

# SHIBA M. ESFAND

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## EDUCATION

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- 2023-2029 (expected)**     **University of California**, Los Angeles, CA  
Ph.D. in Clinical Psychology  
Primary Research Mentor: Bridget Callaghan, PhD
- 2017-2021**     **Boston University**, Boston, MA  
B.A. in Psychology, *Summa Cum Laude* (GPA: 3.96)  
Minor in Deaf Studies  
Thesis: *Children calibrate their willingness to wait for rewards on the basis of time-interval experience*; advised by: Melissa Kibbe, Ph.D.

## HONORS, AWARDS, AND GRANT FUNDING

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- 2023     **National Science Foundation Graduate GRFP** | Honorable Mention
- 2021     **Richard Ely Honors in Psychology Award** | Boston University  
Awarded by the Department of Psychological and Brain Sciences faculty for most outstanding honors thesis.
- 2021     **Michael A. Sassano III and Christopher M. Sassano Award for Writing Excellence in the Social Sciences** | Boston University  
Nominated and selected by faculty in the College of Arts and Sciences for excellence in writing and research.
- 2018     **Student Research Award** | Boston University  
Grant awarded by the Undergraduate Research Opportunities Program to fund independent summer research over 8 weeks (P.I. Melissa Kibbe, Ph.D.).
- 2018     **Student Research Award** | Boston University  
Grant awarded by the Undergraduate Research Opportunities Program to fund independent research in the spring semester (P.I. Melissa Kibbe, Ph.D.).

## PUBLICATION

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Gruen, R.L., **Esfand, S.M.**, & Kibbe, M.M. (2020). Altruistic self-regulation in young children. *Journal of Experimental Child Psychology*, 189, 104700. <https://doi.org/10.1016/j.jecp.2019.104700>

## MANUSCRIPTS UNDER REVIEW

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\*denotes co-first author; #denotes co-senior author

1. **Esfand, S.M.**, Null, K.E., Duda, J.M., de Leeuw, J., & Pizzagalli, D.A. (revise and resubmit). *Lifetime History of Major Depressive Disorder Is Associated with Decreased Reward Learning: Evidence from a Novel Online Version of the Probabilistic Reward Task.*
2. Ironside, M., Duda, J.M., Moser, A.D., Holsen, L. M, Zuo, C.S., Du, F., Perlo, S., Richards, C.E., Chen, X., Nickerson, L.D., Null, K.E., **Esfand, S.M.**, Alexander, M., Crowley, D.J., Lauze, M., Misra, M., Goldstein, J.M.\*, Pizzagalli, D.A\*. (under review). *Reductions in rostral anterior cingulate*

*GABA and blunted cortisol response to stress are associated with stress circuitry in young adults with current or past major depressive disorder: A multimodal imaging investigation of trait and state effects. \*Equal senior contribution*

3. Zhukovsky, P.\*, Ironside, M.\*, Duda, J.M., Moser, A.M., Null, K.N., Dhaynaut, M., Alexander, M., Holsen, L.M., Misra, M., Narendran, M., Hoye, J., Morris, E., **Esfand, S.M.**, Goldstein, J.M., & Pizzagalli, D.A. (under review). *Acute stress increases striatal connectivity with cortical regions enriched for  $\mu$  and  $\kappa$ -opioid receptors.*
4. Duda, J.M.\*, Moser, A.D.\*, Ironside, M., Null, K.E., Holsen, L. M., Zuo, C.S., Du, F., **Esfand, S.M.**, Chen, X., Perlo, S., Richards, C.E., Lobien, R., Alexander, M., Misra, M., M., Goldstein, J.M.#, & Pizzagalli, D.A.#. (under review). *A State-and Trait-Based Investigation of GABA, Stress, and Reward Responsiveness in Major Depression.*

## MANUSCRIPTS IN PROGRESS

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1. Dan, R., Brown, A.R., Huston, L., Belleau, E.L., **Esfand, S.M.**, Ruberto, V., Johns, E., Null, K.E., Du, F., & Pizzagalli, D.A. (in prep). *Brain encoding of perceived control as a prospective predictor of improvement in quality of life and its relationship with perceived stress.*
2. **Esfand, S.M.**, McGuire, J.T., Kibbe, M.M. (in prep). *Children calibrate their willingness to wait for rewards on the basis of time-interval experience.*

## POSTER PRESENTATIONS

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\*Presenting author

### International Conferences

1. Dan, R.\*, Brown, A.R., Hutson, L., Belleau, E.L., **Esfand, S.M.**, Ruberto, V., Johns, E., Null, K.E., & Pizzagalli, D.A. (2023, July). *Brain encoding of controllability and its relation to perceived stress.* [Abstract accepted for presentation]. Organization for Human Brain Mapping, Montreal, Canada.

### National Conferences

1. Dan, R.\*, Brown, A.R., Hutson, L., Belleau, E.L., **Esfand, S.M.**, Ruberto, V., Johns, E., Null, K. E., & Pizzagalli, D.A. (2023, December). *Brain encoding of perceived controllability as a prospective predictor of improvement in quality of life and its relationship with perceived stress.* [Abstract accepted for presentation]. American College for Neuropsychopharmacology, Tampa, FL.
2. Hutson, L.\*, Brown, A.R., Dan, R., **Esfand, S.M.**, Null, K.E., Johns, E.M., Ruberto, V., Ohashi, K., Khan, A., Teicher, M.H., & Pizzagalli, D.A. (2023, September). *Peer verbal abuse and childhood sexual abuse in women with depressive symptoms.* [Abstract accepted for presentation]. Society for Research in Psychopathology, St. Louis, MO.
3. Brown, A.R.\*, Hutson, L., Dan, R., Zhu, C., **Esfand, S.M.**, Ruberto, V., Johns, E., Null, K.E., Chen, X., Fei Du, & Pizzagalli, D.A. (2023, September). *Glutamate and oxidative stress abnormalities in major depressive disorder and childhood sexual abuse: A novel molecular approach.* [Abstract accepted for presentation]. Society for Research in Psychopathology, St. Louis, MO.

4. Zhukovsky, P.\*, Ironside, M.A., Null, K.E., Moser, A.D., Duda, J.M., **Esfand, S.M.**, & Pizzagalli, D.A. (2023, April). *Acute stress increases striatal connectivity with cortical regions that preferentially express  $\mu$  and  $\kappa$  opioid receptor genes*. [Abstract accepted for presentation]. Society of Biological Psychiatry, San Diego, CA.
5. **Esfand, S.M.\***, Null, K.N., Duda, J.M., Moser, A.D., Ironside, M.A., Holsen, L.M., Cohen, J.E., Alexander, M.M., Madhusmita M., Goldstein, J.M., & Pizzagalli, D.A. (2022, September). *Exploring Effects of GABA and Stress on Reward Learning in Major Depression*. Society for Research in Psychopathology, Philadelphia, PA.
6. **Esfand S.M.\***, Fenley, A.R., Nelson Darling, L.J., Nelson, C., Nickson, E., Chorpita, B.F., & Langer, D.A. (2021, November). *Which clinicians engage youth and caregivers in treatment planning? Examining clinician characteristics and treatment planning discussions*. Association for Behavioral and Cognitive Therapies.
7. Nelson, C.\*, Nelson Darling, L., Fenley, A.R., **Esfand, S.M.**, Chorpita, B.F., Earley, E., & Langer, D.A. (2021, November). *The impact of shared decision making on treatment engagement in youth with post-traumatic stress*. Association for Behavioral and Cognitive Therapies.
8. Nelson Darling, L.\*, Fenley, A.R., Earley, E., Nelson, C., **Esfand, S.M.**, Chorpita, B.F., & Langer, D.A. (2021, November). *Deciding Together: Using a novel observational coding system to evaluate shared decision making in youth mental health*. Association for Behavioral and Cognitive Therapies.
9. Fenley, A.R.\*, Nelson Darling, L.J., Earley, E., **Esfand, S.M.**, Nelson, C., Chorpita, B.F., & Langer, D.A. (2021, November). *What's the plan? Using an observational coding system to study the frequency and content of treatment planning discussions in youth psychotherapy*. Association for Behavioral and Cognitive Therapies.
10. **Esfand S.M.\***, McGuire, J.T., & Kibbe, M.M. (2021, April). *Children calibrate their willingness to wait for rewards on the basis of time-interval experience*. Society for Research in Child Development Biennial Meeting.

### Internal Conferences

1. Dan, R.\*, Brown, A.R., Belleau, E.L., **Esfand, S.M.**, Hutson, L., Ruberto, V., Johns, E., Null, K.E., & Pizzagalli, D.A. (2023, March). *Brain encoding of controllability and its relation to perceived stress*. Harvard Psychiatry Research Day, Boston, MA.
2. Hutson, L.\*, Dan, R., Brown, A.R., Johns, E., **Esfand, S.M.**, Null, K.E., Ohashi, K., Khan, A., Du, F., Teicher, M.H., & Pizzagalli, D.A. (2023, March). *Childhood sexual abuse and emotional maltreatment in women with lifetime depression*. Harvard Psychiatry Research Day, Boston, MA.
3. Brown, A.R.\*, Dan, R., Hutson, L., **Esfand, S.M.**, Ruberto, V., Johns, E., Null, K.E., Belleau, E., & Pizzagalli, D.A. (2023, March). *Coping and control: Perceptions of stress and locus of control in healthy female adults*. Harvard Psychiatry Research Day, Boston, MA.

4. Brown, A.R.\*, Dan, R., Hutson, L., Ruberto, V., Johns, E., **Esfand, S.M.**, Null, K.E., Belleau, E., & Pizzagalli, D.A. (2023, January). *Coping and control: Perceptions of stress and locus of control in healthy female adults*. McLean Research Day, Belmont, MA.
5. Hutson, L.\*, Dan, R., Brown, A.R., Johns, E., **Esfand, S.M.**, Null, K.E., Ohashi, K., Khan, A., Du, F., Teicher, M.H., & Pizzagalli, D.A. (2023, January). *Childhood sexual abuse and emotional maltreatment in women with lifetime depression*. McLean Research Day, Belmont, MA.
6. Zhukovsky, P.\*, Ironside, M.A., Null, K.E., Moser, A.D., Duda, J.M., Esfand, S.M., & Pizzagalli, D.A. (2023, January). *Acute stress increases striatal connectivity with cortical regions that preferentially express  $\mu$  and  $\kappa$  opioid receptor genes*. McLean Research Day, Belmont, MA.
7. **Esfand, S.M.\***, Scott jr, J.N., Linton, S.R., Lobien, R., Lamontagne, S.J., Li, S., Boyle, B., Bolton, P., Miller, C., Meisner, R., & Pizzagalli, D.A. (2022, March). *Exploring the effects of ketamine on mood, error-related negativity, and error-related positivity in adults with treatment-resistant depression*. Harvard Medical School Psychiatry Research Day, Boston, MA.
8. Scott jr, J.N\*., **Esfand, S.M.**, Linton, S.R., Lobien, R., Lamontagne, S.J., Li, S., Boyle, B., Bolton, P., Miller, C., Meisner, R., & Pizzagalli, D.A. (2022, March). *Error-related negativity and anhedonia in treatment-resistant individuals with major depressive disorder undergoing ketamine*. Harvard Medical School Psychiatry Research Day, Boston, MA.
9. **Esfand, S.M.\***, Scott jr, J.N., Linton, S.R., Lobien, R., Lamontagne, S.J., Li, S., Boyle, B., Bolton, P., Miller, C., Meisner, R., & Pizzagalli, D.A. (2022, January). *Comparing the effects of ketamine on self-reported mood and neural activation patterns in adults with treatment-resistant depression*. McLean Research Day, Boston, MA.
10. Scott jr, J.N\*., **Esfand, S.M.**, Linton, S.R., Lobien, R., Lamontagne, S.J., Li, S., Boyle, B., Bolton, P., Miller, C., Meisner, R., & Pizzagalli, D.A. (2022, January). *How mood influences performance: Error-related negativity and anhedonia in individuals with major depressive disorder*. McLean Research Day, Boston, MA.
11. **Esfand, S.\*** & Kibbe, M.M. (2019, March). *Effect of Prosocial Information on Children's Delay of Gratification*. Fenway Undergraduate Psychology Research Conference, Boston, MA.
12. **Esfand, S.\*** Beal, J.R., Smith, A.S., Kibbe, M.M., & Blake, P.R. (2018, October). *Do children consider the reliability of informants when choosing resources for themselves?* Boston University's 21st Annual Undergraduate Research Opportunities Symposium, Boston, MA.

## RESEARCH AND CLINICAL EXPERIENCE

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2021-July 2023    **Clinical Research Assistant II**  
[Laboratory for Affective and Translational Neuroscience](#) | McLean Hospital |  
 Belmont, MA  
**Principal Investigator:** Diego A. Pizzagalli, Ph.D.

**Primary Projects:**

1. [Sex, Hormones and Gamma-Aminobutyric Acid \(GABA\) in Stress Induced Anhedonia in Depression](#) – **status:** data analysis
2. [Early Life Stress and Depression: Molecular and Functional Imaging \(ELS\)](#) – **status:** data collection

**Secondary Projects:**

1. [Behavioral and Electrophysiological Effects of Ketamine in Treatment-Resistant Depression](#) – **status:** data collection
2. Investigating the Relationship Between Reward Processing and Childhood Experiences: An Amazon Mechanical Turk Study Employing the Probabilistic Reward Task – **status:** data analysis
3. Personalizing self neuro-modulation therapy for Major Depression Disorder (MDD) with Anhedonia using clinical biomarkers for MDD sub-types  
**status:** protocol development

**Research Tasks:**

- Recruit and enroll participants with current and past MDD: developing advertisements, conducting phone screens, running study visits
- Administer questionnaires and cognitive and behavioral tasks during Magnetic Resonance Imaging (MRI) and electroencephalogram (EEG) study sessions
- Process blood samples (e.g., DNA, RNA, serum cortisol): centrifuge, pipette, store, and coordinate pickup of samples
- Coordinate complex 6–7-hour study visits which include 2–3-hour MRI sessions
- Preprocess structural and functional MRI and magnetic resonance spectroscopy (MRS) data
- Collect, process, and analyze EEG data (Brain Vision Analyzer)
- Process probabilistic reward task (PRT) data for external collaborators

**Administrative Tasks:**

- Write, develop, and manage IRB protocols for new, and ongoing, grant-funded studies (e.g., investigating novel neurofeedback treatment for MDD)
- Lead internal team meetings and biweekly conference calls with collaborators; write and distribute agendas and minutes
- Review radiology reports following imaging sessions using an electronic medical record system, EPIC
- Prepare and submit study data to NIMH Data Archive every 6 months
- Lead research and administrative trainings for new research assistants and volunteers

- Certify members of the Center for Depression, Anxiety, and Stress Research (CDASR) in EEG administration
- Certify lab members in PRT administration: lead training, coordinate pilot subjects, observe task administration, process task data to ensure high-quality data collection

2017-2021

**Head Research Assistant** (2019-2021) **and Research Assistant** (2017-2019)

[Developing Minds Lab](#) | Boston University | Boston, MA

**Principal Investigator:** Melissa M. Kibbe, PhD

- Conducted senior honors thesis investigating how children's temporal perception influences their ability to maximize reward collection, now in preparation as a first-author manuscript
- Served as lead experimenter and assisted in manuscript writing for a study assessing the influence of prosocial motivations on preschooler's delay of gratification and self-regulation, (Gruen, **Esfand** & Kibbe, 2020)
- Executed studies on infant and children's social development, working memory, and mathematical cognition
- Collected EEG data in toddlers (BioSemi ActiView acquisition)
- Coded looking-time data using software programs such as Tobii eye-tracker and jHab
- Maintained daily lab operations: participant recruitment for six ongoing projects, coordinated lab meetings, updated the lab website, and managed lab orders
- Hired, trained, and mentored new research assistants

2018-2021

**Clinical Research Assistant** (2018-2021) | [Center for Anxiety and Related Disorders \(Child and Adolescent Program\)](#)

| Boston University | Boston, MA

**Principal Investigators:** Donna Pincus, Ph.D. and David Langer, Ph.D.

- Assisted in reliability and adherence qualitative coding for two studies investigating personalizing psychosocial treatments for children and adolescents, via shared decision-making techniques
- Transcribed and coded session tapes for a project assessing community clinicians' use of shared decision-making techniques when developing treatment plans with children, adolescents, and caregivers
- Analyzed data from treatment sessions, and presented poster at ABCT, on factors that influence community clinician's implementation of shared decision-making techniques
- Aided in clinical treatments for children and adolescents via *in vivo* exposure therapy and diagnostic sessions, such as the Selective Mutism Behavioral Observation Task (SMBOT)

- Scored clinical assessments (e.g., the Child Behavior Checklist, CDI, MASC)
- Attended weekly clinical staff meetings to discuss case conceptualization and treatment regimens

Summer 2019

**Summer Research Intern**

[Laboratory for Child Development](#) | Johns Hopkins University | Baltimore, MD

**Principal Investigators:** Lisa Feigenson, Ph.D., and Justin Halberda, Ph.D.

- Collaborated in designing a task aimed at understanding how children ages 5 to 10 years old conceptualize and reason about coincidences
- Ran pilot subjects and analyzed preliminary data. Presented a talk and poster of preliminary findings at lab meetings
- Recruited families via phone and email communication from the lab database, and in person at local farmer’s markets

**SKILLS**

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**Data:**

- Advanced working knowledge and use of SPSS
- Working knowledge of R studio, including data wrangling, statistics, and graph-making

**Neuroimaging Methods:**

- MRI safety certification completed July 2021
- MRI participant safety screening and session prep, including use of mock MRI scanner
- MRI setup, including setup of computers, button box, physio data collection (respiration rate and pulse)
- Task (Maastricht Acute Stress Test, Value of Control, and Emotional Conflict Stroop) and questionnaire administration during 2-hour MRI sessions
- Process fMRI data with fMRIPrep using data in BIDS format

**Psychophysiological Methods:**

- EEG (BioSemi and BrainVision systems) setup, cleanup, and task administration (Flanker and Probabilistic Reward Task)
- Clean, process, and analyze EEG data via Brain Vision Analyzer

**Eye-tracking methods:**

- Tobii Eye-Tracking systems
- jHab

**General Study Session Procedures:**

- Creation, design, and dissemination of surveys via REDCap
- Setup, administration, and data processing of the Probabilistic Reward Task
- Online survey administration using Amazon’s Mechanical Turk and CloudResearch
- Online Probabilistic Reward Task design and administration in cognition.run
- Blood collection, processing (centrifuging and pipetting samples), and storage (including cortisol, ACTH, DNA, RNA, and various other hormones)
- Salivary cortisol collection

**Administrative Skills:**

- Coordinating blood sample pickups at multiple labs (Labcorp, Quest, BRAC)
- Advertising for participant recruitment (including Facebook, Reddit, school jobs pages, Handshake, Craigslist, etc.)
- IRB protocol development and management (including independently writing protocols, creating continuing reviews, amendments, staff updates, other events, etc.) and maintaining records for ongoing compliance

**Additional Languages:**

- Fluent in Farsi (Persian)
- Conversational in American Sign Language (ASL)

**ACTIVITIES AND LEADERSHIP**

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- Oct. 2023 - **Personal Statement Reviewer | Application Statement Feedback Program**
- Program geared towards supporting psychology Ph.D. applicants from underrepresented backgrounds
  - Attended two trainings on providing feedback on personal statements and specific considerations for reviewing clinical psychology application materials
  - Reviewed and provided feedback for personal statements of students applying to clinical psychology Ph.D. programs
- Sept. 2023 - **Member | Underrepresented Graduate Students in Psychology Brown Bag Committee | UCLA | Los Angeles, CA**
- Attend weekly meetings geared towards planning events focusing on professional development for underrepresented graduate students in psychology.
- 2021- 2023 **Co-chair and Member | Diversity, Equity, and Inclusion Committee | CDASR McLean Hospital | Belmont, MA**  
 Co-chair: June 2022-July 2023 | Member July 2021- May 2022
- Attend and co-lead monthly meetings aimed at developing initiatives to increase inclusivity and accessibility of research among our participants
  - Developed series dedicated towards mentoring student interns, discussing the hidden curriculum of academia, and hosting career development workshops
  - Coordinate and assist in work between meetings to help meet group goals
- July 2021- **Member | Diversity, Equity, and Inclusion Book Club | CDASR | McLean Hospital | Belmont, MA**
- Read *Medical Apartheid* by Harriet A. Washington and *Evicted: Poverty and Profit in the American City* by Matthew Desmond
  - Engaged in group discussions to maintain accountability for ongoing efforts towards anti-racism and increasing equity
  - Relate readings to current issues in society and within research in hopes that these discussions will inform our research approaches



- 2020-2021 **Member** | Diversity, Equity, and Inclusion Committee  
Psychological and Brain Sciences Department | Boston University | Boston, MA
- Helped develop an undergraduate research scholarship program to support BIPOC students, and other underrepresented minorities, within the Psychological and Brain Sciences department
  - Collaborated with faculty, staff, and students to develop and deploy an anonymous survey in which students in the Psychological and Brain Sciences department could report experienced inequities
- Nov 2019 **STEM Station Leader** | **Girls Day at MIT Museum**  
Boston, MA
- Girls' Day is an event used to foster young girls' interest in the STEM field.
  - Provided information to young girls and women about becoming involved in research and pursuing degrees in STEM.
- Nov 2018 **Field Trip Leader** | Reading Memorial High School Child Development Class | Boston, MA
- Organized event to discuss research in the field of psychology to local high school students
  - Assisted in leading groups of high school juniors and seniors through the Developing Minds Lab: modeled behavioral experiments, demonstrated Tobii eye-tracker and EEG systems implemented in the lab's research

## **AFFILIATIONS AND MEMBERSHIPS**

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- Sept 2022 - **Society for Research in Psychopathology**, Associate Member
- Nov 2021 - **Association for Behavioral and Cognitive Therapies**, Post-Baccalaureate Member
- July 2020 - **Society for Research in Child Development**, Student Member
- April 2019 - **Psi Chi, the International Honor Society in Psychology**, Member
- Sept 2018 - **Division 53: Society of Clinical Child and Adolescent Psychology**, Student Member