

JOSH MEDRANO

Department of Human Development and Quantitative Methodology
University of Maryland, College Park
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EDUCATION

- 2024 Ph.D. in Human Development
University of Maryland, College Park
Advisor: Dr. Richard W. Prather
- 2019 M.Ed. in Educational Psychology-Applied Developmental Science
University of Virginia
Advisor: Dr. Jamie Jirout
- 2016 B.A. in Psychology
The Ohio State University

AWARDS

- 2022 Cognitive Developmental Society Diversity Award, \$750
- 2022 Graduate Student Travel Award, \$500
- 2021 Faculty-Student Research Award (with Advisor), \$10,000
- 2020 The David and Winifred "Winkle" Fulk Fellowship (department nomination)
- 2020 Graduate Student Research Funding, \$500
- 2019-2021 Dean's Fellowship, stipend and tuition
- 2019 Graduate Student Travel Award, \$500
- 2014-2016 Dean's List

PEER-REVIEWED PUBLICATIONS

Published

Medrano, J.*, Jaffe, J.,* Lombardi, D., Holzer, M.A., & Roemmele, C. (2020). *Students' scientific evaluations of water resources*. Water.
<https://doi.org/10.3390/w12072048>

*Co-first authors

Under Review

Medrano, J., & Prather, R. W. (2022). *Contributions of inhibitory control to arithmetic ability*.

Medrano, J., Crnosija, N., Prather, R. W., & Payne-Sturges, D. (2022). *Associations between real-time exposure to PM2.5 and cognitive outcomes in children*.

Prather, R. W., Miller-Cotto, D., Kendall Brooks, L., **Medrano, J.**, Johnson, C., Matthews, M., Benitez, V., Holden, L., Dancy, C., Dutra, N.B., Faison, M.O., Manly, J., Dilworth-Bart, J., Figueroa, M., Thomas., A. (2022). *What can cognitive science do for people?*

In Preparation

Prather, R. W., **Medrano, J.**, & Yang, J. (2022). *What is numerical cognition made of? Cognitive processes that underlie thinking about number.*

Crnosija, N., **Medrano, J.**, Prather, R. W., & Payne-Sturges, D. (2022). *Associations between real-time exposure to PM2.5 and cognitive outcomes in children.*

CONFERENCE PRESENTATIONS

Medrano, J., Crnosija, N., Prather, R.W., & Payne-Sturges, D. (2022). *Bridging the environment and neurodevelopment for children's health study: An overview* [Poster Presentation]. Bi-ennial Cognitive Development Society Conference 2022, Madison, WI.

Prather, R.W., & Payne-Sturges, D., **Medrano, J.**, Kendall Brooks, L., Johnson, C., & Crnosija, N. (2022). *An asset based quantitative framework to characterize cognitive development of African-American children* [Oral Presentation]. Bi-ennial Cognitive Development Society Conference 2022, Madison, WI.

Medrano, J. & Prather, R.W. (2021). *Examining how numerical and non-numerical inhibitory control contribute to arithmetic skills: A path analytical approach* [Lightning Talk]. 2021 Mathematical Cognition and Learning Society Conference.

Medrano, J., Mohan, S., Jaffe, J.B., & Lombardi, D. (2021). *Executive functions in plausibility judgments and scientific evaluations* [Paper Presentation]. 31st Annual Meeting of the Society for Text and Discourse.

Dobaria, A., Bailey, J. M., Mohan, S., Klavon, T. G., **Medrano, J. R.**, Jaffe, J. B., & Lombardi, D. (2021). *Students' scientific evaluations of astronomy concepts* [Poster Presentation]. EARLI 2021—the 19th Biennial EARLI Conference, Gothenburg, Sweden.

Crnosija, N.*, **Medrano, J.***, Prather, R.W., & Payne-Sturges, D., (2021). *Bridging the environment and neurodevelopment for children's health study: An overview* [Poster Presentation]. Eighth Annual Public Health Research, College Park, MD.

Mohan, S., **Medrano, J.**, Lombardi, D., & Jaffe, J. (2021). *Students' evaluations, plausibility perceptions, and knowledge shifts about climate change and water resources* [Pre-recorded Poster Presentation]. 2021 Annual Meeting of the American Educational Research Association, San Diego, CA.

Medrano, J. & Prather, R. W. (2021). *Consistency of individual differences across number line tasks* [Poster Presentation]. Society for Research of Child Development 2021 Virtual Biennial Meeting.

- Jaffe, J.,* **Medrano, J.**,* & Lombardi, D. (2020). *Promoting scientific plausibility and knowledge shifts through modeled evaluation activities* [Poster Presentation]. American Psychological Association Convention 2020, Washington, D.C.
- Medrano, J.**,* Jaffe, J.,* & Lombardi, D. (2020). *Does the evidence support the model? Examining the effectiveness of two instructional scaffolds in science classrooms* [Poster Presentation]. 30th Annual Meeting of the Society for Text and Discourse, Atlanta, GA.
- Medrano, J.** & Prather, R. W. (2020). *Cognitive, behavioral, and affective influences of mathematical achievement* [Conference Cancelled]. 2020 Mathematical Cognition and Learning Society Conference, Dublin, Ireland.
- Medrano, J.** & Jirout, J. (2019). *The role of relative magnitude reasoning in space-math relations* [Poster Presentation]. Bi-ennial Cognitive Development Society Conference 2019, Louisville, KY.
- Medrano, J.** & Jirout, J. (2019). *Thinking relatively: The role of magnitude in mathematical and spatial thinking* [Poster Presentation]. 10th Curry Research Conference, Charlottesville, VA.
- *Presenters contributed equally.

INVITED TALKS

- Medrano, J.***, Crnosija, N.*, Prather, R.W., & Payne-Sturges, D., (2022). *Bridging the environment and neurodevelopment for children's health study: An overview*. GradTerp Exchange, College Park, MD.
- Chen, R.*, Diallo, M.*, Hancock, M.*, Lampe, L.*, **Medrano, J.***, Salt, J.*, & Wright, J.* (2019). *Motivation analysis of a multiage classroom: Exploring Agnor-Hurt Elementary*. The Virginia Chapter of Association for Learning Environments Annual Conference, Williamsburg, VA.
- *Presenters contributed equally.

RESEARCH EXPERIENCE

2019-present

Graduate Research Assistant, Cognition and Development Lab

University of Maryland, College Park, PI: Dr. Richard Prather

Projects: Bridging the Environment and Neurodevelopment for Children's Health;
Accurate, Precise, Equitable and Useful Models of the State of the Learner;
Maryland Order of Operations (MOOS)

Duties: Manuscript writing, designing research studies and procedures, training and mentoring research assistants, running participants on behavioral and EEG tasks

2019-2020

Graduate Research Assistant, Science Learning Research Group

University of Maryland, College Park, PI: Dr. Doug Lombardi

Projects: Model-Evidence-Link (MEL) Project, IC+MET

Duties: Manuscript writing, data entry, data analysis (using R, SPSS, and warpPLS), conference presentations, lab meetings, website design and maintenance

2018-2019

Graduate Research Assistant, Research in Education and Learning Lab

University of Virginia, PI: Dr. Jamie Jirout

Projects: Spatial learning as play, Role of magnitude in math and spatial thinking

Duties: Data collection, data analysis and interpretation using SPSS, literature reviews, designing and running experiments using OpenSesame, conference presentations

2014-2016

Research Assistant, Cognitive Development Lab

The Ohio State University, PI: Dr. Vladimir Sloutsky

Project: Development of categorization during inductive learning

Duties: Running participants on eye-tracking and behavioral experiments using EyeLink and PsychoPy, programming in experiments, reviewing literature, scheduling graduate researchers and undergraduate research assistants in designated preschools and daycare centers

2015

Research Assistant Intern, Berkeley Early Learning Lab

University of California, Berkeley, PI: Dr. Fei Xu

Projects: Development of nonsymbolic probability judgments

Duties: Recruiting child participants in museum, running child participants on campus and in museum, learning programming tools like MATLAB and BlendR, weekly meetings

TEACHING EXPERIENCE

Spring 2023

Main Instructor, EDHD 306 (1 section), Research Methods in Human Development, Spring 202

Fall 2022

Teaching Assistant, EDHD 306 (2 sections), Research Methods in Human Development (Instructor: Richard Prather), Fall 2022

Fall 2021

Guest Lecturer, EDHD 320, Human Development Through The Life Span (Instructor: Rachel Ghosh), Fall 2021

PROFESSIONAL EXPERIENCE AND SERVICE

Department and University Service

Developmental Science Field Committee

Graduate Student Representative, Executive Committee, 2021-present

Human Development Graduate Student Organization

President, 2021-2022

Professional Development Committee Co-Chair, 2019-2021

Social Committee Co-Chair, 2019-2020

Graduate Student Government, University of Maryland

Department Student Representative/Assembly Member, 2020-2021

Graduate Research Appreciation Day Committee Member, 2020-2021

Panels

Moderator, Curry Research Conference, University of Virginia, March 2019

Professional Experience/Service

Ad Hoc Reviewer, Mathematical Cognition and Learning Society, 2021

Graduate Student Coordinator, Summer Undergraduate Research Program,

University of Virginia, 2019

Administrative Assistant, T.C.P. World Academy, Cincinnati, OH, 2017-2018

Tutor/Corps Member, AmeriCorps/Ohio Math Corps, Cincinnati, OH, 2016-2017

PROFESSIONAL MEMBERSHIPS

Cognitive Development Society

Math Learning and Cognition Society

Society for Research in Child Development

Society for Text and Discourse

GRADUATE COURSES TAKEN

Educational Psychology, Achievement Motivation, Quantitative Methods, Qualitative Methods, General Linear Models, Data Management, Latent Variable Modeling, Structural Equation Modeling, Causal Inference, Applied Meta-Analysis

UNDERGRADUATE MENTORSHIP

University of Maryland

Linus Ghanadan, Jasmine Williams, Divija Kambala