

JOSEPH A. COLANTONIO, Ph.D.colantoniojoseph@gmail.com

(201) 774-4457

<http://www.linkedin.com/in/josephcolantonio>**CURRENT EMPLOYMENT****Postdoctoral Fellow**, Graduate School of Education**Harvard University**, Cambridge, MA*Principal Investigator: Elizabeth Bonawitz*

August 2023

– present

EDUCATION**PhD in Psychology**, Concentration in Cognition & Development

2018 – 2023

Rutgers University, Newark, NJ USA

*Committee: Elizabeth Bonawitz (Advisor), Garvin Brod, William Graves,**Vanessa LoBue, Kimele Persaud**Thesis: Bayesian Models of Children's Belief Revision, Pupillary-Surprise Response, and Executive Function When Generating Predictions in Science Learning***M.A. in Psychology**

2018 - 2021

Rutgers University, Newark, NJ USA

Non-Matriculating Graduate Student in Psychology

2016 - 2018

Rutgers University, Newark, NJ USA

B.A. in Applied Mathematics, *Summa Cum Laude*

Minors in Physics & Psychology

2012 - 2016

Jointly awarded by Rutgers University and New Jersey Institute of Technology, Newark, NJ USA

FELLOWSHIPS & AWARDS

Dean's Dissertation Completion Fellowship

2022 - 2023

Rutgers University-Newark

Graduate Liaison & Executive Board Member

2020 - 2022

Psi Chi National Honor Society, Rutgers University-Newark

Graduate Research Fellowship Honorable Mention

2020

National Science Foundation

Minority Biomedical Research Support Program

2018 - 2020

National Institutes of Health

Graduate Student Diversity Travel Award

2019

Cognitive Development Society

Graduate Student Travel Award

2018, 2023

Society for Philosophy and Psychology

Post-Baccalaureate Research Experience Program Grant

2016 - 2018

Rutgers University-Newark

Charles Pine Award - Mathematics & Physical Sciences

2016

Rutgers University-Newark

Dean's List

2012 - 2016

Rutgers University-Newark

Undergraduate Biomedical Research Support Grant

2015 - 2016

National Institutes of Health

Dan and Lisa DiFilippo Endowed Scholarship

2015 - 2016

Rutgers University-Newark

Phi Beta Kappa Rutgers University-Newark	2015
Garden State-Louis Stokes Alliance for Minority Participation Rutgers University-Newark	2014
Arthur B. Newman Honors College Scholarship Rutgers University-Newark	2013 - 2016

PUBLICATIONS & MANUSCRIPTS

* notes equal contribution

In Review & In Prep

- Colantonio, J.**, Bass, I., Rafetseder, E., Mackey, A., & Bonawitz, E. (*in review*). Computational Approaches Reveal Developmental Shifts in Exploratory Play.
- Holstein, E., Theobald, M., **Colantonio, J.**, Bonawitz, E., & Brod, G. (*in review*). Does generating predictions promote complex, conceptual change?.
- *Park, A., ***Colantonio, J.**, Reyes, L. D., Sharp, S., Bonawitz, E., & Mackey, A. (*in review*). Question asking practice fosters curiosity in young children.

Published & Forthcoming

- Brod, G., Holstein, E., Weindorf, L., **Colantonio, J.**, Bonawitz, E., & Theobald, M. (2025, *accepted*). Do it Yourself: Discerning the Effects of Self-Directed Activity on Concept Learning. *npj Science of Learning*.
- Bass, I., **Colantonio, J.**, Aboody, R., Wong, M., Ullman, T., & Bonawitz, E. (2025). Children's sensitivity to automatic behavior relates to pedagogical reasoning and Theory of Mind. *Frontiers in Developmental Psychology*, 3, 1574528.
- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G., & Bonawitz, E. (2024). Predicting Learning: Understanding the Role of Executive Functions in Children's Belief Revision Using Bayesian Models. *Topics in Cognitive Science*.
- Theobald, M., **Colantonio, J.**, Bascandziev, I., Bonawitz, E., & Brod, G. (2024). Do reflection prompts promote children's conflict monitoring and revision of misconceptions?. *Child Development*, 95(4), e253-e269.
- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G., & Bonawitz, E. (2023). Seeing the Error in My "Bayes": A Quantified Degree of Belief Change Correlates with Children's Pupillary Surprise Responses Following Explicit Predictions. *Entropy*, 25(2), 211.
- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. (2022) Priors, Progressions, and Predictions in Science Learning: Theory-Based Bayesian Models of Children's Revising Beliefs of Water Displacement. *IEEE Transactions on Cognitive and Developmental Systems*.
- ***Colantonio, J.**, *Durkin, K., Caglar, L. R., Shafto, P., & Bonawitz, E. (2021). The intentional selection assumption. *Frontiers in psychology*, 12, 569275.
- Kominsky, J. F., Begus, K., Bass, I., **Colantonio, J.**, Leonard, J. A., Mackey, A. P., & Bonawitz, E. (2021). Organizing the methodological toolbox: Lessons learned from implementing developmental methods online. *Frontiers in Psychology*, 12, 702710.

Persaud, K., Bass, I., **Colantonio, J.**, Macias, C., & Bonawitz, E. (2020). Opportunities and challenges integrating resource-rational analysis with developmental perspectives. *Behavioral and Brain Sciences*, 43.

Refereed Conference Proceedings

- ***Colantonio, J.**, *Park, A., Reyes, L. D., Sharp, S., Koepp, A. E., Bonawitz, E., & Mackey, A. (2025). Question asking practice fosters curiosity in young children. [Paper, Talk]. American Educational Research Association (AERA), Denver, Colorado, USA.
- Colantonio, J.**, & Bonawitz, E. (2018) Awesome play: Awe increases preschoolers exploration and discovery. In Kalish, C., Rau, M., Zhu, J., & Rogers, T.T. (Eds.) *Proceedings of the 40th Annual Conference of the Cognitive Science Society*. Madison, WI: Cognitive Science Society.

PRESENTATIONS

Invited Presentations & Lectures

- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. “*Predictive Potentials & Explaining Events: Neural Correlates and Learning Mechanisms of Prediction and Explanation Prompts in Early Childhood Science Learning*,” Invited Presentation for Laboratory for Developmental Studies Seminar. Psychology Department, Harvard University, Cambridge, MA. (March 4th, 2024)
- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. “*The Power of Prediction: Understanding Children’s Mental Models, Surprise, and Executive Function for Revision of Water Displacement Beliefs*,” Invited Presentation for Laboratory for Developmental Studies Seminar. Psychology Department, Harvard University, Cambridge, MA. (March 6th, 2023)
- Colantonio, J.** Invited Guest Presentation for graduate course “*Behavioral Methods in Developmental Learning Research*”. Harvard Graduate School of Education, Harvard University, Cambridge, MA. (April 6th, 2023)
- Colantonio, J.** Invited Guest Presentation for graduate course “*Behavioral Methods in Developmental Learning Research*”. Harvard Graduate School of Education, Harvard University, Cambridge, MA. (March 9th, 2023)

Conference Talks

- Colantonio, J.**, Park, A., Delgado Reyes, L., Sharp, S., Koepp, A. E., Bonawitz, E. and Mackey, A. (2025) “*Question asking practice fosters curiosity in young children.*,” Session paper presented at the American Educational Research Association (AERA), Denver, Colorado, USA)
- Colantonio, J.**, Park, A., Delgado Reyes, L., Sharp, S., Bonawitz, E. and Mackey, A. (2022) “*Science Training That Encourages Question Asking Increases Young Children’s Valuation of New Information*,” Symposium paper presented at the Association for Psychological Science, Illinois, USA.)
- Colantonio, J.**, Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. (2022) “*Theory-Based Bayesian Models of Elementary School Children’s Belief Revision Pupillary Surprise during Science Learning*,” Symposium paper presented at the Cognitive Development Society, Wisconsin, USA.)

- Colantonio, J.,** Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. (2021) “*Theory-Based Bayesian Models of Elementary School Children’s Pupillary Surprise*,” Symposium paper presented at Society for Research in Child Development, Wisconsin, USA. Conference held virtually due to COVID-19)
- Colantonio, J.,** Sharp, S., Mackey, A., and Bonawitz, E. (2021) “*Promoting Question Asking to Foster Curiosity: An Intervention Study*,” Symposium paper presented at Society for Research in Child Development, Wisconsin, USA. Conference held virtually due to COVID-19)
- Colantonio, J.,** and Bonawitz, E. (2019) “*Affecting play: Awe increases preschooler’s exploration and discovery*,” Lightning Talk presented at the Curiosity, Explanation, Exploration Workshop, Princeton, New Jersey, USA.
- Colantonio, J.,** Walden, Z., Dehrone, T., and Bonawitz, E. (2019) “*When Innovators Succeed: Empowerment Strategies Increase Preschoolers’ Exploration*,” Speed Talk presented at the Play and Learning Conference, Newark, USA.
- Colantonio, J.,** and Bonawitz, E. (2019) “*Affecting play: Awe increases preschooler’s exploration and discovery*,” Talk presented at the Society for Research in Child Development, Baltimore, Maryland, USA.
- Colantonio, J.,** and Bonawitz, E. (2018) “*Affecting play: Awe increases preschooler’s exploration and discovery*,” Talk presented at the Society for Philosophy and Psychology, Ann Arbor, Michigan, USA.
- K. Blacker, **Colantonio, J.,** LoBue, V., and Bonawitz, E. (2017) “*Reasoning about the process of illness transmission improves preschoolers’ later avoidance of sick individuals*,” Talk presented at the Society for Research in Child Development., Austin, Texas, USA.

Posters

- Colantonio, J.,** Theobald, M., Bascandziev, I., Brod, G. and Bonawitz, E. (2023) “*The Power of Prediction: Understanding Children’s Mental Models, Surprise, and Executive Function for Revision of Water Displacement Beliefs*,” Poster session presented at the 49th Annual Meeting of the Society for Philosophy and Psychology, Pittsburgh, Pennsylvania, USA.
- Colantonio, J.,** Bascandziev, I., Theobald, M., Brod, G. and Bonawitz, E. (2020) “*Modeling pupillary surprise response in elementary school children with theory-based Bayesian models*,” Poster session presented at the 42nd Annual Conference of the Cognitive Science Society, Toronto, Canada. (Conference held virtually due to COVID-19)
- Colantonio, J.,** Walden, Z., Dehrone, T., and Bonawitz, E. (2019) “*When Innovators Succeed: Empowerment Strategies Increase Preschoolers’ Exploration*,” Poster session presented at the 10th Biennial Meeting of the Cognitive Development Society, Kentucky, USA.
- Colantonio, J.,** Walden, Z., Dehrone, T., and Bonawitz, E. (2018) “*When Innovators Succeed: Empowerment Strategies Increase Preschoolers’ Exploration*,” Poster session presented at the Guided Playful Workshop of the 41st Annual Conference of the Cognitive Science Society, Montreal, Canada.
- Colantonio, J.,** and Bonawitz, E. (2018) “*Awesome play: Awe increases preschooler’s exploration and discovery*,” in Proceedings of the 40th Annual Conference of the Cognitive Science Society. Madison, Wisconsin, USA.

Durkin, K., **Colantonio, J.**, Caglar, L., Bonawitz, E., and Shafto, P. (2017) “*Why are these my options? Roles of social inferences in choice behavior*,” Poster session presented at the 10th Biennial Meeting of the Cognitive Development Society, Portland, Oregon, USA.

Durkin, K., **Colantonio, J.**, Caglar, L., Bonawitz, E., and Shafto, P. (2017) “*Why are these my options? Roles of social inferences in choice behavior*,” Poster session presented at the 43rd Annual Meeting of the Society for Philosophy and Psychology, Baltimore, Maryland, USA.

TEACHING EXPERIENCE

Teaching Fellow

Workshop: *Computational Cognitive Models of Learning and Development* May 2023
Organizers: Elizabeth Bonawitz, Kimele Persaud, Tomer Ullman
Harvard University, Cambridge, MA

Teaching Fellow

M.A. Course: *Curiosity and Creativity in Learning and Development* Fall 2021
Graduate School of Education, Harvard University, Cambridge, MA

Graduate Teaching Assistant

B.A. Courses: *Statistical Methods for the Cognitive and Behavioral Sciences*, *Research Methods for the Cognitive and Behavioral Sciences* 2020 – 2022
Psychology Department, Rutgers-Newark

Course Coadjutor

B.A. Courses: *Developmental Psychology*, *Psychology of Language* 2020 – 2021
Psychology Department, Rutgers-Newark

Peer-led Instructional Team Leader

B.A. Courses: *Calculus I*, *Calculus II*, *Linear Algebra*, *Computers & Programming I*, *Programming II* 2015 – 2016
Garden State-Louis Stokes Alliance for Minority Participation, Rutgers-Newark

Undergraduate Teaching Apprentice

Precalculus 2014
Mathematics Department, Rutgers-Newark

MENTORSHIP

M indicates through Minerva University Work Study

S indicates stipend/scholarship awarded

Names of current students in bold

Harvard University

Master's Students (Current & Alumni)

Chihuiye (Hedy) Chen	Jin (Jean) Li Lim	Yuhan Shi
Anna Taylor	Xi (Nadia) Wang	Isminur Yilar
Jenna Weinhofer	Yihan Shi	Iris Jeffries
Evelyn Li	Xiao (Zoe) Feng	Yiran Du

Full-Time Undergraduate Interns

Nina Baroin ^S	Jeeya Patel ^S	Divya Sundar ^S
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Undergraduate Honors Thesis Students

Kate Fourie^M

Undergraduate Research Assistants

Michael Sheehan ^S	Syeda Abeera Amir ^M
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Damla Yesil

Oliwia Zawadzka^M**Rutgers University-Newark****Undergraduate Honors Thesis Students**Umradha Shievkumar^S**Undergraduate Research Assistants**

Akshaya Sridharan

Jazmin Carchi

Ludeline Jean

Sarah Hamoud

Bassem Rezkalla

Jillian Brandmaier

Naa Adei Kotey

Srita Chintapalli

Diksha Patel

Leeza Camilo

Parthenia Bogdady

Yossy Montecinos

NEWS & SOCIAL MEDIA**Child Trends News Service - Positive Parenting News Network***The Power of Awe Sparks Learning*

2020

Child & Family Blog*A New Idea For Early Learning In Pre-Schoolers: Inspire Them With Awe*

2019

SKILLS & TOOLS**Programming Languages**

Python, R, SQL, CSS, HTML, Javascript

Development Tools

Flask, Heroku Web Services, Jupyter/INotebooks

Computational Modeling

Bayesian Learning Models, Classification Tools, Markov Decision Models

Research Design & Analysis

OSF, SPSS, Qualtrics, Adobe Photoshop