

Adrián Alejandro Medina

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EDUCATION

Harvard University Cambridge, MA
Master of Public Health (M.P.H.), Health & Social Behavior 2024
Concentrations: Population Mental Health, Maternal & Child Health
Master of Education (Ed.M.), Human Development & Education 2023
Concentration: Identity, Power, Justice, & Education
Graduate Certificate: Child Protection

Loyola University Chicago Chicago, IL
Bachelor of Science (B.S.) with Honors & Distinction, Neuroscience & Psychology 2021
Minors: Biology, Arabic Language & Culture
Advisor: Rebecca Silton, Ph.D.

RESEARCH INTERESTS

Clinical & neurodevelopmental outcomes derived from early life traumatic stressors (threat, deprivation, & unpredictability). Contextualized, multilevel interventions geared towards addressing pediatric mental health inequities among oppressed communities. Interactions of ecological systems and social determinants of health and their effects on developmental trajectories in cognitive and social-emotional domains.

PUBLICATIONS

Saboore, S., **Medina, A.**, & Marciano, L. (2024). Application of Positive Psychology in Digital Interventions for Children, Adolescents, and Young Adults: Systematic Review and Meta-Analysis of Controlled Trials. *JMIR Mental Health*, 11, e56045. <https://doi.org/10.2196/56045>

Medina, A., Tan, L., Harb, F., Elahi, S., Ardila, M.A., Mis, K., Zarzour, H., Husna, A., Aldos, S., Aldakkak, E., Miller, E., Toussaint, R. F., Sosa, S., Bustos, Y., Jolie, S., & Santiago, C.D. (2020). The Right to Equitable Education for Refugee and Immigrant Youth during COVID-19. *Children's Legal Rights Journal*.

In Press

Wang, J., Turesky, T., Loh, M., Barber, J., Hue, V., Escalante, E., **Medina, A.**, Zuk, J., & Gaab, N. (2024). Lateralization of Activation Within the Superior Temporal Gyrus During Speech Perception in Sleeping Infants Is Prospectively Associated with Language Skills in Kindergarten: A Longitudinal Passive Listening Task-fMRI Study. *Brain & Language*.

Under Review

Wu, B., Vyas, C., **Medina, A.**, Slopen, N., Mahalingaiah, S., Chavarro, J. E., Mukherjee, R., Weisskopf, M., & Roberts, A. L. (submitted). Systemic Inflammatory Biomarkers & Childhood Maltreatment: Prenatal & Perinatal Insights from the Nurses' Health Study. *Brain, Behavior, & Immunity*.

In Preparation

Korponay, C., Cohen-Gilbert, J. E., Kumar, P., Harnett, N. G., **Medina, A. A.**, Forester, B. P., Ressler, K. J., Beckmann, C. F., Harper, D. G., & Nickerson, L. D. (in preparation). Concurrent Large-Scale Neuronal Dynamics During the Emotional Face Matching Task and Their Relation to Mental Health. To be submitted in summer 2024.

Medina, A. A., & Slopen, N. Intersections of Adversity & Neurodiversity: Adverse Childhood Experiences' Association to Mental Health & the Buffering Role of Flourishing. To be submitted for publication in summer 2024.

Medina, A. A., Setton, R. A. The Interplay between Emotion & Executive Function on Valence of Autobiographical Memories. To be submitted for publication in fall 2024.

PRESENTATIONS

Wang, J., Turesky, T., Loh, M., Barber, J., Hue, V., Escalante, E., **Medina, A.**, & Gaab, N. (2023, September). *Lateralization of Activation in the Superior Temporal Gyrus for Speech Processing in Sleeping Infants Is Predictive of Their Language Skills in Kindergarten: an fMRI Study*. Paper presented at the Flux Society Annual Congress.

Medina, A., Jolie, S., Sosa, S., & DeCarlo Santiago, C. (2021, April). *Immigrant Related Stress and Child Somatization: Examining the Moderation Effect of Voluntary Engagement Coping*. Poster presented virtually at the Society for Research in Child Development Biennial Meeting.

Medina, A. A., Polnaszek, K., Kahrilas, I.J., & Silton, R.L. (2021, April). *Anxious Arousal & Anxious Apprehension are Distinctly Related to the Temporal Course of Response Inhibition*. Poster presented at the Loyola University Chicago's Undergraduate Research & Engagement Symposium.

Miller, E., **Medina, A.**, Zarzour, H., Jolie, S., & DeCarlo Santiago, C. (2021, April). *Latino Children's Responses to Family Cultural Conflict Stress*. Poster presented at the Midwestern Psychological Association Annual Conference.

Medina, A., Tan, L., Harb, F., Elahi, S., & DeCarlo Santiago, C. (2020, November). *The Right to Equitable Education for Refugee and Immigrant Youth during COVID-19*. Paper presented at the Center for the Human Rights of Children's Symposium.

Medina, A. A. (2020, April). *Visual Schedules & Priming Strategies: Integrating Behavioral Strategies in Transition Support for Persons with ASD at Misericordia Home*. Poster presented at the Loyola University Chicago's Undergraduate Research & Engagement Symposium.

Medina, A., Salifu, E., & Ransom, M. (2020, March). *Opulence: Do We Really Own Everything?* Talk presented at the Loyola University Chicago's Social Justice Symposium.

Medina, A., Hernandez, M., Blake, J., & Saeed, R. (2019, June). *Genetic Editing & Its Ethical Dilemma*. Poster presented at the University of Florida's Summer Health Professions Education Program (SHPEP) Gallery Walk Symposium.

PROFESSIONAL RESEARCH EXPERIENCE

¹Applied Neuroimaging Statistics Research Laboratory

2023 – Present

²Computational Psychopathology Laboratory

2023 – 2024

McLean Hospital, Harvard Medical School

¹Research Data Manager, ^{1,2}Senior Clinical Research Assistant: ¹*Combining Computational Methods, RDoC, & Big Neuroimaging Data to Understand Mechanisms of Neuropsychiatric Symptoms in Alzheimer's Disease*; ²*Building Normative Models of Reinforcement Learning Decision Making Behavior*

Supervisors: Lisa Nickerson, Ph.D.¹ & Poornima Kumar, Ph.D.²

- Analyzed/visualized/harmonized neuroimaging and clinical data derived from the Human Connectome Project (Lifespan and Connectomes Related to Human Disease) and the Alzheimer's Disease Neuroimaging Initiative using R & Python, learned introductory Unix commands and functionalities related to FMRIB Software Library (FSL), utilized Unix to extract FreeSurfer imaging values, performed data cleaning and analysis, supervised junior research assistants, and assisted with administrative duties for study progression (e.g., NDA data upload).

Vision Sciences Laboratory

2022 – 2023

Harvard University

Laboratory Administrator

Supervisors: George Alvarez, Ph.D. & Talia Konkle, Ph.D.

- Managed lab operations, coordinated administrative tasks, prepared content for publications, and managed lab resources and financial reports.

Stress & Development Laboratory

2021 – 2023

Harvard University

Research Project Manager, Research Coordinator: *Observing Children's Environments & Neurodevelopment (OCEAN) Study, Feelings & Childhood Experiences (FACEs) Study*

Supervisors: Katie McLaughlin, Ph.D., Maya Rosen, Ph.D., & David Weissman, Ph.D.

- Conducted virtual cognitive assessments and MRI sessions (sMRI, fMRI) with children and adolescents, managed study finances and expenditures, modified study IRB protocols and drafted study procedural/training protocols, programmed study data instruments on REDCap, oversaw data management (SharePoint), quality assurance, & recruitment for OCEAN & FACEs studies, and supervised study team of 20 including hiring and training.

Wellbeing & Emotion Laboratory at Loyola

2019 – 2021

Loyola University Chicago

Laboratory Manager & Research Assistant: *Supported Mindful Learning (SMiLe) Study*

Supervisor: Rebecca Silton, Ph.D.

- Conducted EEG sessions, managed lab infrastructure, developed basic MATLAB proficiency, and enhanced communication structures within the team.

Children Adapting to Stress & Adversity Laboratory

2019 – 2021

Loyola University Chicago

Laboratory Manager & Research Assistant: *Supporting Transition Resilience of Newcomer Groups (STRONG) Study, Protective Processes among Immigrant Families Study*

Supervisor: Catherine DeCarlo Santiago, Ph.D.

- Analyzed family coping mechanisms (Family Interaction Macro-Coding System), piloted school-based interventions for refugee/immigrant students, managed data collection on SPSS, & translating materials to Spanish and formatting in Arabic.

STUDENT/INTERN RESEARCH EXPERIENCE

Department of Social & Behavioral Sciences

2024

Harvard T.H. Chan School of Public Health

Graduate Research Assistant: *Intersections of Adversity & Neurodiversity: Adverse Childhood Experiences' Association to Mental Health & the Buffering Role of Flourishing*

Supervisor: Natalie Slopen, Sc.D.

- Continuation of course (SBS 220: *Social and Structural Inequalities & Children's Health*) project, manuscript to be submitted for publication, secondary analysis on data from the National Survey of Children's Health to explore the relationships between adverse childhood experiences, psychopathology, and child flourishing among neurodivergent children.

Stanley Center for Psychiatric Research

2023 – 2024

Broad Institute of MIT & Harvard, Harvard T.H. Chan School of Public Health

Research Practicum Intern: *Biology of Trauma Initiative*

Supervisors: Karestan Koenen, Ph.D., M.A. & Andrew Ratanatharathorn, Ph.D.

- Conducted secondary analysis on the Nurses' Health Study to explore the relationships between trauma, depression, and epigenetics among nurse cohorts as well as the predictive diagnostic value of methylation risk scores.

Mental Health for All Laboratory

2024

Harvard Medical School

Research Practicum Intern: *EMPOWER Program – Lone Star Project*

Supervisors: Vikram Patel, M.B.B.S., Ph.D., John Naslund, Ph.D., & Natali Carmio, PsychD

- Translated and collaborated on developing training resources and manuscripts for the EMPOWER program's psychosocial interventions for Spanish-speaking healthcare workers.

Environmental Neuroepidemiology Group

2023 – 2024

Harvard T.H. Chan School of Public Health

Graduate Research Assistant: *Maternal Exposure to Childhood Abuse and Disparities in Offspring Neurodevelopment: Identifying Mechanisms*

Supervisor: Andrea Roberts, Ph.D., M.P.H.

- Conducted literature reviews on stress and trauma's impact on perinatal mental health, synthesized findings for reports, and developed visual aids for presentations, and contributed to drafting a manuscript to be submitted for publication.

Lee Kum Sheung Center for Health & Happiness

2023

Harvard T.H. Chan School of Public Health

Graduate Research Assistant: *HappyB Project, Application of Positive Psychology in Digital Interventions for Children, Adolescents, & Young Adults: A Systematic Review & Meta-Analysis of Controlled Trials*

Supervisor: Laura Marciano, Ph.D.

- Co-led a systematic review & meta-analysis on positive psychology digital interventions, prepared PowerPoint presentations, and conducted literature reviews for social media use and digital mental health interventions.

Schacter Memory Laboratory

2022 – 2023

Harvard University

Graduate Research Assistant: *Autobiographical Memory & Problem-Solving Study, Repetition Suppression Study, The Interplay between Emotion & Executive Function on Valence of Autobiographical Memories*

Supervisors: Daniel Schacter, Ph.D. & Roni Setton, Ph.D.

- Co-conducted MRI (sMRI, fMRI) sessions on memory and imagination across age groups, learned Python and utilized R for data wrangling, and analyzed psychometric data using statistical testing.

Gaab Laboratory

2022 – 2023

Harvard Graduate School of Education

Graduate Research Assistant: *BabyBOLD Study, Lateralization of Activation in the Superior Temporal Gyrus for Speech Processing in Sleeping Infants Is Predictive of Their Language Skills in Kindergarten: an fMRI Study*

Supervisors: Nadine Gaab, Ph.D., Ted Turesky, Ph.D., & Jin Wang, Ph.D.

- Assisted with MRI (sMRI, fMRI, MRSI) of children and caregivers, cleaning/organizing longitudinal pediatric psychometric data, preparation/review of manuscript for publication, & training research staff on MRI operations for pediatric subjects.

Center for Urban Research & Learning

2020 – 2021

Loyola University Chicago

Undergraduate Research Fellow: *Cook County Family Court Enhancement Program*

Supervisors: Christine George, Ph.D., Abha Rai, Ph.D., Amanda Ward, Ph.D., & Gina Spitz, Ph.D.

- Organized data for SPSS, supported grant applications, conducted literature reviews, managed surveys via Qualtrics, and provided bilingual translation and transcription services.

Wellbeing & Emotion Laboratory at Loyola

2019 – 2021

Loyola University Chicago

Thesis Researcher: *Anxious Arousal & Anxious Apprehension are Distinctly Related to the Temporal Course of Response Inhibition*

Supervisor: Rebecca Silton, Ph.D.

- Collaborated on an ASPIRE scholarship-funded honors thesis study on anxious symptoms, response inhibition, & neural activity resulting in an institutional conference poster and a manuscript.

Children Adapting to Stress & Adversity Laboratory

2019 – 2021

Loyola University Chicago

Provost Fellow: *Immigrant Related Stress & Child Somatization: Examining the Moderation Effect of Voluntary Engagement Coping*

Supervisor: Catherine DeCarlo Santiago, Ph.D.

- Conducted provost fellowship-funded independent project on immigrant-related stress, child somatization, & secondary control coping resulting in a national conference poster and a manuscript.

CLINICAL EXPERIENCE

Bipolar & Schizophrenia Residential Treatment Program

2022 – 2023

McLean Hospital

Community Residence Counselor, MAP Certified

- Provided direct patient care, administered medications, managed complex patient situations, led patient groups, maintaining professional relationships and supervising community activities.

Community Pharmacy Services

2018 – 2021

Walgreens

Certified Pharmacy Technician (CPhT)

- Administered COVID-19 vaccines, managed vaccination operations, resolved dosage conflicts and insurance issues, assisted pharmacists with medicinal consultations in Spanish, and prepared prescriptions.

Primary Care Services

2018 – 2021

Nandra Family Practice

Clinical Spanish Interpreter

- Ensured effective communication between healthcare providers and Limited English Proficiency

patients, interpreted medical data, assisted during examinations, and provided comprehensive education on treatments.

Personal Effectiveness Program

2019 – 2020

Misericordia Heart of Mercy

Mental Health Technician

- Assisted in delivering individualized services for individuals with disabilities, attended psychiatric clinics, and participated in meetings to review and discuss behavioral support plans and progress.

TEACHING EXPERIENCE

Harvard University

2022 – 2024

Teaching Fellow, Research Instructor*

PSY 1900: Introduction to Statistics for the Behavioral Sciences

Spring 2024

Student Evaluation: 4.89/5.0

- *Topics covered: measures of central tendency, variability, probability, distributions, correlations, regressions, hypothesis testing, t-tests, analysis of variance, & chi-square tests.*
- Conducted lab sections focusing on statistical analysis using R Studio, developed and managed laboratory materials and exercises, engaged students in interactive learning experiences, & provided individualized feedback on assignments and lab exercises.

HDE 101: Connecting Human Development Throughlines Across Research & Practice

Fall 2023

Student Evaluation: 4.96/5.0

- *Topics covered: universal human needs and capacities, impact of developmental experiences, solutions to human development challenges, integration of science and practice, case studies on language development, motivation, identity, relationships, critical analysis of research, evidence review, and development of a "theory of change".*
- Facilitate graduate student engagement during lectures, workshops, and small-group meetings, prioritizing dialogue, feedback, and reflection to connect knowledge with personal and professional experiences.

EVI 101: Evidence

Summer 2023

Student Evaluation: 4.86/5.0

- *Topics covered: major forms of evidence, including quantitative/qualitative, experimental/quasi-experimental, synthetic, & process.*
- Facilitated student discussions on readings and project development using team-based learning approaches, graded daily forum posts and quizzes, & evaluated final group presentations.

**MBB S-102: Becoming a Brain Scientist: Neuroscience and Psychology Research*

Summer 2023

Student Evaluation: 4.95/5.0

- *Topics covered: brain science research methods, neuroanatomy, neuroimaging, tractography, & developmental cognitive neuroscience.*
- Taught weekly sections, guided students in formulating hypotheses, designing experiments, collecting/analyzing data, presenting their findings, designed laboratory materials related to neuroimaging and tractography, & provided individualized feedback on assignments.

PSY 1901: Methods of Behavioral Research

Fall 2022

Student Evaluation: 4.67/5.0

- *Topics covered: research design/evaluation, statistical/research ethics, statistics exercises, data analysis, table/figure preparation, research project construction, & manuscript/presentation development.*
- Designed all laboratory materials and problem sets, teaching weekly 60-minute lab sections providing individualized written feedback on assignments.

SERVICE & EXTRACURRICULAR EXPERIENCE

Chief Operations Officer, MedCast Transportation	2022 – Present
Equity, Diversity, & Inclusion Fellow, Harvard T.H. Chan School of Public Health	2023 – 2024
Youth Mentor, Big Brother Big Sisters of Eastern Massachusetts	2022 – 2024
Mentor, Prospective PhD & RA Event in Psychology Program, Harvard University	2022
Co-Chair, Maroon & Gold Society, Loyola University Chicago	2020 – 2021
Founding President, PRISM, Loyola University Chicago	2019 – 2021
SHPEP Ambassador, AAMC, Loyola University Chicago	2019 – 2020
Instructional Facilitator, Center for Diversity & Inclusion, Loyola Univ. Chicago	2018 – 2020
Medicine Path Intern, Summer Health Professions Education Program, Univ. of Florida	2019

ACADEMIC ACHIEVEMENTS, AWARDS, & MEMBERSHIPS

Presidential Scholarship Recipient, Harvard University (\$69,300)	2023 – 2024
Member, Harvard Gender & Sexuality Caucus	2022 – 2023
Member, Queer Neuropsychological Society	2022 – 2023
Damen Award	2021
Beta Beta Beta International Honors Society in Biology	2021
Psi Chi International Honors Society in Psychology	2021
All Students Prosper If Resources Exist Fund (\$1,500)	2021
Kale Williams Human Rights Scholarship Recipient (\$1,000)	2020 – 2021
Honors in Cognitive/Behavioral Neuroscience	2020 – 2021
Center for Urban Research & Learning Fellowship (\$5,000)	2020 – 2021
Provost Research Fellowship Recipient (\$2,000)	2020 – 2021
Community & Solidarity Award	2020
Nu Rho Psi International Honors Society in Neuroscience	2020
SHPEP Certificate of Completion, University of Florida	2019
Dean's List	2017 – 2021
Presidential Scholarship Recipient, Loyola University Chicago (\$80,000)	2017 – 2021

SKILLS & CERTIFICATIONS

Certifications: Project Management Professional (PMP®), Human Rights Education Training, APhA Immunization Administration, Basic Life Support (BLS), Medication Administration Program (MAP), Pharmacy Technician Certification Board (PTCB)

Laboratory: Magnetic Resonance Imaging (sMRI, fMRI, MRSI, dMRI, rs-fMRI), Behavioral Task Administration (PsychoPy, E-Prime), Electroencephalography (EEG)

Programming: R, Python, Unix (FSL, FreeSurfer), STATA, MATLAB, SPSS, SAS

Spoken Languages: Spanish (native), German (intermediate), Arabic (elementary)

Technical: Google Suite, Microsoft Office Suite, Qualtrics, REDCap, Schedule Management, Translation/Interpretation, Zotero