

# KATHY SEM

*Curriculum Vitae*

Updated 6/2024

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<https://semkathy.wixsite.com/website>

## EDUCATION

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**Ph.D. Psychology – Developmental Science** **Expected 2027**  
 Boston University  
*Department of Psychological and Brain Sciences*  
 Faculty Advisor: Dr. Nicholas Wagner

**M.A. Psychology – Developmental Science** **May 2023**  
 Boston University  
*Department of Psychological and Brain Sciences*  
 Faculty Advisor: Dr. Nicholas J. Wagner

**B.S. Psychology – Honors** **2014 – 2018**  
 Michigan State University  
*Department of Psychology*

Honor's Thesis: *The Relationship Between Anxiety and Error-Related Brain Activity Across Childhood and Adolescence*

Faculty Advisors: Dr. Jason S. Moser & Dr. C. Emily Durbin

## HONORS & AWARDS

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Society for Research in Child Development (SRCD) – Travel Award	2023
International Society for Development Psychobiology (ISDP) – Travel/Abstract Award	2022
Graduate with Honors Distinction – Michigan State University	2018
Swanson/Northrup Award Scholarship – Michigan State University	2017 – 2018
Michigan Competitive Scholarship – Michigan State University	2015 – 2017
President's Education Award – Michigan State University	2014

## PUBLISHED MANUSCRIPTS

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Wagner, N., Perkins, E., Rodriguez, Y., Ordway, C., Flum, M., Hernandez-Pena, L., Perelstein, P., **Sem, K.**, ... & Waller, R. (2023). Promoting Empathy and Affiliation in Relationships (PEAR) study: protocol for a longitudinal study investigating the development of early childhood callous-unemotional traits. *BMJ open*, 13(10), e072742.

Wagner, N.J., Shakiba, N., Bui, H.N.T., **Sem, K.**, Novick, D.R., Danko, C.M., Dougherty, L.R., Chronis-Tuscano, A., & Rubin, K.H. (2023). Examining the Relations Between Children's Vagal Flexibility Across Social Stressor Tasks and Parent- and Clinician-Rated Anxiety using Baseline Data from an Early Intervention for Inhibited Preschoolers. *Research on Child and Adolescent Psychopathology*.

## MANUSCRIPTS UNDER REVIEW

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**Sem, K.**, Shakiba, N., Bui, H.N.T., Danko, C.M., Chronis-Tuscano, A., Rubin, K.H., & Wagner, N.J. (under review). Associations Between Dyadic Language Style Matching and Classroom Observations of Behaviorally Inhibited Children's Sociability.

Shakiba, N., Bui, H.N.T., **Sem, K.**, Rubin, K.H., Novick, D. R., Danko, C.M., Chronis-Tuscano, A., & Wagner, N.J (under review). Dyadic Physiological Concordance as a Neurobiological Marker of Sensitivity to Parenting Behaviors among Behaviorally Inhibited Children.

Wagner, N.J., Shakiba, N., Bui, H.N.T., Novick, D.R., **Sem, K.**, Danko, C.M., Rubin, K.R., & Chronis-Tuscano, A. (under review). Children's vagal flexibility is a predictor and moderator of treatment response to early parenting interventions for inhibited youth.

## ORAL PRESENTATIONS

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**Sem, K.**, Shakiba, N., Vogel, S., Ordway, C., Bui, H.N.T., Novick, D.R., Druskin, L., Chronis-Tuscano, A., Rubin, K.H., & Wagner, N.J. (2024, October). *Parent's Cross-System Autonomic Regulation (CSAR) Predicts Fewer Restrictive Parenting Behaviors* [Flash Talk]. International Society for Developmental Psychobiology (ISDP), Chicago, IL.

**Sem, K.**, Shakiba, N., Rubin, K.H., Novick, D. R., Druskin, L.R., Smith, K., Danko, C. M., Chronis-Tuscano, A., & Wagner, N.J. (2024, March). *Anxious Parent-Child Language Style Matching (LSM) Predicts Increased Behavioral Inhibition (BI) Post-Intervention* [Paper Presentation]. Eastern Psychological Association (EPA), Philadelphia, PA.

**Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N.J. (2023, March). *Examining Links Between Parent-Child Language Style Matching (LSM) and Observed Social Behaviors Using Pre-Treatment Data from an Early Intervention for Inhibited Preschoolers* [Flash talk]. Society for Research in Child Development (SRCD), Salt Lake City, UT.

Shakiba, N., Novick, D. R., **Sem, K.**, Bui, H.N.T., Danko, C. M., Druskin, L., Rubin, K. H., Chronis-Tuscano, A., & Wagner, N.J. (2023, March). *RSA Synchrony as a Neurobiological Marker of Susceptibility to Parenting Behaviors among Behaviorally Inhibited Preschoolers* [Flash talk]. Society for Research in Child Development (SRCD), Salt Lake City, UT.

**Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N. J. (2023, March) *Links between Language Style Matching and Inhibited Children's Social Competence among Familiar and Unfamiliar Peers* [Symposium Talk]. Eastern Psychological Association (EPA), Boston, MA.

**Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N. J. (2023, January) *Children's RSA Moderates the Effects of Restrictive Parenting on Children's Anxiety* [Research Talk]. Developmental Sciences Prospective Student's Day Research Talk. Boston, MA.

**Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N. J. (2022, November). *Language Style Matching and Social Competence* [Presentation]. Boston University Developmental Science Colloquium, Boston, MA.

Wagner, N. J., Shakiba, N., Bui, H.N.T., **Sem, K.**, Novick, D. R., Danko, C. M., Chronis-Tuscano, A., & Rubin, K. H. (2022, November). *Examining the Relations between Preschool Children's Vagal Flexibility Across Social Stressor Tasks and Parent- and Clinician-Rated Anxiety* [Paper Presentation]. International Society for Developmental Psychobiology (ISDP), San Diego, CA.

## POSTER PRESENTATIONS

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**Sem, K.**, Shakiba, N., Vogel, S., Ordway, C., Bui, H.N.T., Novick, D.R., Druskin, L., Chronis-Tuscano, A., Rubin, K.H., & Wagner, N.J. (2024, October). *Parent's Cross-System Autonomic Regulation (CSAR) Predicts Fewer Restrictive Parenting Behaviors* [Poster]. International Society for Developmental Psychobiology (ISDP), Chicago, IL.

- Perelstein, P., Shakiba, N., **Sem, K.**, Aslan, O.M., Boz, M., Verissimo, M., Closson, L., Oh, W., Bowker, J., McDonald, K., Coppola, G., Liga, F., LoCoco, A., Kim, H.K., Ren., L, Rubin, K., Wagner, N.J. (2024, March). *Parenting practices and child emotion regulation over three months of the pandemic; the moderating role of cultural tightness* [Poster]. Eastern Psychological Association (EPA), Philadelphia, PA.
- Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Druskin, L., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N. J. (2022, November). *Less Restrictive Parenting Protects Against Anxiety for Children with High Resting RSA* [Poster]. International Society for Developmental Psychobiology (ISDP), San Diego, CA.
- Sem, K.**, Shakiba, N., Bui, H.N.T, Novick, D. R., Danko, C. M., Druskin, L., Chronis-Tuscano, A., Rubin, K. H., & Wagner, N. J. (2022, November). *Associations between Parent-Child Language Style Matching (LSM) And Parent Skin Conductance Response (SCR)* [Poster]. International Society for Developmental Psychobiology (ISDP), San Diego, CA.
- Shakiba, N., **Sem, K.**, Bui, H.N.T., Novick, D. R., Danko, C. M., Druskin, L., Dougherty, L. R., Rubin, K. H., Chronis-Tuscano, A., & Wagner, N. J. (2022, November). *Examination of moderators of treatment response in the context of early intervention for behaviorally inhibited young children* [Poster]. International Society for Developmental Psychobiology (ISDP), San Diego, CA.
- Sem, K.**, Winters, A., Lind, B., Moser, J. (2021, October). *Error-Related ERPs Do Not Mediate the Relationship Between Parenting and Anxiety In Older Children* [Poster]. Society for Psychophysiological Research (SPR), Virtual.
- Lind, B., Moros, J., **Sem, K.**, Gloe, L., Durbin, C., Moser, J. (2021, October). *Age Does Not Moderate the Relationship Between Depression Symptoms and the Reward Positivity in Youth.* [Poster]. Society for Psychophysiological Research (SPR), Virtual.
- Sem, K.**, Winters, A., Durbin, C., & Moser, J. (2021, May). *Association Between Parenting and Error Monitoring Functions* [Poster] Association for Psychological Sciences (APS), Virtual.
- Sem, K.**, Winters, A., Moser, J., Durbin., C. (2021, April). *Youth Anxiety and Internalizing Symptoms: Correlations with Perceived Parenting Behavior and Error-Related Brain Potentials* [Poster]. Society for Research in Child Development (SRCD), Virtual.
- Lin, Y., Fisher, M. E., Peng, L. W., Dewitt, S., Foster, K., Wright, M., Eckerle, W., **Sem, K.**, & Moser, J. S. (2018, May). *Clarifying the relationship between mindfulness and executive attention: A multimodal electrophysiological study* [Poster]. Association for Psychological Sciences (APS), San Francisco, CA.
- Sem, K.**, Rothschild, L., Louis, C., & Moser, J. (2018, May). *Examining Whether Age Moderates the Relationship Between Anxiety and the ERN in Youth* [Poster]. Association for Psychological Science (APS), San Francisco, CA.
- Sem, K.**, Rothschild, L., Louis, C., & Moser, J. (2018, April). *Examining Whether Age Moderates the Relationship Between Anxiety and the ERN in Youth* [Poster]. University Undergraduate Research and Arts Forum (UURAF), East Lansing, MI.
- Sem, K.**, Rothschild, L., Louis, C., & Moser, J. (2018, April). *Examining Whether Age Moderates the Relationship Between Anxiety and the ERN in Youth* [Poster]. Psychology Department Poster Fair, East Lansing, MI.
- Jamgotch, S., **Sem, K.**, Tripathi, A., Waldron, A., & Coursaris, C. (2016, April). *The Interplay of Consumer Personality and Tweet Content on the Intention to Purchase Music from Emerging American Artists* [Poster]. University Undergraduate Research and Arts Forum (UURAF), East Lansing, MI.

## **PROFESSIONAL ACTIVITIES**

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Eastern Psychological Association (EPA)	Graduate Student Member
International Society for Developmental Psychobiology (ISDP)	Student Member
Society for Psychophysiological Research (SPR)	Student Member
Society for Research in Child Development (SRCD)	Graduate Student Member
Association for Psychological Science (APS)	Student Member

## **RESEARCH APPOINTMENTS**

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### **Graduate Researcher** **9/2021 - Present**

Biobehavioral and Social-Emotional Development Lab (BASE)  
*Boston University, Department of Psychological & Brain Sciences*

#### Promoting Empathy and Affiliation in Relationships (PEAR Grant)

*PI: Dr. Rebecca E. Waller, & Dr. Nicholas J. Wagner*

- Recruiting and collecting data with parents and preschool aged children to examine dyadic relationships and child development using psychophysiology methods
- Developing protocol for collecting and analyzing electrodermal activity (EDA), electrocardiogram (ECG), cardiac impedance (PEP), and respiratory sinus arrhythmia (RSA) for adults and young children using the AcqKnowledge software from the BIOPAC system
- Training research assistants in recording, reading, and processing psychophysiology data using the Acqknowledge software

#### Examining Neurophysiological Predictors of Treatment Response to a Multi-Component Early Intervention for Socially Inhibited Preschoolers (TURTLE Grant)

*PI: Dr. Andrea Chronis-Tuscano, Dr. Kenneth H. Rubin, & Dr. Nicholas J. Wagner*

- Developed protocol for collecting and analyzing electrodermal activity (EDA)
- Trained research assistants on EDA data processing using Acqknowledge software
- Processed EDA data and compiled data sets for SPSS and Mplus

### **Grant Coordinator** **2/2021 – 7/2021**

Clinical Psychophysiology Lab (CPL)  
*Michigan State University, Department of Psychology*

#### Kid Power Camp

*PI: Dr. Kate D. Fitzgerald, Dr. Kate Rosenblum, & Dr. Jason S. Moser*

- Set up IRB at the University of Michigan and Michigan State University to study effortful control intervention camps with anxious children
- Created and designed recruitment and study materials, developed data management systems to increase efficiency of data organization and collection
- Trained and managed research assistants on learning electroencephalogram (EEG) set-up procedures, neuropsychological assessments, qualitative and quantitative data methods, and behavior management

### **Grant Coordinator & Lab Manager** **7/2018 – 1/2021**

Clinical Psychophysiology Lab & Child Emotions Lab  
*Michigan State University, Department of Psychology*

#### Michigan Longitudinal Study

*PI: Dr. C. Emily Durbin & Dr. Jason S. Moser*

- Recruited, collected, and managed data from 350 research participants (adults and children) for the Michigan Longitudinal Study R01 grant to study the relationship between child and parent behavior, temperament, psychopathology, and brain activity over the span of 3 years
- Designed recruitment and study protocol for additional grant extension, and developed new data management systems using VBA and JavaScript to increase efficiency of data organization and collection
- Trained and managed over 50 research assistants on learning electroencephalogram (EEG) set-up procedures and child assent, neuropsychological assessments, and behavior management

**Research Assistant****1/2017– 7/2018**

Clinical Psychophysiology Lab &amp; Child Emotions Lab

*Michigan State University, Department of Psychology*

- Conducted EEG to collect psychophysiological data from participants (children, adolescents, and adults) as a lead and secondary experimenter
- Monitored EEG data collection using ActiView and recorded experiment conditions to ensure accurate recordings
- Cleaned, tested, logged, and organized all EEG equipment to ensure accurate readings

Michigan Longitudinal Study**5/2017– 7/2018***PI: Dr. C. Emily Durbin & Dr. Jason S. Moser*

- Developed new data management systems using macros to increase efficiency of data organization
- Trained and monitored new research assistants on electroencephalogram usage and data collection
- Organized and managed EEG and behavioral data using E-prime, BrainVision Analyzer, SPSS, MATLAB, and Excel
- Recorded and observed child temperament laboratory assessments

Brain Cycle Study**1/2017– 7/2018***PI: Dr. Kelly L. Klump & Dr. Jason S. Moser*

- Studied how behavior and hormones affect psychopathology in naturally menstruating women
- Recruited and screened for eligible participants through phone interviews
- Created and prepared saliva collection sample kits and participant materials

Nondeceptive Placebo Study**3/2017 – 5/2017***Dissertation: Darwin A. Guevarra*

- Study susceptibility of emotion on nondeceptive placebos
- Prepared participant scripts, saline nasal solutions, and ActiView/E-Run software

**TEACHING & MENTORING EXPERIENCE****Graduate Mentoring****9/2021 – Present**

Biobehavioral and Social-Emotional Development Lab

Undergraduate Senior/Honors Thesis

- Rutva Bhatt

Fall 2022 – Spring 2023

Undergraduate Research Opportunities Program (UROP)

- Tori Keefauver
- Rutva Bhatt
- Tori Keefauver
- Krishi Shah
- Kayla Ji

Spring 2023  
 Summer 2022  
 Spring 2022  
 Spring 2024  
 Summer 2024

**Guest Lecturer**

Emerging Research in Developmental Psychopathology (PS138A) 1/25/2024  
 Colby College, Department of Psychology  
 Waterville, Maine  
 Instructor: Sarah Lynch  
 Guest Lecture: *Anxious Parent-Child Language Style Matching & Children's Behavioral Inhibition After Treatment Intervention*

Emerging Research in Developmental Psychopathology (PS138A) 1/23/2023  
 Colby College, Department of Psychology  
 Waterville, Maine  
 Instructor: Sarah Lynch  
 Guest Lecture: *Children's RSA Moderates the Effects of Restrictive Parenting on Children's Anxiety*

**Graduate Teaching Fellow**  
*Department of Psychological & Brain Sciences*  
 Boston University

Introduction to Psychology (PS101) 1/2022 – 5/2022  
 Instructor: Dr. David Shim

Introduction to Psychology (PS101) 9/2021 – 12/2021  
 Instructor: Dr. Barack Caine

**Undergraduate Teaching Assistant**  
*Department of Psychology*  
 Michigan State University

Brain and Behavior (PSY 209) 1/2018 – 5/2018  
 Instructor: Dr. Alexa Veenema

Introduction to Psychology (PSY 101) 9/2017 – 12/2017  
 Instructor: Dr. Johnathan Weaver

## **SERVICES**

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**Graduate Student Coordinator** 09/2022 - Present  
 Prospective Students Day Committee  
*Boston University, Developmental Sciences*

- Planned, purchased, and personalized prospective students' welcome packages
- Organized and scheduled prospective student and faculty interview links and schedules
- Hosted and directed social night and interview day meetings using zoom

**Student Tutor** 10/2019 – 12/2019  
 Refugee Development Center  
*Lansing School District, Michigan*

- Sheridan STEM Elementary School
- Gardner Middle School
- Everett High School

## **ADVANCED RESEARCH TRAINING**

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Introduction to Cardio Suite June, 2024  
 CardioBatch Plus Synchrony

Instructors: Dr. Keri Heilman, Ph.D.	
Data Science and Statistical Modeling in R Department of Biostatistics Boston University	Spring 2024
Introduction to Cardio Suite CardioBatch Plus Synchrony Instructors: Dr. Keri Heilman, Ph.D.	March, 2024
Introduction to R Statistical Programming Department of Biostatistics Boston University	Fall 2023
Advanced Quantitative Methods Department of Psychological & Brain Sciences Boston University	Spring 2023
EDA Introduction: Tools & Strategies to Optimize Data BIOPAC System, Inc.	July, 2022
Measuring the Emotional State of Guilt Using Eye Tracking, EDA/GSR & fMRI BIOPAC Systems, Inc.	March, 2022
Introduction to Structural Equation Modeling Instructors: Dr. Dan Bauer, Ph.D. & Dr. Patrick Curran, Ph.D. University of North Carolina at Chapel Hill	May, 2022

## RELEVANT SKILLS

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### Statistical Methods

- Generalized Linear Models, Hierarchical Linear Models, Logistic and OLS Regression Models, Structural Equation Modeling, Multilevel Modeling, Latent Curve Models, Growth Mixture Models, Exploratory and Confirmatory Factor Analysis, Unsupervised (K-means clustering, Hierarchical Clustering, PCA) & Supervised (SVM, Decision Trees/Random Forest) Machine Learning Models

### Data Analysis & Scripting

- Mplus, RStudio, SPSS, Lisrel, MATLAB, SmartPLS, SigmaPlot, HTML, CSS, VBA, JavaScript, Python

### Psychophysiology

- Cardiac: Acqknowledge, Biopac MP160 (Bionomadix RSPEC, Bionomadix NICO), QRSTools, CardioBatch Plus (CardioEdit, CardioBatch, CardioBatch + Synchrony)
- EDA: Biopac MP160 (Bionomadix PPGED)
- EEG: BioSemi ActiveTwo EEG, BioSemi ActiView, BrainVision Analyzer 2.0
- Eye-tracking: Eyelink 1000 Plus
- Behavioral Task: E-Studio 2.0 (E-Run, E-Prime, E-Merge, E-Recovery)

### Technical Skills

- Microsoft Office Suite: Excel, Word, Outlook, PowerPoint, OneNote, Publisher, Access
- Google Suite: Sheets, Docs, App Scripts, Forms, Slides