

Katherine Trice
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Education

Northeastern University

PhD in Psychology

- Master's Thesis Defense

Boston, MA

Anticipated May 2026

March 2022

University of Delaware

PhD in Linguistics

Newark, DE

Transferred to Northeastern

University of Rochester

Bachelor of Arts degree in Linguistics, Minor in ASL

- GPA: 3.84
- Cluster in Chemistry, Calculus, Engineering, and Computer Science
- Take 5 in English

Rochester, NY

May 2020

BridgeTEFL

TEFL/TESOL Basic Certification

Online

August 2019

Publications

Under Review

- Saratsli, D.*, **Trice, K.** *, Papafragou, A., & Qi, Z (under review). Pragmatics and social cognition in learning and remembering words. <https://doi.org/10.31234/osf.io/gv4an>
- * Co-First Author

In-Preparation

- **Trice, K.** , Saratsli, D., Papafragou, A., & Qi, Z. Pragmatic inferences supported by theory of mind affect how children acquire and remember word meanings.
- **Trice, K.** , & Qi, Z. Word Learning through Pragmatic Inference in Children with Autism: a Web-Based Eye-Tracking Study

Conference Presentations

Talks

- **Trice K.**, DiNardo A., & Qi Z. (2023). Word Encoding and Retrieval in Children with Autism: A Web-Based Eye-Tracking Study. Talk at *American Speech-Language-Hearing Association Convention (ASHA)*, Boston, USA.
- **Trice K.**, DiNardo A., & Qi Z. (2023). Word Learning through Pragmatic Inference in Children with Autism: a Web-Based Eye-Tracking Study. Talk at *Boston University Conference on Language Development*, Boston, USA.
- Hu A., **Trice K.**, Kozloff V., Owen Van Horne A., Chugani D., & Qi Z. (2023). Multimodal statistical learning in children with Autism Spectrum Disorder. Talk at *Meetings of Language in Autism*, Durham, NC.
- Qi Z., Hu A., **Trice K.**, & Weng Y-L. (2023) The neurobiology of auditory statistical learning is more domain-specific early in life. *Cognitive Neuroscience Society*, San Francisco, CA. (Part of the Symposium: Can't stop won't stop: Statistical learning persists through development, brain damage, and competing demands)
- Hu A., **Trice K.**, Yi-Lun Weng, & Qi Z. (2022). Less-is-more: A developmental fMRI study on auditory statistical learning. Talk at *Boston University Conference on Language Development*, Boston, USA.

- **Trice K.**, Saratsli D., Papafragou A., & Qi Z. (2021). Pragmatic inference and social cognition in acquiring (and remembering) word meanings. Talk at *Boston University Conference on Language Development*, Virtual Conference.
- **Trice K.**, Hernandez M., Saratsli D., Heisler D., & Qi Z. (2021) Pragmatic inference facilitates word retention in school-aged children. Short Talk at *CUNY Virtual Conference on Human Sentence Processing*.

Posters

- **Trice K.**, Papafragou A., & Qi Z. (2023). No advantage of pragmatic inference for vocabulary retention in children with autism. *Meetings of Language in Autism*, Durham, NC.
- Hu A., **Trice K.**, Yi-Lun Weng, & Qi Z. (2022). Greater plasticity in the language network in children than adults during statistical learning. *Society for Neurobiology of Language*, Philadelphia, USA.
- **Trice K.**, Hernandez M., Saratsli D., Heisler D., & Qi Z. (2021) Pragmatic complexity and the development of social cognition in children's word learning and retention. Poster at *SRCD Virtual Biennial Meeting*.

Grants

- Applied for NIH F31 Predoctoral Fellowship Role: PI
 - NIH NICDC
 - Title: Vocabulary Encoding and Retention in Autism via Social Cognition (VERAS)
- Applied for Predoctoral Fellowship for Autistic Scientists 2023 Role: PI
 - Autism Speaks
 - Title: Vocabulary Encoding and Retention in Autism via Social Cognition (VERAS)

Awards and Honors

Graduate

- Paula Menyuk Award Recipient, 46th Boston University Conference 2021
- University Graduate Scholar Award, University of Delaware 2021

Undergraduate

- Acceptance into University of Rochester's Take 5 Program 2019
- Dean's List (7 semesters) 2015-2020
- National Merit Scholarship Recipient 2015-2019

Additional

- Girl Scout Gold Award Recipient
- Young Woman of Distinction Award
- Presidential Volunteer Service Award

Invited Talks

Within-Lab Presentations (Excluding Practice Talks and Project Updates)

- White Matter Connectivity: A Diffusion MRI Overview (1 hour), Spring 2023, Language Acquisition and Brain Lab
- Designing for Autistic Individuals: Research from AASPIRE (1 hour), Fall 2022, Language Acquisition and Brain Lab

Joint-Lab Presentations (Excluding Practice Talks and Reading Group Paper Presentations)

- Attention and Statistical Learning: A Non-ERP Analysis (30 minutes), Summer 2023, Joint Meeting of Language Acquisition and Brain Lab & Plasticity in Neurodevelopment Lab

Academic Group/Organization Presentations

- Pragmatic Inference, Word Learning, and Autism: Two Potential Neuroscience Experiments (30 minutes), Fall 2023, Neuroscience Seminar Series, Northeastern University

Other

- Pragmatic inference and theory of mind in acquiring (and remembering) word meanings (32 minutes), Spring 2022, Guest Lecturer in Language Development Course, Northeastern University

Teaching Experience

Graduate

Workshop

- Experimental Administration to hearing, CODA, and Deaf Adult Participants for Learning Second Sign Language Operation (1.5 hour), Fall 2023, Undergraduate Research Assistants
- Diffusion Tensor Imaging manual vs Automated Processes and Decision Making (1 hour), Spring 2023, Undergraduate Research Assistants
- Experimental Administration to Typically Developing and Autistic Children for (1.5 hour), Spring 2021, Fall 2022, Spring 2022, Fall 2023, Undergraduate Research Assistants
- Qualitative Assessment Scoring: Do's, Dont's, and Standardizations (1 hour), Fall 2021, Spring 2021, Fall 2022, Spring 2022, Fall 2023, Undergraduate Research Assistants

TA

Lab in Cognition: Memory

Boston, MA
September 2023-Present

Quantitative Methods

Boston, MA
September 2022-December 2022

Undergraduate

Workshop

- Best practices and Techniques for Studying for Exams (1 hour), Spring 2020, Language Development Students
- CHILDES Dataset Experimental Questions and Analysis (1 hour), Spring 2019, Language Development Students

TA

Language and Psycholinguistics

Rochester, NY
September 2018 - December 2018, September 2019 - December 2019

Language Development

Rochester, NY
January 2019 - May 2019, January 2020 - May 2020

Current Research Projects

Mentalization in Development (MIND)

- How does the need to make pragmatic inferences to map words impact novel word meaning memory? Here we examine how the cognitive and neural basis of theory of mind modulate word learning outcomes in neurotypical and autistic adults and children, and how and why this may differ between individuals and groups.
- Major contributions:
 - Empirically demonstrate stronger retention of pragmatically inferred over directly mapped words in neurotypical adults, older typically developing children, and a sub-group of autistic children, and a lack of it in younger typically developing children and a subgroup of autistic children
 - Explore a significant modulating effect of theory of mind skills via both behavioral correlations and priming

- Conceptualize, design, program, and pilot neuro-imaging extensions of this project in neurotypical and autistic adults using fMRI (BOLD activation, MVPA, and functional connectivity) and EEG (pseudo-hyperscanning)

Brain, Language, and Autism Study (BLAST)

- How do different modalities and domains of statistical learning skills grow and change across development in different populations, and what brain systems and connectivities underpin this? Here, we use online statistical learning in the MRI to tease apart the developmental time-course of statistical learning in neurotypical individuals and determine how it differs in autistic children. We critically examine hypotheses of invariance, change, and domain-general vs language-specific mechanisms in statistical learning, and chart out the neural underpinnings of behavioral differences and connections to language development across our groups.
- Major contributions:
 - Explore the neural development of statistical learning in neurotypical children and adults using functional magnetic resonance imaging (fMRI) techniques, particularly MVPA
 - Delineate how variations in structural connectivity in autistic and neurotypical children relate to statistical learning outcomes

Learning Second Sign Language Operation (LESSO)

- What cognitive mechanisms may underpin implicit sign language learning in hearing, Deaf, and CODA adults? Here, we study everything from motor learning to working memory, statistical learning to vocabulary mapping, to determine the factors that most significantly modulate one's ability to extract and map novel signs from context.
- Major contributions:
 - Supervise assessment programming, piloting, and refining, created full project pipeline
 - Lead recruitment and administration, particularly of more challenging populations such as Deaf individuals and CODAs

Laboratory Experience

Graduate

Language Acquisition and Brain Lab

Newark, DE/Boston, MA

Graduate Research Assistant

August 2020-Present

- Supervise and coordinate undergraduate RAs on preparation, administration, and scoring of projects
- Supervise undergraduate RAs on conceptualization through preparation of small individual projects
- Score assessments, run data analysis and draw conclusions, present findings in posters, talks, and papers, administer experiments as necessary, handle pipeline of MRI data for relevant experiments.

Undergraduate

Quantitative Semantics Lab

Rochester, NY

Lab Assistant

January 2019 - May 2020

- Write computer programs and applications for statistical data analysis
- Determine what linguistic variables are relevant and how best to quantify them

Professional Development

- ADOS-2 Clinical Workshop
 - Virtual, October 2023
- Grant Writing Course
 - Boston, MA, Fall 2021
- ABCD's ReproNim Course Session I & II
 - Virtual, Fall and Spring 2020-2021

Skills

Technical

MRI/fMRI

- Familiar with Fitlins, QSIPrep, pyAFQ, CONN, SPM12
- Can analyze structural connectivity, fMRI, and MVPA
- Basic knowledge of navigating and analyzing large datasets such as the ABCD dataset

EEG

- Familiar with EEGLAB, HAPPE, ERPLAB
- Can analyze event-related potential, frequency power and oscillations, and micro-states

Programming

- Proficient in Python Programming and R, including Shiny app construction
- Proficient in PsychoPy and Gorilla Experiment Builder for experiment construction
- Familiar with Bash, Matlab, and Web Design

Reproducibility

- Familiar with use and implementation of OSF, GitHub, BIDS, Docker, Pre-Registration, and other similar systems

Other

- Proficient in MS Word, Powerpoint, Excel, Adobe Photoshop, Adobe In-Design, and Praat

General

Project Management

- Has lead teams of motivated research assistants and implement projects from design to analysis
- Proficient in both personal and training others in experimental administration to a variety of populations, including children, autistic, and Deaf individuals

Teaching and Mentorship

- Experience teaching small classes, lab classes, lectures, and workshops
- Has supervised award-winning undergraduates on independent projects

Science Communication

- Has presented talks at peer-reviewed conferences, written grant proposals, and prepared manuscripts for publication

Langages

- Native English Speaker
- Basic-Intermediate knowledge of American Sign Language and Spanish
- Basic understanding of Latin