

# DANA MILLER - COTTO, Ph.D.

## Curriculum Vitae

University of California, Berkeley  
Berkeley School of Education  
2121 Berkeley Way West  
Fourth Floor, Office 4210  
Berkeley, CA 94720  
dmillerc@berkeley.edu  
[Personal Website](#) | [Google Scholar](#)

## ACADEMIC POSITIONS

---

- 2024 - **Assistant Professor**, School of Education, University of California, Berkeley
- 2022 - 2024 **Assistant Professor**, Department of Psychological Sciences, Kent State University

## EDUCATION & TRAINING

---

- 2020 - 2022 **Postdoctoral Researcher**, College of Education and Human Development  
University of Delaware, Newark, DE
- 2017 - 2019 **Postdoctoral Researcher**, Learning Research and Development Center (LRDC)  
University of Pittsburgh, Pittsburgh, PA
- 2017 **Ph.D., Educational Psychology**  
Temple University, Philadelphia, PA
- 2014 **M.Ed., Educational Psychology**  
Temple University, Philadelphia, PA
- 2011 **B.A., Psychology (with honors), cum laude**  
Lehman College CUNY, Bronx, NY

## FUNDING

---

### EXTERNAL FUNDING

- Submitted Co-I (PI: T. Smith) | CAMEL-CN: Harmonized Multi-Study Dataset for Math Learning | NSF | \$1.5M total (\$35,280 Berkeley Subaward)
- 2025-2026 PI | External Aids & Working Memory in Arithmetic Learning | Caplan Foundation | \$50,000
- 2024-2026 PI (MPI: A. Ribner) | Assessor Identity & Context in EF Performance | Brady Education Foundation | \$105,742
- 2023-2024 PI | Assessor Identity & Children's Executive Function | SRCD Black Caucus Early Career Grant | \$1,500
- 2020-2023 Co-I (PIs: D. Purpura, C. Hornburg) | My Math Stories | AERDF | \$2,000,000

2019–2020 Fellow | Inclusive Mathematics Environments Early Career Fellowship | Gates Foundation | \$10,000

2010 PI | Memory Illusions | APS / Psi Chi | \$5,000

#### INTERNAL FUNDING

Submitted PI | Teacher Preparation and Workforce Alignment in California's TK | Institute for Research on Labor and Employment (UC Berkeley) | \$30,000 requested

Submitted PI | Experiences with California's Universal Transitional Kindergarten | Research Opportunity Fund (UC Berkeley) | \$100,000 requested

Submitted PI | Do Children's Thinking Skills Differ by Testing Context? | Hellman Fellows Fund (UC Berkeley) | \$55,149 requested

2025–2026 PI | Early Math Education in California's Transitional Kindergarten | Barbara White Bequest Fund (UC Berkeley) | \$7,908

2025 Recipient | Course Improvement Grant | Center for Teaching & Learning, UC Berkeley | \$2,000

2024–2025 PI | Working Memory in Math Learning: Offloading or Interference? | Kent State Division of Research | Course release (declined)

2023–2024 PI | Assessor Racial Identity & Black Children's Executive Function | APC Under-Researched Population Award (Kent State) | \$2,500

2018–2019 Co-I (PI: A. Schikorra) | Active vs. Traditional Classrooms | Provost's Personalized Education Grant, Univ. of Pittsburgh | \$26,306

#### MENTORING SUPPORT

2025–2026 Faculty Mentor | Latinx Research Center Undergraduate Research Fellowship (Mentee: A. Villa) | UC Berkeley | \$9,600

#### KEY PERSONNEL

2023–2025 Steering Committee (PIs: P. Ram, T. Rutherford, J. Hunt) | NSF Incubator: Math Interventions at Scale | NSF | \$499,898

### **AWARDS, HONORS, FELLOWSHIPS**

---

2026 Sigma Xi, The Scientific Research Honor Society

2024 Rising Star, Association for Psychological Science (APS)

2024 Invited Speaker, Early Career Symposium, Cognitive Development Society (CDS)

2023 - Founding Member, [Global Executive Function Initiative](#)

2023 - 2025 Founding Member, [Communicating and Expanding Research on Adversity \(CERA\) Network](#)

2023 Publication Productivity Award, Applied Psychology Center, Kent State University

2023	Early Career Fellowship, Applied Psychology Center, Kent State University
2023	Certificate for Highly Cited Research, <i>Applied Cognitive Psychology</i> , for the article "Sketching and verbal self-explanation: Do they help middle school children solve science problems?", awarded December 2023.
2022	Certificate for Top Downloaded Paper, <i>Infant and Child Development</i> , for the article "Changing the conversation: A culturally responsive perspective on executive functions, minoritized children, and their families," awarded December 2023.
2020	Institute on Statistical Analysis: Development of Mathematics Competencies in Early Childhood via American Education Research Association/National Science Foundation (NSF), Laguna Beach, CA
2019 - 2020	Inclusive Mathematics Environments Early Career Fellowship, Mindset Scholars Network
2018	Meta-Analysis Training Institute, via Institute for Education Sciences (IES), Chicago, IL
2017	Diversity Travel Award, Cognitive Development Society (CDS)
2014 - 15	The Future Faculty Fellowship, Temple University
2011	Kay Wilson Officer Team Leadership Award, CUNY Lehman College chapter, Psi Chi
2011	The Lehman College Foundation Scholarship
2010 - 11	Recipient, Louis Stokes Alliance for Minority Participation (LS-AMP) in STEM via the National Science Foundation (NSF)
2008	Psi Chi International Honor Society in Psychology

## REFEREED JOURNAL ARTICLES

underlined indicates publication with trainee

Δ indicates a paper with me as senior author

- 
1. Merkley, R., **Miller-Cotto, D.**, Miller-Singley, A., Brunner, M., Buschkuehl, M., Jaeggi, S., Mills, C., Francisco, A., & Uncapher, M. (in press). Putting research into context: A paradigm shift in conceptualizing executive functions in classroom learning. *Trends in Neuroscience and Education*.
  2. Medrano, J., & **Miller-Cotto, D.** (2026). Assessing culturally relevant variables in predicting science outcomes in Asian American kindergarteners. *Behavioral Sciences*.
  3. Fang, M., & **Miller-Cotto, D.** (2026). Interplay between social-emotional competence, executive function, and early mathematical skills: The impact of math anxiety in preschoolers. *Education Sciences*.
  4. Ribner, A.D., **Miller-Cotto, D.**, Merkley, R., Rivera, L., & Rosenberg-Lee, M. (2026). Verbal working memory predicts twice the growth rate in math skills for children from low-income homes relative to their higher-income peers. *Journal of Applied Developmental Psychology*, 104, 101946.
  5. ΔMedrano, J., Devlin, B., Shingledecker, M., Thompson, C.A., & **Miller-Cotto, D.** (2026). Executive function and spatial/relational reasoning relate to individual differences in fraction understanding. [Pre-Registration]. *Journal of Experimental Child Psychology*, 267, 106493.
  6. **Miller-Cotto, D.**, & Byrnes, J.P. (2026). Identifying individual cognitive and motivational profiles predictive of academic growth: A combined machine learning and person-centered approach. *Learning and Individual Differences*, 125, 102835. doi: 10.1016/j.lindif.2025.102835

7. **Miller-Cotto, D.**, Ribner, A., Ahmed, S., Ellis, A., & Czerwiński, S. (2026). Examining ethnic/racial measurement invariance in fourth-grade executive function: A registered report of data from the Early Childhood Longitudinal Study - Kindergarten. *Journal of Educational Psychology*, *118*, 1, 1-11. doi: 10.1037/edu0000985
8. **Medrano, J.**, & **Miller-Cotto, D.** (2026). Examining subgroup differences in school readiness and math achievement in Asian American children through the Opportunity-Propensity Model. *Early Education and Development*, *37*, 1, 200-219. doi: 10.1080/10409289.2025.2548596.
9. Scalise, N.R, Gladstone, J.R., & **Miller-Cotto, D.** (2025). Maximizing math achievement: Strategies from the science of learning. *Journal of Experimental Child Psychology*, *257*, 106281. doi: 10.1016/j.jecp.2025.106281
10. **Miller-Cotto, D.**, & **Medrano, J.** (2025). Does working memory moderate the effect of fading on math performance? *British Journal of Educational Psychology*, *96*, 1, 108-126. doi: 10.1111/bjep.12781
11. **Miller-Cotto, D.**, & Gordon, R. (2025). Revisiting working memory fifty years after Baddeley and Hitch: A review of field-specific conceptualizations, use and misuse, and paths forward for studying children. [[Pre-Print](#)] *Quarterly Journal of Experimental Psychology*, *78*, 2, 425 - 435. doi: 10.1177/17470218241301701
12. **Medrano, J.**, & **Miller-Cotto, D.** (2025). Understanding working memory as a facilitator of math problem solving: Offloading as a potential strategy. *British Journal of Educational Psychology*. doi: 10.1111/bjep.12767  
*\*Featured in EduTopia's "The 10 Most Significant Education Studies of 2025" [[here](#)].*
13. Bauer, C., **Miller-Cotto, D.**, Silverman, D.M., & Frankenhuis, W. (2025). Recognizing people's agency amidst disadvantage: How to study inequality using a holistic approach that is accurate and non-stigmatizing. *Social and Personality Psychology Compass*, *19*. doi: 10.1111/spc3.70035
14. **Gesuelli, K.**, **Miller-Cotto, D.**, & Barbieri, C.A. (2025). Variability in math achievement growth for students with math learning difficulties and the role of school supports. *Journal of Educational Psychology*. doi: 10.1037/edu0000928
15. Del Toro, J., Legette, K., Christophe, N.K., Pasco, M., **Miller-Cotto, D.**, & Wang, M.T. (2024). When ethnic-racial discrimination from math teachers spills over and predicts the math adjustment of nondiscriminated adolescents: The mediating role of math classroom climate perceptions. *Developmental Psychology*. doi:10.1037/dev0001833
16. Devlin, B. L., Zhang, H., Beliakoff, A., **Miller-Cotto, D.**, Klein, A. & Jordan, N.C. (2024). Profiles of preschoolers' numerical abilities across quantity representations. *Canadian Journal of Experimental Psychology*. doi:10.1037/cep0000339
17. **Clerjuste, S.**, Guang, C., **Miller-Cotto, D.**, & McNeil, N.M. (2024). Unpacking the challenges and predictors of students' use of the distributive property. *Journal of Experimental Child Psychology*, *244*, 105. doi: 10.1016/j.jecp.2024.105922

18. **Miller-Cotto, D.**, Ribner, A.D., & Smith, L.V. (2024). Understanding working memory and mathematics development for ethnically/racially minoritized children through an Integrative Theory lens. *Behavioral Sciences*, *14*, 390. doi: 10.3390/bs14050390
19. DeJoseph, M., Ellwood-Lowe, M., **Miller-Cotto, D.**, Silverman, D., Shannon, K. A., Reyes, G., Rakesh, D., & Frankenhuis, W.E. (2024). The promise and pitfalls of a strengths-based approach to child poverty and neurocognitive development: Implications for policy. *Developmental Cognitive Neuroscience*, *66*, 101. doi: 10.1016/j.dcn.2024.101375
20. Viegut, A. A., Resnick, I., **Miller-Cotto, D.**, Newcombe, N.S., & Jordan, N.C. (2023). Tracking informal fraction knowledge and its correlates across first grade. *Developmental Psychology*, *59*, 1739 – 1756. doi: 10.1037/dev0001581
21. Byrnes, J.P., & **Miller-Cotto, D.** (2023). A historical, methodological, and philosophical analysis of the working memory construct. *American Journal of Psychology*, *136*, 193-208. doi: 10.5406/19398298.136.2.08
22. Ribner, A.D., Ahmed, S., **Miller-Cotto, D.**, & Ellis, A.E. (2023). The role of executive function in shaping the longitudinal stability of math achievement during early elementary grades. *Early Childhood Research Quarterly*, *64*, 84-93. doi: 10.1016/j.ecresq.2023.02.004
23. Barbieri, C.A., **Miller-Cotto, D.**, Chawla, K., & Clerjuste, S. (2023). A meta-analysis of the worked example effect on mathematics performance. *Educational Psychology Review*, *35*, 11. doi: 10.1007/s10648-023-09745-1
24. Zhang, H., **Miller-Cotto, D.**, & Jordan, N.C. (2023). Estimating the co-development of executive functions and math achievement using cross-lagged panel model with fixed effects. *Contemporary Educational Psychology*, *72*, 102-126. doi: 10.1016/j.cedpsych.2022.102126
25. Hall, G., Putzeys, S., & **Miller-Cotto, D.** (2022). Early experiences and school readiness: A within and between exploration of the Opportunity Propensity Model. *Cognitive Development*, *65*, 101 – 226. doi: 10.1016/j.cogdev.2022.101226
26. Prather, R.W., Benitez, V., Kendall Brooks, L.K., Dancy, C. L., Dilworth, D., Faison, M.O., Figueroa, M., Holden, L.T.R., Johnson, C., Medrano, J., **Miller-Cotto, D.**, Matthews, P.G., Manly, J.J., & Thomas, A. (2022). What can cognitive science do for people? *Cognitive Science*, *46*. doi: 10.1111/cogs.13167
27. **Miller-Cotto, D.**, Booth, J. L., & Newcombe, N. S. (2022). Sketching and verbal self-explanation: Do they help middle school children solve science problems? *Applied Cognitive Psychology*, *40*, 919-935. doi: 10.1002/acp.3980  
*\*Recognized by Wiley for being a Top Cited Article in 2023.*
28. **Miller-Cotto, D.**, Smith, L.V., Wang, A.H., & Ribner, A.D. (2022). Changing the conversation: A culturally responsive perspective on executive functions, minoritized children, and their families. *Infant and Child Development*. doi: 10.1002/icd.2286  
*\*Recognized by Wiley for being a Top Downloaded Article in 2022.*
29. **Miller-Cotto, D.**, & Schunn, C. (2022). Mind the gap: How a large-scale course re-design in economics reduced performance gaps. *Journal of Experimental Education*, *90*, 783-796.

doi: 10.1080/00220973.2020.1805717

30. Barbieri, C.A., & **Miller-Cotto, D.** (2021). The importance of adolescents' sense of belonging to mathematics for algebra learning. *Learning and Individual Differences, 87*, 101993. doi: 10.1016/j.lindif.2021.101993
31. **Miller-Cotto, D.**, & Auxter, A. E. (2021). Testing the ecological validity of faded worked examples in algebra. *Educational Psychology, 41*, 191-205. doi: 10.1080/01443410.2019.1646411
32. **Miller-Cotto, D.**, & Byrnes, J. P. (2020). What's the best way to characterize the relationship between working memory and achievement?: An initial examination of competing theories. *Journal of Educational Psychology, 112*, 1074 -1084. doi: 10.1037/edu0000395
33. Wang, M.T., Smith, L.V., **Miller-Cotto, D.**, & Huguley, J.P. (2020). Parental ethnic-racial socialization practices and children of color's academic outcomes: A meta-analytic review. *Child Development*. doi: 10.1111/cdev.13254
34. Byrnes, J.P., Wang, A. H., & **Miller-Cotto, D.** (2019). Children as mediators of their own cognitive development in kindergarten. *Cognitive Development, 50*, 80-97. doi: 10.1016/j.cogdev.2019.03.003
35. Barbieri, C. A., **Miller-Cotto, D.**, & Booth, J. L. (2019). Lessening the load of misconceptions: Design-based principles for algebra learning. *Journal of the Learning Sciences, 28*, 1-37. doi: 10.1080/10508406.2019.1573428
36. Byrnes, J. P., **Miller-Cotto, D.**, & Wang, A. H. (2018). Children as mediators of their own development: The case of learning science in kindergarten and first grade. *Journal of Cognition and Development, 19*, 248 - 277. doi: 10.1080/15248372.2018.1470975
37. **Miller-Cotto, D.**, & Byrnes, J. P. (2016). Ethnic/racial identity and academic achievement: A meta-analytic review. *Developmental Review, 41*, 51-70. doi: 10.1016/j.dr.2016.06.003
38. Byrnes, J. P., & **Miller-Cotto, D.** (2016). The growth of mathematics and reading skills in segregated and diverse schools: An opportunity-propensity analysis of a national database. *Contemporary Educational Psychology, 46*, 34-51. doi: 10.1016/j.cedpsych.2016.04.002

## BOOK CHAPTERS

underlined indicates publication with trainee

Δ indicates a paper with myself as senior author

- 
39. **Miller-Cotto, D.**, & McPhee, J. (invited; in prep). Supporting working memory in early elementary mathematics: Applying working memory principles to math fact fluency instruction.
  40. Guo, Q., Silva Chelles, E., **Miller-Cotto, D.**, & Leyva, D. (forthcoming). The language of food: Family food routines and Latino children's reading and motivation.
  41. Jordan, N.C., **Miller-Cotto, D.**, & Gesuelli, K. (2025). Mathematics learning difficulties. In Okolo, Patton Terry & Cutting (Eds.), *Handbook of Learning Disabilities, Third Edition*. (pp. 53-74). New York, NY: Guilford Press.

42. Booth, J. L., McGinn, K. M., Barbieri, C., Begolli, K. N., Chang, B., **Miller-Cotto, D.**, Young, L. K., & Davenport, J. L. (2017). Evidence for cognitive science principles that impact learning in mathematics. In D. C. Geary, D. B. Berch, R. J. Ochsendorf & K. M. Koepke (Eds.), *Acquisition of complex arithmetic skills and higher-order mathematics concepts Vol 3* (pp. 297–325). Oxford, UK: Elsevier.

## MANUSCRIPTS UNDER REVIEW/IN REVISION

underlined indicates trainee during initiation of project

Δ indicates a paper with myself as senior author

---

**Miller-Cotto, D.**, Chawla, K., Botello, M., & Barbieri, C.A. (revised, resubmitted). Executive function and ability beliefs: Extending social cognitive with meta-analytic support. Revision submitted to *Educational Psychologist*.

**Miller-Cotto, D.** & Lewis Jr., N. (under review). Am I a “Math Person”? Considering context in shaping mathematics identity among Black students. Submitted for peer review.

**Miller-Cotto, D.**, Chan, J.Y.-C, & Medrano, J. (in revision). Identifying challenging aspects in mathematics: An analysis of students' performance across topics and knowledge type. [[Pre-Registration](#)]. Revision invited to *Journal of Numerical Cognition*.

**Miller-Cotto, D.**, Devlin, B., Gesuelli, K.A., & Jordan, N.C. (in revision). Does fluency mediate the relationship between working memory and math achievement? Revision invited from *Applied Cognitive Psychology*.

**Miller-Cotto, D.**, Gesuelli, K., & Hall, G. (under review). Working memory as a developmental constraint or catalyst? Longitudinal tests of competing theories for students with mathematics learning difficulties.

Del Toro, J., **Miller-Cotto, D.**, Phillips, K., Huang, Q., Hashim, M., & Burfoot, K. (revised, resubmitted). Growing up fast, thinking faster: Structural racism, pubertal timing, and executive function in African American adolescents. Revision submitted to a special issue of *Developmental Psychology*.

Fang, M., & **Miller-Cotto, D.** (under review). Nonverbal behaviors of math anxiety in preschoolers: The moderating role of social-emotional competence and its impact on mathematical performance. Submitted for peer review.

Fang, M., & **Miller-Cotto, D.** (revised, resubmitted). Who thrives academically? Exploring integrated executive function–social and emotional competence profiles and their association with academic competence in childhood. Revision submitted to *Early Childhood Research Quarterly*.

Fang, M., & **Miller-Cotto, D.** (in revision). Developmental transitions in integrated executive function and social–emotional competence profiles. Revision invited to *Journal of Educational Psychology*.

Fang, M., & **Miller-Cotto, D.** (under review). Executive function as a predictor of transitions in preschoolers social-emotional competence profiles: A two-wave latent transition analysis. Submitted for peer review.

Morgan, M., Anekwe, A., **Miller-Cotto, D.**, & Mims, L. (under review). "The light from behind their eyes": Exploring Black Mothers' Articulations of Contemporary Educational (Mis)matches within their Children's Learning Environments. Submitted for peer review.

Guo, Q., Gesuelli, K.A., & **Miller-Cotto, D.** (under review). Parenting Profiles in Kindergarten and Children's Social-Emotional Development Across Elementary School. Submitted for peer review.

## MANUSCRIPTS IN PREPARATION

underlined indicates publication with trainee

Δ indicates a paper with myself as senior author

---

**Miller-Cotto, D.**, Smith, L.V., Ribner, A.D., Ahmed, S.F., Ellis, A.E. (in prep). When executive function assessments shape opportunity: Using developmental science to inform policy and practice.

ΔGuba, T., Silla, E.M., Morra, G., Barbieri, C.A. & **Miller-Cotto, D.** (revising for resubmission). Do signaling cues and metacognitive prompts support fraction learning?

Silla, E.M., Botello, M., **Miller-Cotto, D.**, Barbieri, C.A. (in prep). The productive price of learning: How perceived cost, self-beliefs, and motivation relate to mathematical engagement and understanding.

## INVITED TALKS

- 
- 2026 RISE Ideas Speaker Series, University of Wisconsin, Madison.
  - 2026 Cognitive Brown Bag, University of Illinois- Urbana Champaign.
  - 2026 Early Childhood Education Program (ECEP) Speaker Series. University of California, Berkeley.
  - 2025 Institute for Human Development, University of California, Berkeley.
  - 2025 Developmental Psychology Colloquium Series. University of California, Santa Cruz.
  - 2025 Institute for Personality and Social Research. University of California, Berkeley.
  - 2025 Institute for Social and Health Equity. State University at Albany.
  - 2024 Cognitive Development Society (CDS) Early Career Symposium, Pasadena, CA.
  - 2024 Center for Early Learning Colloquium series. Purdue University.
  - 2024 Visiting Scholar Speaker Series. Graduate School of Education. University of Pennsylvania.
  - 2023 Equity, Diversity, and Inclusion Speaker Series. Vanderbilt University – Peabody College.
  - 2023 Midwestern Psychological Association (MPA) Annual Meeting, Chicago, IL.
  - 2023 Cognitive Science Speaker Series. Northwestern University.
  - 2023 Forum and the Science of Learning and Education (SOLE) Center. Kent State University.

- 2023 Developmental Science Brown Bag Series. University of California – Davis.
- 2022 Applied Psychology and Human Development Colloquium. University of Toronto.
- 2022 Centre for Educational Neuroscience. University College London.
- 2022 Developmental Psychology Colloquium. University of California – Merced.
- 2022 Crane Center for Early Childhood Research and Policy. The Ohio State University.
- 2022 Developmental Science Colloquium. University of Massachusetts at Amherst.
- 2022 Developmental Science Colloquium. University of Illinois—Chicago.
- 2021 Educational Psychology Colloquium, University of Maryland.
- 2020 Cognitive Science Speaker Series, Occidental College.
- 2020 Cognitive Science Brown Bag series. Kent State University.
- 2020 Developmental Science Colloquium series. University of Maryland.
- 2019 Scholars of Color Speaker Series, Rossier School of Education, USC.
- 2019 Carl A. Grant Scholars Lecture, Wisconsin Center for Education Research, University of Wisconsin – Madison.
- 2018 Educational Psychology Colloquium, University of Maryland.

## **SELECTED PAPER PRESENTATIONS**

underlined indicates publication with trainee

---

Maiden name: Miller

**Miller-Cotto, D.** (Co-organizer & presenter), Sabine Doebel, Chika Ezeugwu, & Jelena Obradović. (2026, April). Measuring executive function in children: Concepts, tools, and skills for researchers [Preconference workshop]. Cognitive Development Society Biennial Meeting, Montreal, ON.

**Miller-Cotto, D.**, Campbell, K., & Vanegas-Grimaud, L. (April 2026). *Teachers as Researchers: Developing a Teaching Inquiry Group to Professionalize Early Childhood Educators Knowledge and Practices*. Paper to be presented at the International Association of Laboratory Schools 2026 Annual meeting, Jyväskylä, Finland.

Medrano, J., & **Miller-Cotto, D.** (April 2026). *Executive Function, Math, and Reaction Time: Implications for Task Design and Intervention in Early Childhood*. Paper to be presented at the American Educational Research Association (AERA) 2026 Annual Meeting, Los Angeles, CA.

**Miller-Cotto, D.**, & Medrano, J. (June 2025). *How does working memory “work” in math problem solving?: An aptitude by treatment interaction investigation*. In Dumontheil, I. (Chair) Neuroimaging and behavioural studies of the role of executive functions in mathematical skills over the course of

development [Symposium]. The 2025 Mathematical Cognition and Learning Society (MCLS) Conference, Hong Kong S.A.R., China.

Portilla, X.A., **Miller-Cotto, D.**, & Hanno, E. (April 2025). *Understanding, fostering, and assessing executive functions in preschool: Voices from the field*. Paper presented at the Society for Research in Child Development (SRCD) 2025 Biennial Meeting, Minneapolis, MN, USA.

**Miller-Cotto, D.**, Lewis Jr., N., Barbieri, C.A., Booth, J.L. (April 2025). *Developing an ecological model for studying math identity for Black students*. Paper presented to the American Educational Research Association (AERA) 2025 Annual Meeting, Denver, CO.

**Miller-Cotto, D.**, Chan, J.Y-C., Medrano, J. (April 2025). *Cracking the code: Identifying challenging math topics and knowledge types through students' problem-solving performance*. Paper presented to the American Educational Research Association (AERA) 2025 Annual Meeting, Denver, CO.

**Miller-Cotto, D.**, & Medrano, J. (June 2024). *Testing the role of executive functions in fraction comparisons*. Paper presented at the Mathematical Cognition and Learning Society (MCLS), Washington, D.C.

**Miller-Cotto, D.**, & Ribner, A.D. (November 2023). *Equity Considerations in Executive Function Assessment*. Association for Public Policy and Management Annual Meeting. Atlanta, GA.

**Miller-Cotto, D.**, Ribner, A.D., Ahmed, S., & Ellis, A. E. (August 2023). *Studying executive function in young children: The case of the dimensional change card sort*. Paper presentation for American Psychological Association 2023 Convention. Washington D.C.

**Miller-Cotto, D.**, Barbieri, C.A., Clerjuste, S., Chawla, K., Le, P.H., DeLuca, L., & Landy, I. (April 2023). *A Meta-Analysis exploring the effect of worked examples on mathematics performance*. Paper presentation for the American Educational Research Association (AERA) 2023 Annual Meeting. Chicago, IL.

**Miller-Cotto, D.** & Zhang, H. (March 2023). *Testing theories of working memory for students with math learning difficulties*. Paper presentation for the 2023 Bader-Kaufman Conference on Special Education Research. Kent, OH.

**Miller-Cotto, D.**, Ribner, A.D., Ahmed, S., & Ellis, A.E. (March 2023). *Measurement Invariance of Working Memory in Early Childhood: A Registered Report*. Paper presentation for the 2023 Society for Research in Child Development (SRCD) biennial meeting. Salt Lake City, Utah.

**Miller-Cotto, D.**, Griffin, C., Barbieri, C.A., & Booth, J.L. (April 2022). *Mathematics identity and sense of belonging to mathematics: Unique or overlapping constructs? Paper presented to the Cognitive Development Society Biennial Meeting*. Madison, WI.

**Miller-Cotto, D.**, Smith, L.V., & Wang, A.H. (April 2021). *Understanding Executive Function and Mathematics Development for Racially Minoritized Children through Family Academic Socialization Practices*. Presented to the 2021 Society for Research in Child Development Biennial Meeting, Virtual Meeting.

**Miller-Cotto, D.** & Wang, A. H. (2020, Apr 17 - 21) *Testing the Integrative Theory in Predicting*

*School Readiness and Executive Function Skills for Minority and Other Kindergarten Children Using Structural Equation Modeling* [Poster Session]. AERA Annual Meeting San Francisco, CA <http://tinyurl.com/u66rtwk> (Conference Canceled due to COVID-19).

**Miller-Cotto, Booth, J. L., Chang, B. L., Cromley, J. G., Newcombe, N. S., & Williams, T.A.** (March 2019). *A comparison of sketching and self-explanation when solving math and science problems*. Paper presented to the Society for Research in Child Development (SRCD), Baltimore, MD.

**Miller-Cotto, D., Barbieri, C., & Booth, J. L.** (2018, April). *Examining the impact of signaling cues and self-explanations on algebraic knowledge and learning*. Paper presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.

**Miller-Cotto, D., Auxter, A. E., Byrnes, J. P., & Newton, K. J.** (2017, April). *Too much of a good thing: When faded worked examples decrease performance in algebra*. Poster presented at the Society for Research in Child Development Biennial Meeting, Austin, TX.

**Miller-Cotto, D., & Menzies, C. M.** (2015, April). *Student-teacher racial incongruence and teacher perceptions of student achievement: Testing ethnic identity as a buffer*. Paper presentation at the American Educational Research Association annual meeting, Chicago, IL.

**Miller, D. & Prohaska, V.** (2010, November). *Memory illusions: Serial position assignments of word lures*. Paper presented to the 22<sup>nd</sup> Greater New York Conference on Behavioral Research, New York, NY.

## **SELECTED POSTER PRESENTATIONS**

underlined indicates publication with trainee

---

**Miller-Cotto, D., & Ribner, A. D.** (April 2026). *Examining the role of classroom tools in supporting kindergarteners' working memory*. Poster presented to the Cognitive Development Society (CDS). Montreal, Ontario, Canada.

Villa, A. I., Medrano, J., Ribner, A.D., Miller-Cotto, D. (April 2026). *Assessing Executive Function in Context: Examining Assessor-Child Identity Match in Early Childhood*. Poster presented to the Cognitive Development Society (CDS). Montreal, Ontario, Canada.

**Miller-Cotto, D., & Ribner, A.** (June 2025). *Do classroom tools support children's working memory?* A pre-registered poster presented at the Mathematical Cognition and Learning Society (MCLS) 2025 Annual Meeting, Hong Kong, SAR, China.

Guo, Q., Gesuelli, K.A., Miller-Cotto, D. (May 2025). *Profiles of Parenting and their associations with Kindergarteners' Early Outcomes*. Poster presented at the Society for Research in Child Development (SRCD) 2025 Biennial Meeting, Minneapolis, MN, USA.

**Miller-Cotto, D., & Gesuelli, K. A.** (April 2025). *Testing theories of working memory and math for students with math learning difficulties*. Poster presented to the 2025 American Educational Research Association (AERA). Denver, CO.

**Miller-Cotto, D., & Gordon, R.** (June 2024). *Working memory and early child development: A theoretical and practical conundrum*. Poster presented to the 4<sup>th</sup> International Conference on Working Memory (ICWM). Leeds, UK.

Zaborowski, S.R., & Miller-Cotto, D. (April 2024). *Executive function and attention-deficit/hyperactivity disorder: A meta-analysis*. Poster presented to the Midwestern Psychological Association 2024 Conference. Chicago, IL.

Clerjuste, S., Guang, C., Miller-Cotto, D., & McNeil, N. (March 2024). *Unpacking the challenges and predictors of students' use of the distributive property*. Poster presented to the Cognitive Development Society (CDS) Biennial Meeting. Pasadena, CA.

Medrano, J., Thompson, C.A., Miller-Cotto, D., Delvin, B., Shingledecker, M. (March 2024). *Individual differences in third and sixth graders' fraction understanding and relations to executive function and spatial/relational reasoning*. Poster presented to the Cognitive Development Society (CDS) Biennial Meeting. Pasadena, CA.

Shingledecker, M., Anokhina V., Flowers, A., Gest, S., McClary, T., Mirhaidari, N., & Miller-Cotto, D. (April 2023). *Testing Whole Number Bias*. Poster presentation for the Midwestern Psychological Association 2023 Conference, Chicago, IL.

**Miller-Cotto, D.,** Kassan, E., Wambach, D., Resnick, I., Newcombe, N., & Jordan, N.C. (April, 2022). *Assessing early informal fraction knowledge*. Poster presented to the Cognitive Development Society (CDS) Biennial Meeting. Madison, WI.

Zhang, H., Miller-Cotto, D., & Jordan, N.C. (April 2021). *Exploring Co-development of Executive Functions and Math Achievement Using Cross-lagged Panel Model with Fixed Effects*. Presented to the 2021 Society for Research in Child Development Biennial Meeting, Virtual Meeting.  
\**Special recognition by SRCD as exemplifying interdisciplinary research related to children's development*

**Miller-Cotto, D., & Lewis Jr., N.** (April 2021). *Mathematics identity for Black and Latinx Students: A literature synthesis*. Presented to the 2021 American Educational Research Association 2021, Virtual meeting.

**Miller-Cotto, D.,** Hallinen, N.R., & Booth, J.L. (July 2019). *The role of sketching and visuo-spatial working memory in science accuracy*. Presented to the Cognitive Science Society 2019 Meeting, Montreal, QB.

**Miller-Cotto, D.** (June 2019). *Working memory: Reliability analysis of measures within Mathematics in grade school age children in the United States*. Pre-registration presented to the 2nd annual Mathematical Cognition & Learning Society, Ottawa, ON.

**Miller-Cotto, D., & Schunn, C.D.** (2018, June). *Examining flipping in a calculus class: Does it work, and for whom?* Poster presented to the International Workshop on Advanced Learning Sciences 2018, Pittsburgh, PA.

**Miller-Cotto, D., & Byrnes, J. P.** (2018, April). *Examining additional constructs to test the guidance fading effect*. Poster presented at the 2018 Annual Meeting of the American Educational Research Association, New York, NY.

**Miller-Cotto, D.** (2017, October). *Testing the faded worked example effect with cognitive load theory: It works, but for whom?* Poster presented at the Cognitive Development Society Conference, Portland, OR.

**Miller-Cotto, D.,** Barbieri, C., & Booth, J. L. (2016, May). *Increasing spatial contiguity to reduce students' misconceptions about algebra*. Poster presented at the Fourth Annual Mathematical Cognition Conference, Fort Worth, TX.

**Miller-Cotto, D.,** Chang, B. L., Booth, J. L., Cromley, J. G., & Newcombe, N. S. (2016, April). *The effects of sketching and self-explanation on students' monitoring use in problem-solving*. Poster presentation at the Bringing Cognitive Science Research to the Classroom Conference, Arlington, VA.

**Miller-Cotto, D.,** David, S., Booth, J. L., Cromley, J. G., & Newcombe, N. S. (2016, April). *Self-explaining encourages student monitoring in math and science problem-solving*. Poster presentation at the National Consortium for Instruction and Cognition Annual Meeting, Washington, D.C.

**Miller-Cotto, D.,** Auxter, A. E., Byrnes, J. P., & Newton, K. J. (2016, March). *Examining the use of faded worked examples in real world classrooms*. Poster presentation at the Eastern Psychological Association Conference, New York, NY.

**Miller-Cotto, D.,** & Booth, J. L. (2015, March). *Contiguity and self-explanations: Reducing student misconceptions about algebra*. Poster presentation for the Society for Research on Child Development Biennial Meeting, Philadelphia, PA.

**Miller-Cotto, D.,** & Byrnes, J. P. (2015, March). *Ethnic/racial identity and academic achievement: A meta-analysis*. Poster presentation at the Society for Research on Child Development Biennial Meeting, Philadelphia, PA.

**Miller-Cotto, D.,** & Byrnes, J. P. (2013, April). *Diversity and academic achievement in American schools*. Poster presentation at the Society for Research in Child Development Biennial Meeting, Seattle, WA.

**Miller, D.,** & Prohaska, V. (2011, March). *Memory illusions: Fonts and serial position assignments for word lures*. Poster presentation at the Eastern Psychological Association Conference, Cambridge, MA.

## **INVITED COURSE LECTURES**

---

Miller-Cotto, D. (April 2026). *Learning Sciences Colloquium*, University of Delaware. Instructor: Christina Areizaga Barbieri.

Miller-Cotto, D. (April 2026). *Linguistics Graduate Seminar*, University of California, Berkeley, Instructor: Susanne Gahl.

Miller-Cotto, D. (October 2025). *Introduction to Developmental Psychology*, Occidental College, Instructor: Jamie Amemiya.

Miller-Cotto, D. (November 2020). *Developmental Psychology and Social Justice*. University of Pennsylvania. Instructor: Janay Garrett.

Miller-Cotto, D. (May 2019). *Introduction to Systematic Review and Meta-Analysis*. Advanced

Statistics and Causal Inference, University of Delaware.

## TEACHING EXPERIENCE

---

University of California, Berkeley

*Cultivating Cognitive Development* (EDUC 203; Spring 2026)

*Special Problems in Mathematics, Science, and Technology Education: Research Group in Early Mathematical Cognition and Executive Function* (EDUC 223B, Fall 2025, Spring 2026)

*Mathematical Thinking and Problem Solving* (EDUC 224A; Fall 2025)

*Early Childhood Policy – Children, Contexts, and Politics* (EDUC C264; Spring 2025)

*Early Development and Education* (EDUC 114A; Spring 2025; Fall 2025; Spring 2026)

Kent State University

*Children's Thinking* (PSYC-30655; Fall 2023, Spring 2024)

*Child Psychology* (PSYC-20651; Fall 2022, Spring 2023, Fall 2023, Spring 2024)

Temple University

*Early Childhood Development: Birth to Nine Years* (ECE 2101; Spring 2017)

*Cognition and Learning in the Classroom* (ECE 2105; Spring 2014)

## PROFESSIONAL DEVELOPMENT

---

2026	Provost's Teaching for Equity & Inclusion Faculty Course, Center for Teaching and Learning, University of California, Berkeley (deferred participation)
2024 - 2025	Teaching Excellence Colloquium for New Faculty, Center for Teaching and Learning, University of California, Berkeley
2023	Designing for Equity and Accessibility in the Classroom, Center for Teaching and Learning, Kent State University
2022	Early Career Faculty Program, Center for Teaching and Learning, Kent State University
2018	Meta-Analysis Training Institute (MATI), via Institute for Education Sciences (IES), Chicago, IL
2017	Systematic Review and Meta-Analyses, Coursera
2016	Item Response Theory, Statistical Horizons, Instructor: Tenko Raykov
2014	Hierarchical Linear Modeling, Instructors: Stephen Raudenbush and Anthony Bryk

## ALT-AC/INDUSTRY EXPERIENCE

---

2019 – 2020 **Research Scientist**, [EF+Math Program](#), Oakland, CA

## MENTORING & SUPERVISING

---

*Postdoctoral Researcher Mentees*

Dr. Josh Medrano, Kent State University/UC Berkeley, 2023 - present

*Doctoral Visiting Scholars*

Mengyan Fang, Shaanxi Normal University, China, 2025 – present

*Graduate Mentorship*

*LEAD EdD Program*

Alicia Arenas, UC Berkeley School of Education, 2025 – present

Aija Simmons, UC Berkeley School of Education, 2025 – present

*Education PhD Program*

Jetta McPhee, UC Berkeley School of Education, 2025 – present

*Education MA Program*

Brianna Robles, UC Berkeley School of Education, 2026 – present

Lauren Dana, UC Berkeley School of Education, 2026 – present

*Psychological Sciences PhD Program*

Samantha Zaborowski, Kent State University, 2023 – 2024

*Non-UC Berkeley Mentoring*

Qianjin Guo, Cognitive Development Society (CDS) Diversity Mentoring Program, 2024

**Graduate Committees**

*Dissertation Committees*

Ivon Gomez Vargas, Berkeley School of Education, UC Berkeley (Spring 2026)

*Dissertation Proposal Committees*

Prince Estanislao, Berkeley School of Education (BSE), UC Berkeley (Summer 2025)

Ivon Gomez Vargas, Berkeley School of Education, UC Berkeley (Spring 2025)

Courtney Dress, '24, M.A., Kent State University, Sociology (Spring 2024)

*Master's Thesis/Capstone Reader*

Alexis McGhee-Dinvaut, Kent State University, Clinical Psychology (Spring 2024)

Daniel Byrnes, Kent State University, Psychological Sciences (Spring 2024)

*Oral Qualifying Exam Committees*

Jill Yochim, Berkeley School of Education (BSE), UC Berkeley (Spring 2026)

Carolina Hamburger, Berkeley School of Education (BSE), UC Berkeley (Fall 2025)

Kayla Thomas, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

Emily Springhart, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

Kyla Kemble, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

Ivon Gomez Vargas, Berkeley School of Education, UC Berkeley (Spring 2025)

Prince Estanislao, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

Julien Putz, Berkeley School of Education (BSE), UC Berkeley (Fall 2024)

*Pre-Qualifying Paper Reader*

Ilke Bayazitli, Berkeley School of Education (BSE), UC Berkeley (Spring 2026)

Kayla Thomas, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

Kyla Kemble, Berkeley School of Education (BSE), UC Berkeley (Spring 2025)

**Undergraduate Mentorship**

*Undergraduate Senior Honors Thesis*

[Hannah Fender](#), Psychological Sciences, Kent State University (Spring 2024)

Samantha Zaborowski, Psychological Sciences, Kent State University (Spring 2023)

*Undergraduate Visting Scholar*

Hamza Zia, Washington and Lee University, USA, (Summer 2025)

*UC Berkeley Undergraduate Research Assistants*

Samir Ali (2025 – present), Kaho Furukawa (2025 – present), Jaymee Cheng (2025 – present), Abigail Villa (2025 – present), Helen Bui (2025 – present), Razylin Avendano, (2025 – present), Kiara Eng (2025 – present), Kyla Burfoot (2025 - present), Aly Turfler (2025), Ayanna Belle Lee (2024 – present), Cheyenne Paw (2024 – present), Emily Moberly (2024 – 2025), Katie Torres-Romero (2024 – 2025), Andie Liu (2024), Dayton Duy Tuong Phan (2024)

*Kent State Undergraduate Research Assistants*

Angel Johnson (2023 – 2024), Logan Ernst (2022 – 2024), Veronica Anokhina (2022 – 2024), Clare Lavelle (2022 – 2024), Morgan Shingledecker (2022 – 2023)

## **EDITORIAL AND REVIEW EXPERIENCE**

---

- 2026 - Special Issue Editor, Social and Emotional Learning in Early Childhood, *Education Sciences*
- 2025 – present Editorial Board, *Journal of Experimental Child Psychology*
- 2025 - 2026 Special Issue Editor, Early Experiences and Executive Function, *Developmental Psychology*
- 2026 Panelist, SBE Directorate, National Science Foundation
- 2025 Reviewer, LEVANTE, Jacobs Foundation
- 2025 Program Reviewer, American Educational Research Association Division C: Learning and Instruction/1c Mathematics
- 2020 – 2025 Editorial Board, *Contemporary Educational Psychology*
- 2025 Panelist, SBE Directorate, National Science Foundation
- 2024 Reviewer, LEVANTE, Jacobs Foundation
- 2024 Ad hoc Reviewer, National Science Foundation
- 2024 Program Reviewer, American Educational Research Association Division C: Learning and Instruction/1c Mathematics
- 2019 – 2023 Editorial Board, *Journal of Experimental Education*
- 2023 Panelist, National Science Foundation
- 2021 Panelist, National Science Foundation
- 2020 Reviewer, Bill and Melinda Gates Foundation, Balancing the Equation: A Grand Challenge for Algebra
- 2020 Reviewer, Spencer Foundation
- 2020 Panelist, National Science Foundation
- 2019 Panelist, National Science Foundation
- 2019 Program Reviewer, American Educational Research Association Division C: Learning and Instruction/1c Mathematics; SIG Early Education and Child Development
- 2018 Program Reviewer, American Educational Research Association Division C: Learning

and Instruction/1c Mathematics

2018 Program Reviewer, Society for Research in Child Development (SRCD)

#### Ad-Hoc Journal Reviewer

*American Psychologist; Applied Cognitive Psychology; Behavioral Sciences; British Journal of Educational Psychology; Child Development; Child & Youth Care Forum; Cognitive Development; Cognitive Research: Principles and Implications; Contemporary Educational Psychology; Developmental Psychology; Early Childhood Research Quarterly; Educational Psychology Review; Frontiers in Psychology; Journal of Applied Developmental Psychology; Journal of Experimental Education; Journal of Experimental Child Psychology; Journal of the Learning Sciences; Journal of Experimental Psychology: Learning, Memory, and Cognition; Journal of Numerical Cognition; Journal of Research in Education; Learning and Instruction; Mathematics Education Research Journal; Mind, Brain, and Education; PLOS One*

#### Ad-Hoc Book Reviewer

Teachers College Press

### **SERVICE TO THE FIELD**

---

- 2024 Cognitive Development Society (CDS) Diversity Award Mentor
- 2024 Program Chair, Executive Committee, Division 7 (Developmental Psychology), American Psychological Association (APA)
- 2023 Cognitive Development Society (CDS) Conference Proposal Reviewer
- 2023 Program Co-Chair, Executive Committee, Division 7 (Developmental Psychology), American Psychological Association (APA)
- 2020 – 2021 Policy and Practice Co-Chair, Mathematical Cognition and Learning Society (MCLS)
- 2019 – 2022 Committee Member, American Psychological Association Division 15: Educational Psychology, Early Career Educational Psychologists Committee
- 2019 Panelist, Professional Development Workshop: Rock the Postdoc: How to Find, Obtain, and Thrive in a Postdoctoral Position, Society for Research in Child Development Biennial Meeting, March 2019.
- 2019 Symposium organizer and co-chair, *2019 International Convention of Psychological Science*, Symposium (March 2019): Cross-cultural Factors Relating to the Mathematical Cognition of Diverse Populations Across the Globe.

### **SERVICE TO THE UNIVERSITY**

---

- 2023 Judge, Three-Minute Thesis Presentations, Summer Undergraduate Research Experience (SURE), Kent State University

2011 Chair, Proposal Review Board, Lehman College Scholarship Day, Lehman College CUNY

## **SERVICE TO DEPARTMENT**

---

2025 - Undergraduate Studies Committee, Berkeley School of Education, University of California, Berkeley

2024 - 2025 Personnel Committee, Berkeley School of Education, University of California, Berkeley

2023 - 2024 Applied Psychology Center Committee, Department of Psychological Sciences, Kent State University

2022 - 2024 Undergraduate Committee, Department of Psychological Sciences, Kent State University

Fall 2023 Chair Search Committee, Department of Psychological Sciences, Kent State University

2018 - 2019 Committee member, Diversity and Inclusion Committee, Learning Research and Development Center (LRDC), University of Pittsburgh

2015 Panelist, Tactics 101: Surviving and Thriving in Your PhD Program, Temple University

## **RELEVANT CONSULTING**

---

2025 - EmotectAI

2023 - 2025 Executive Function Expert Consultant, MDRC

2022 - 2023 Executive Function Expert Consultant, WestEd

2021 - 2022 Equity in Education Expert Consultant, EmancipatED LLC

2020 Executive Function Expert Consultant and Workshop Facilitator, Teach for America (TFA)

2019 - Executive Function in Math Expert Consultant, EF+Math Program, Advanced Education Research & Development Fund (AERDF)

## **PRESS, MEDIA & OUTREACH**

---

Featured in Edutopia's "[The 10 Most Significant Education Studies of 2025](#)" for research on math problem solving and working memory/offloading, December 4, 2025.

Documenting as a Pre-School Educator, ECEP Program, UC Berkeley, September 2025

Executive Function Professional Development, ECEP Program, UC Berkeley, August 2025

["Our Mathematical World"](#). October 2024.

["How To Make Someone Not Hate Math"](#) - October 3<sup>rd</sup>, 2024, *EdSurge*

["The Marshmallow Test and other predictors of success have bias built in, researchers say"](#) -

August 29<sup>th</sup>, 2024, *Washington Post*

“Ask090”. April 2023. Podcast – *Ask Psych Sessions*.

“Episode 13.” September 2022. Podcast – *Agility in Bloom*.

“Season 1 Episode 18”. March 2021. Podcast – *Let’s Grab Coffee*.

Invited Speaker (May 2020): “What are executive functions, and what do they have to do with how my child learns?” TeenSHARP Parent Night, [Virtual].

Invited Speaker (April 2020) “Using Educational Psychology to Improve Academic Habits” TeenSHARP Student Hours, [Virtual]

## **PROFESSIONAL MEMBERSHIPS**

---

American Psychological Association (APA), Division 15 (Educational Psych)	2023 –
American Psychological Association (APA), Division 7 (Developmental Psych)	2023 –
Cognitive Development Society (CDS)	2017 –
American Educational Research Association (AERA)	2013 –
Society for Research in Child Development (SRCD)	2013 –