

Cora Mukerji

Harvard University

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EDUCATION

Harvard University, Cambridge, MA

Ph.D. Candidate

Harvard University, Cambridge, MA

A.M. in Psychology, May 2015

Thesis: Neurodevelopmental indices of theory of mind and their relations to social function

Yale University, New Haven, CT

B.A. in Psychology (Neuroscience Track), May 2011

Magna Cum Laude with Distinction in the Major

Thesis: Neural correlates of empathy in individuals with high or low autistic traits

HONORS AND AWARDS

Karen Stone Fellowship

2013

Awarded to a graduate student nominated by the Harvard Psychology Department.

Robert G. Crowder Prize in Psychology

2011

Awarded to a student in the Yale Psychology Department for completing an especially novel research project and for contributing to undergraduate life in the Department.

Phi Beta Kappa

2011

Yale College Dean's Fellowship in the Humanities and Social Sciences

2010

Awarded to eight students to support original undergraduate research (\$4150 for summer).

Psi Chi, the International Honors Society in Psychology

2010

National Merit Scholarship

2007

National Latin Exam Scholarship

2007

RESEARCH EXPERIENCE

Doctoral Student, Nelson Lab and Social Neuroscience and Psychopathology Lab August 2013–present

Advisors: Professors Charles Nelson and Christine Hooker

- Neural correlates of social cognition in ASD – Conducting a novel investigation of neural indices of social cognition and their relation to daily social functioning in typically developing children and children with autism spectrum disorder (ASD). Designed an experimental protocol for the study including comprehensive behavioral assessment and MRI measures of brain structure and function (fMRI, sMRI, DTI). Leading collection and analysis of data.
- Empathic simulation in schizophrenia – Analyzing fMRI and behavioral data to investigate the neural bases of empathic simulation in patients and their relations to social behavior in individuals with schizophrenia and medically healthy adults. Preparing a manuscript reporting results.
- Mentoring undergraduate and post-baccalaureate research assistants (RAs) to promote their research and professional development. Training RAs in administration of clinical measures, MRI acquisition and analysis, and preparation of conference presentations.

Research Assistant, McPartland Lab, Yale Child Study Center January 2010–July 2013

Advisor: Professor James McPartland, Ph.D.

- Typical neural mechanisms of empathy for physical and social pain – Designed a novel experimental paradigm and stimuli for an honors thesis study, collected EEG data, analyzed ERPs and mu activity, presented data at conferences, and authored a manuscript.
- Neural mechanisms of empathy for physical and social pain in ASD – Independently collected and analyzed ERP and behavioral data. Submitted results for conference presentation.
- Longitudinal study of infant biological motion perception – Created experimental paradigm, collected EEG data from infants at normal and high risk for ASD, analyzed ERPs, and administered the Mullen Scales of Early Learning and Vineland Adaptive Behavior Scales, 2nd edition.
- Pivotal Response Treatment in ASD – Collected and analyzed EEG data pre- and post-treatment.
- Cognitive Behavioral Therapy in ASD – Collected and analyzed EEG data pre- and post-treatment.
- Effects of oxytocin on social perception in ASD – Collaborated on experimental design, administered intra-nasal oxytocin and placebo, and collected and analyzed EEG and behavioral data.
- Reward outcome processing in children with ASD – Collected and analyzed EEG data and co-authored publication.
- Neural response to social exclusion in ASD – Collected data and co-authored publication.
- Trained graduate and undergraduate students in EEG data collection, EEG and ERP analysis, scientific writing, and preparation of presentations.
- Contributed significantly to writing and revising multiple grant applications.

Student, Research Methods in Human Neuroscience January 2011–May 2011
 Advisor: Professor Gregory McCarthy, Ph.D.

- Effects of *a priori* expectations on animacy perception - Collected and analyzed fMRI data.
- Carried out fMRI, DTI, and EEG data acquisition, processing, and analysis in human subjects.

Undergraduate Research Assistant, Yale READ Lab September 2009–May 2010
 Advisor: Professor Douglas Mennin, Ph.D.

- Efficacy of integrative emotion regulation treatment - Collected psychophysiological measures pre- and post-treatment.

Undergraduate Research Assistant, Yale Comparative Cognition Lab January 2009–January 2010
 Advisor: Professor Laurie Santos, Ph.D.

- False belief understanding in rhesus macaques - Designed experimental apparatus, carried out testing in the field, coded looking-time data, and collaborated on analysis and manuscript writing.
- Advantageous inequity aversion in capuchins - Collected data in collaboration with a research team.

Undergraduate Research Assistant, Clark Relationship Science Lab January 2008–November 2008
 Advisor: Professor Margaret Clark, Ph.D.

- Communal orientation in interpersonal relationships - Collected data and served as a confederate.

PUBLICATIONS AND PRESENTATIONS

PEER-REVIEWED PUBLICATIONS

- Mukerji, C., Bernier, R., Naples, A., Perszyk, D., Moseley, G., Mayes, L., & McPartland, J. (Under review). Electrophysiological indices differentiate empathy for physical and social pain.
- Mukerji, C., Tully, L., Lincoln, S.H., Dodell-Feder, D., & Hooker, C.I. (In prep). Neural simulation and its relation to social function in schizophrenia.
- Lincoln, S.H., Kleeman, N., Mukerji, C.E., & Hooker, C.I. (In prep). The neural basis of social cognition in typically developing children and its relationship to social functioning.
- Cox, A., Kohls, G., Naples, A., Mukerji, C., Coffman, M., Rutherford, H., Mayes, L., & McPartland, J. (2015). Diminished social reward anticipation in the broad autism phenotype, as revealed by event-related brain potentials. *Social Cognitive and Affective Neuroscience*.
- Hashim, P.W, Travieso, R., Persing, J.A., Coffman, M., Mukerji, C., Naples, A., Tillman, R.M., Terner, J., Landi, N., Patel, A., Steinbacher, D., Mayes, L., & McPartland, J. (2014). Brain Electrophysiology Reveals Intact Processing of Speech Sounds in Deformational Plagiocephaly. *Plastic and Reconstructive Surgery*, 133(6), 835e-841e.
- McPartland, J.C., Crowley, M.J., Perszyk, D.R., Mukerji, C.E., Naples, A.J., Wu, J., & Mayes, L. (2012). Preserved reward outcome processing in ASD as revealed by event-related potentials. *Journal of Neurodevelopmental Disorders*, 4(16).
- McPartland, J.C., Crowley, M.J., Perszyk, D.R., Naples, A.J., Mukerji, C.E., Wu, J., Molfese, P., Bolling, D.Z., Pelphrey, K.A., & Mayes, L.C. (2011). Temporal dynamics reveal atypical brain response to social exclusion in autism. *Developmental Cognitive Neuroscience*, 1(3), 271-279.
- Marticorena, D.C.W., Ruiz, A.M., Mukerji, C., Goddu, A., & Santos, L. (2011). Monkeys represent others' knowledge but not their beliefs. *Developmental Science*, 14(6), 1406-1416.

ENCYCLOPEDIA CONTRIBUTIONS

- Mukerji, C., Perszyk, D., & McPartland, J. (2013). Face recognition. In F. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders* (Vol. 3, pp. 1222-1226). New York: Springer.
- Mukerji, C., Mottron, L., & McPartland, J. (2013). Enhanced perceptual functioning. In F. Volkmar (Ed.), *Encyclopedia of Autism Spectrum Disorders* (Vol. 2, pp. 1117-1118). New York: Springer.

SELECTED PRESENTATIONS

- Mukerji, C., Tully, L., Lincoln, S.H., Dodell-Feder, D., & Hooker, C.I. (2015, April). Neural markers of simulation and their relation to interpersonal function: an fMRI investigation. Poster to be presented at the Social and Affective Neuroscience Society Conference, Boston, Massachusetts.
- Mukerji, C., Tully, L., Lincoln, S.H., Dodell-Feder, D., & Hooker, C.I. (2014, September). Neural indices of empathic simulation in schizophrenia: an fMRI investigation. Poster presented at the Society for Research in Psychopathology, Evanston, Illinois.
- Mukerji, C.E. (2013, November). Screening for Autism Spectrum Disorders. Talk presented at the Institute for Child Development Autism Workshop, Bucharest, Romania.
- Mukerji, C.E. (2013, November). Treatment for Autism Spectrum Disorders. Talk presented at the Institute for Child Development Autism Workshop, Bucharest, Romania.
- Mukerji, C.E., Naples, A., Bernier, R., Tillman, R., Perszyk, D., & McPartland, J. (2013, May). ERPs reveal atypical neural response during empathy for physical and social pain in ASD. Poster presented at the International Meeting for Autism Research (IMFAR), San Sebastián, Spain.
- Tillman, R., Rolison, M., Righi, G., Mukerji, C.E., Naples, A., Coffman, M., Foss-Feig, J., Hashim, P., & McPartland, J. (2013, May). Neural sensitivity to biological motion versus audio-visual synchrony in infants at risk for autism. Poster presented at IMFAR, San Sebastián, Spain.
- Hashim, P., Coffman, M., Mukerji, C.E., Tillman, R., Perszyk, D., Turner, J.S., Travieso, R., Landi, N., Mayes, L., Persing, J.A., & McPartland, J. (2013, May). Specificity of atypical neural development for language in infants at risk for ASD. Poster presented at IMFAR, San Sebastián, Spain.
- Naples, A., Coffman, M., Mukerji, C.E., Tillman, R., & McPartland, J. (2013, May) Adolescents with ASD show attenuated neural response to reciprocal eye contact. Poster presented at IMFAR, San Sebastián, Spain.
- McPartland, J., Righi, G., Mukerji, C., Coffman, M., Naples, A. & Mayes, L. (2012, August). Neural sensitivity to biological motion in infants at-risk for autism. Talk presented at the American Psychological Association Annual Convention, Orlando, FL.
- Mukerji, C.E., Bernier, R., Naples, A., Righi, G., Perszyk, D., Coffman, M., & McPartland, J. (2012, May). Electrophysiological indices of empathic response and their relation to autistic traits. Poster presented at IMFAR, Toronto, Canada.
- McPartland, J., Coffman, M., Faja, S., Kresse, A., Mukerji, C.E., Naples, A., & Bernier, R. (2012, May). Level of autistic traits modulates activity in face and action perception systems. Talk presented at IMFAR, Toronto, Canada.
- Righi, G., Mukerji, C.E., Coffman, M., Naples, A., Mayes, L., & McPartland, J. (2012, May). Electrophysiological markers of social perception in infants at risk for autism. Poster presented at IMFAR, Toronto, Canada.
- Mukerji, C.E., Bernier, R. A., Perszyk, D., Naples, A., Fogel, A., & McPartland, J. (2011, May). Neural mechanisms for empathy for physical and social pain and their relation to autistic traits. Poster presented at IMFAR, San Diego, CA.

SELECTED ACTIVITIES

Executive Board Member, Yale Chapter of Psi Chi
2011

March 2010–April

- Worked with students to recruit speakers, organize events, and foster intellectual discussion among undergraduates in Psychology.

Discovery Room Guide, Yale Peabody Museum, New Haven, CT
January 2011

September 2010–

- Worked in the hands-on children's exhibit, teaching children about exotic flora and fauna and natural history.

Intern, Benhaven School, Wallingford, CT
2009

September 2009–December

- Assisted in implementation of Individualized Education Programs.
- Trained in teaching lessons and fostering social interaction among adolescents with ASD.

Volunteer, Arc Industries East, Columbus, OH
2008

August

- Served as an aide at a day facility for adults with intellectual and developmental disabilities and assisted the behavioral psychologist.