed articles on topics related to research being conducted

Undergraduate Researcher, August 2013-May 2016

- Independent study culminating in undergraduate Honors Thesis

Teaching Experience

Eckerd College, Assistant Professor of Psychology

Introduction to Psychology, Fall 2023, Spring 2024

Biopsychology, Fall 2023

Methods 1, Spring 2024

Sensation and Perception, Spring 2024

Kent State University, Psychology Instructor of Record

Basic Learning Processes, Fall 2019, Fall 2020, Fall 2021, Spring 2022, Fall 2022, Spring 2023

Quantitative Methods in Psychology 1, Spring 2021

Research Writing in Psychology, Fall 2022, Spring 2023

- Prepared and delivered lectures on relevant topics in-person and online
- Assisted students in group and individual settings
- Answered student questions regarding lecture material
- Developed syllabi and lesson plans for courses
- Prepared course assignments (quizzes, participation, homework, extra credit)
- Prepared exams
- Delivered courses using Blackboard, Canvas, and Moodle learning systems

Other Work Experience

UNCW's Center for Support of Undergraduate Research and Fellowships (CSURF)

Graduate Assistant, August 2016-May 2018

- Conducted student workshops ("How to Get Involved in Research at UNCW", "How to Make a Professional and Research Poster")
- Processed supply and travel awards from undergraduate students participating in research
- Helped coordinate bi-annual research showcase for graduate and undergraduate research
- Printed research posters for conferences, meetings, and classes using a plotter
- Recruited and supervised a team of undergraduate researchers to share their research experiences across campus
- Updated the CSURF website using Cascade web platform
- Copy Editor for *Explorations*, an undergraduate research journal

Academic Service Experience

Training in Psychological Sciences Committee, Kent State University

Behavioral Neuroscience Graduate Student Representative, May 2022-May 2023

- Attended regular meetings with faculty and graduate students to discuss program

- Organized and led workshops to promote graduate student success
- Developed materials to assist graduate students in the program
- Developed and administered surveys on graduate student experience in the program

Grants, Awards, and Recognitions

David J. Mylnar Fund for Research on Huntington's Disease, 2020-2022
 Kent State Judie Fall Lasser Graduate Psychology Research Award, Fall 2019
 Kent State Graduate Student Senate Travel Grant, Spring 2019, Spring 2023
 UNCW Psychology Department Graduate Scholarship, Fall 2017
 UNCW Graduate School Travel Award, Spring 2017 & Spring 2018
 UNCW Board of Visitors Fellowship, 2014-2015
 UNCW Dean's List Fall 2012-Spring 2016
 UNCW Summer Undergraduate Research and Creativity Award, 2015
 UNCW Spring Undergraduate Research and Creativity Award, 2016
 UNCW CSURF Research Supplies Grant, Fall 2013, Fall 2014, & Fall 2015

Professional Organizations

Member of the Comparative Cognition Society (2015-present)

Team CO3, Comparative Cognition Conference, 2019-2023

- Developed program of talks and poster presentations for conference
- Organized poster sessions for conference
- Reviewed PowerPoint presentations for talks
- Set up and ran PowerPoint presentations for talks
- Reviewed pre-recorded talks for online conference in Spring 2021
- Hosted zoom meetings for online conference in Spring 2021

Member of APA Division 2, Society for the Teaching of Psychology (2023-present)

Member of APA Division 6, Society for Behavioral Neuroscience and Comparative Psychology (2023-present)

Early Career Psychologist Network Representative, August 2023-present

Publications

Bruce, K., **Dyer, K.**, Mathews, M., Nealley, C., Phasukkan, T., Prichard, A., & Galizio, M. (2017). "Successive odor matching- and non-matching-to-sample in rats: A reversal design." *Behavioural Processes*, 155, 26-32.

Sharp, J.L., Miller-Cahill, M. E., Renaud, S.M., Kundey, S.M.A., Kelley, B.M., Willey Matoushek, A., **Dyer, K.H.**, Jackman, C.C., Fountain, S.B., & Rowan, J.D. (2019). Adolescent exposure to fluoxetine impairs serial pattern learning in the serial multiple choice (SMC) task in adult rats. *Neurobiology of Learning and Memory*.

Fountain, S. B., **Dyer, K. H.**, & Jackman, C. J. (2020). Simplicity from complexity in vertebrate behavior: Macphail (1987) revisited. *Frontiers in Psychology*, 11, 1-4.

Jackman, C. C., **Dyer, K. H.**, Sharp, J. L., Miller-Cahill, M. E., & Fountain, S. B. (2020) Coding. In J. Vonk & T. Shackelford (Ed.), *Encyclopedia of Animal Cognition and Behavior*. New York/Heidelberg: Springer.

Fountain, S. B., Sharp, J. L., Jackman, C. C., & **Dyer, K. H.** (2020) Chunking. In J. Vonk & T. Shackelford (Ed.), *Encyclopedia of Animal Cognition and Behavior*: New York/Heidelberg: Springer.

Bruce, K., **Dyer, K.**, Phasukkan, T., & Galizio, M. (2021). Two directions in a search for symmetry in rats. *The Psychological Record*.

Mason, M., **Dyer, K.**, Bruce, K., & Galizio, M. (2021). Repeated reversals of concurrent olfactory discriminations in rats: A search for functional equivalence. *Behavioural Processes*, 193.

Conference and Symposia Presentations

Dyer, K. H. Serial Pattern Acquisition and Performance in a Touchscreen Task for Rats. Presented at Second Year Symposium at Kent State University, September 20, 2019.

Dyer, K.H., Jackman, C. C., Sharp, J. L., & Fountain, S. B. Serial Pattern Acquisition and Effects of Central Cholinergic Challenge in a Touchscreen Task for Rats. Presented at TriState Conference on Animal Learning and Behavior, May 3-4, 2019.

Dyer K. H. Effects of Phrasing on Serial Pattern Learning in a Touchscreen Task for Rats. Presented at Kent State University, March 25, 2022.

Poster Presentations

Prichard, A., Panoz-Brown, D., **Dyer, K.,** Hess, S., Lackey, E., Deal, M., Halloran, M., Anderson, C., Galizio, M. & Bruce, K. Using go no-go procedures to investigate symmetry in rats. Poster presented at the Annual Meeting of the Southeastern Association for Behavior Analysis, Myrtle Beach, SC, October 24-26, 2013.

Prichard, A., Panoz-Brown, D., **Dyer, K.,** Hess, S., Lackey, E., Deal, M., Halloran, M., Galizio, M. & Bruce, K. Failure to obtain symmetry following arbitrary successive discrimination in rats. Poster presented at the 21st Annual International Conference on Comparative Cognition, Melbourne Beach, FL, March 26-29, 2014.

Prichard, A., Panoz-Brown, D., **Dyer, K.,** Hess, S., Lackey, E., Deal, M., Galizio, M. & Bruce, K. Symmetry in rats: A matter of procedure? Poster presented at the Annual Meeting of the Association for Behavior Analysis, International, Chicago, IL, May 23-27, 2014.

Hess, S., Phasukkan, T., Prichard, A., Panoz-Brown, D., Nealley, C., Mathews, M., **Dyer, K.,** Lackey, E., Gobenciong, K., Cawley, A., Galizio, M. & Bruce, K. Olfactory matching- and non-matching-to-sample in rats. Poster presented at the Annual Meeting of the Southeastern Association for Behavior Analysis, Wilmington, NC, October 30-November 1, 2014.

Dyer, K., Nealley, C., Prichard, A., Panoz-Brown, D., Phasukkan, T., Mathews, M., Hess, S., Lackey, E., Gobenciong, K., Cawley, A., Galizio, M. & Bruce, K. Emergent Stimulus Relations in Rats: Identity - Yes! Symmetry - No! Poster presented at the Annual Meeting of the Southeastern Association for Behavior Analysis, Wilmington, NC, October 30-November 1, 2014.

Prichard, A., **Dyer, K.,** Phasukkan, T., Nealley, C., Mathews, M., Cawley, A., Gobenciong, K., Fobe, I., Panoz-Brown, D., Lackey, E., Galizio, M. & Bruce, K. Olfactory matching- and non-matching-to-sample in rats. Poster presented at the 22nd Annual International Conference on Comparative Cognition, Melbourne Beach, FL, April 15-18, 2015.

Mason, M., Nealley, C., Goolsby, A., Caliri, A., **Dyer, K.,** Gobenciong, K., Hess, S., Mathews, M., Bruce, K. & Galizio, M. An Automated Version of the Rodent Odor Span Task. Poster presented at the Annual Meeting of the Southeastern Association for Behavior Analysis, Roanoke, Virginia, October 22-24, 2015.

Goolsby, A., Mason, M., **Dyer, K.,** Nealley, C., Mathews, M., Caliri, A., Hess, S., Krichbaum, S., Bruce, K. & Galizio, M. An Automated Version of the Rodent Odor Span Task. Poster presented at the 23rd Annual International Conference on Comparative Cognition, Melbourne Beach, FL, April 13-16, 2016.

Mason, M., Goolsby, A., Phasukkan, T., Mathews, M., Funes, W., Kelliher, H., **Dyer, K.,** Nelson, S. & Galizio, M. Effects of MK-801 and methamphetamine in a rodent incremental non-match-to-sample task. Poster presented at the Annual Meeting of the Southeastern Association for Behavior Analysis, Winston-Salem, NC, October 13-15, 2016.

Nelson, S., Kelliher, H., **Dyer, K.,** Mason, M., Goolsby, A., Bruce, K. & Galizio, M. The Effect of a Mid-Session Simple Discrimination Task on Performance in a Working Memory Task in Rodents. Poster presented at the 24th Annual International Conference on Comparative Cognition, Melbourne Beach, FL, April 19-22, 2017.

Phasukkan, T., Mason, M., Goolsby, A., **Dyer, K.,** Accattato, S., Kelliher, H., Richardson, L., Nelson, S., Galizio, M. & Bruce, K. The Search for Symmetry in Rats via Multiple Exemplar Training. Poster presented at the Annual Meeting of the Association for Behavioral Analysis International conference, Denver, CO, May 25, 2017.

Kelliher, H., **Dyer, K.,** Nelson, S., Accattato, S., Richardson, L., Wagner, T.J., Westrick, N., Wolff, B.,

- Mathews, M., Bruce, K. & Galizio, M. Incrementing Non-Matching-to-Sample in Rats: Effects of Dizocilpine. Poster presented at the meeting of the Southeastern Association for Behavior Analysis, Savannah, GA, October 19-21, 2017.
- Mason, M., Kelliher, H., Phasukkan, T., **Dyer, K.**, Goolsby, A., Nelson, S., Bruce, K. & Galizio, M. Parametric Analysis of Variables Controlling Performance in a Rodent Incrementing Non-Match-to-Sample Task. Poster presented at the meeting of the Southeastern Association for Behavior Analysis, Savannah, GA, October 19-21, 2017.
- Kelliher, H., **Dyer, K.**, Nelson, S., Accattato, S., Richardson, L., Mathews, M. & Galizio, M. An Automated Test of Olfactory Working Memory in Rodents: Effects of MK-801. Poster presented at the Society for Neuroscience Conference, Washington, DC, November 11-15, 2017.
- Dyer, K.**, Accattato, S., Richardson, L., Galizio, M., & Bruce, K. A Search for Symmetry in Rats Using a Go, No-Go Procedure. Poster presented at the 25th International Conference on Comparative Cognition, Melbourne, FL.
- Dyer, K. H.**, Jackman, C. C., Sharp, J. L., & Fountain, S. B. (2019). Serial pattern acquisition and effects of central cholinergic challenge in a touchscreen task for rats. Poster presented at the 7th Annual Neuroscience Symposium at Kent State University, Kent, OH.
- Jackman, C. C., **Dyer, K. H.**, Sharp, J. L., & Fountain, S. B. (2019). Sex differences and scopolamine effects in rat serial pattern learning and retention. Poster presented at the 7th Annual Neuroscience Symposium at Kent State University, Kent, OH.
- Sharp, J. L., **Dyer, K. H.**, Jackman, C. C., & Fountain, S. B. (2019). Interference differentially impairs retention in serial pattern learning. Poster presented at the 7th Annual Neuroscience Symposium at Kent State University, Kent, OH.
- Dyer, K. H.**, Jackman, C. C., Sharp, J. L., & Fountain, S. B. (2019). Serial pattern acquisition and effects of central cholinergic challenge in a touchscreen task for rats. Poster presented at the 26th International Conference on Comparative Cognition, Melbourne, FL.
- Jackman, C. C., **Dyer, K. H.**, Sharp, J. L., & Fountain, S. B. (2019). Sex differences and scopolamine effects in rat serial pattern learning and retention. Poster presented at the 26th International Conference on Comparative Cognition, Melbourne, FL.
- Sharp, J. L., **Dyer, K. H.**, Jackman, C. C., & Fountain, S. B. (2019). Interference differentially impairs retention in serial pattern learning. Poster presented at the 26th International Conference on Comparative Cognition, Melbourne, FL.
- Dyer, K. H.**, Jackman, C. C., Sharp, J. L., & Fountain, S. B. (2020). Serial pattern learning and a test of generalization to new phrasing cues in a touchscreen task for rats. Poster accepted by the 27th International Conference on Comparative Cognition, Melbourne, FL.
- Jackman, C. C., **Dyer, K. H.**, Miles, E. A., Lowe, R. E., Sharp, J. L., & Fountain, S. B. (2020). Cognitive comparison of same-strain rats from two commercial vendors. Poster accepted by the 27th International Conference on Comparative Cognition, Melbourne, FL.
- Dyer, K. H.**, & Fountain, S. B. (2023). Limitations of cognitive flexibility in rat serial pattern learning: Poor generalization between spatial and temporal phrasing cues. Poster presented at the 30th International Conference on Comparative Cognition, Melbourne, FL.