

**Juliana Elizabeth Trach**  
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### Education

<b>PhD</b> <i>(in progress)</i>	<b>Yale University</b> Psychology (Cognitive) Advisor: Dr. Sam McDougle	2020-present
<b>Sc.B.</b> <i>magna cum laude</i>	<b>Brown University</b> Cognitive neuroscience (with departmental honors), Advisors: Dr. Theresa Desrochers & Dr. William Heindel	2014-2018
<b>Study abroad</b>	<b>University of Barcelona</b> School of Psychology	Fall 2016

### Fellowships, Honors, and Awards

National Science Foundation Graduate Research Fellowship <i>Resource scarcity as everyday cognitive load: Differential effects of cognitive load on learning across the socioeconomic status spectrum</i>		2020-2023
Magna Cum Laude		2018
Departmental honors		2018
Richard E. Whalen Award for Excellence in Undergraduate Research in Neuroscience and Behavioral Biology		2018
Sigma Xi Honors Society, Brown University chapter		2017-2018
Undergraduate Teaching and Research Award at Brown University		2017
U.S. Department of State, Congress-Bundestag Fellowship, Germany		2013-2014

### Research Experience

<b>Lab Manager, Princeton Baby Lab</b> <i>Princeton University</i> Advisor: Dr. Casey Lew-Williams		2018-July 2020
<b>Honors Student, Desrochers Lab</b> <i>Brown University</i> Advisor: Dr. Theresa Desrochers		2017-2018
<b>Research assistant, Badre Lab for Memory and Cognitive Control</b> <i>Brown University</i> Advisor: Dr. David Badre		2015-2016
<b>Research Assistant, Center for Brain and Cognition</b> <i>Universitat Pompeu Fabra</i>		Fall 2016
<b>Research Assistant, Rahnev Lab for Perception, Neuroimaging and Modeling</b>		Summer 2016

*Georgia Institute of Technology*

Advisor: Dr. Dobromir Rahnev

**Research Assistant, Spanish Immersion Day Camp/Afterschool Program** 2012-2015

*University of Illinois, Urbana-Champaign*

Advisor: Dr. Silvina Montrul

### **Teaching Experience**

**Teaching Assistant, Introductory Statistics** Fall 2017

*Brown University, CLPS department*

Advisor: Dr. Kathryn Spoehr

**Teaching Assistant, Intensive Beginning German** Spring 2016

*Brown University, German Department*

Advisor: Dr. Jan Sokolosky

### **Institutional Service**

**Graduate-Undergraduate Mentorship Initiative Advisor** 2020-present

*Yale University*

**Departmental Peer Advisor, Cognitive Neuroscience** 2015-2018

*Brown University, CLPS Department*

**Meiklejohn Peer Advisor** 2015-2018

*Brown University*

**Diversity and Inclusion Action Plan Committee** Spring 2016

*Brown University, CLPS Department*

### **Manuscripts under review/in preparation**

1. Piazza, E., Cohen, A., **Trach, J.E.**, and Lew-Williams, C. (in revision). *Neural synchrony predicts children's learning of novel words.*
2. **Trach, J.E.**, McKim, T.H., and Desrochers, T.M. (in revision). *Abstract sequential control is facilitated by practice and embedded motor sequences.*

### **Conference presentations**

#### ***Posters***

1. **Trach, J.E.** & Desrochers, T.M. (2018, January). Practice and motor sequences facilitate the execution of abstract task sequences. Poster presented at the Ivy League Undergraduate Research Symposium at the University of Pennsylvania.
2. **Trach, J.E.** & Desrochers, T.M. (2017, November). Testing the effect of practice and motor learning on abstract sequence execution. Poster presented at the Association for Women in Mathematics Poster Symposium at Brown University.
3. **Trach, J.E.** & Desrochers, T.M. (2017, November). Testing the effect of practice and motor learning on abstract sequence execution. Poster presented at the Epsilon Alpha Mu Honor Society at Harvard University.

4. **Trach, J.E.** & Desrochers, T.M. (2016, August). Preliminary results: Testing the effect of practice and motor learning on abstract sequence execution. Poster presented at the Summer Research Symposium at Brown University.

### **Language Proficiency**

**English** (Native Speaker); **German** (Fluent); **Spanish** (Fluent)

### **Technical training**

#### *Programming*

Matlab - Experience with task design, data analysis, fMRI preprocessing.

R – Experience with basic data analysis and visualization purposes

Javascript/jsPsych – Experience with task design

Python – Learning Python for task design, fMRI data processing and analysis

#### *Statistics Coursework*

Brown: Quantitative methods for psychology (with SPSS), Experimental design and data analysis, Introduction to programming (Matlab), Computational methods for minds, brains, and behavior (Matlab)

Princeton: Mathematical tools for neuroscience (with Julia), Quantitative analysis in psychological research (with R), Bayesian data analysis workshop (with R)

Yale: Multivariate statistics (with R)

#### *Methods and Data Collection*

fMRI, fNIRS, TMS, Behavioral methods