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EDUCATION

2005-2006	Postdoctoral Research Associate in Psychology Yale University
2005	Ph.D. in Psychology, Distributed Minor in Statistics and Computer Sciences University of Wisconsin-Madison
1999	B.S. in Psychology, Minor in Chemistry Carnegie Mellon University

ACADEMIC POSITIONS

2024-	Sweeney Family Director, Center for Educational Research and Action (Era)
2024-	Faculty Affiliate, Lucy Family Institute for Data and Society
2017-	Professor of Psychology and ACE College Professor, University of Notre Dame
2006-	Director, Cognition, Learning, and Development (CLAD) Lab at Notre Dame
2006-	Fellow, Institute for Educational Initiatives
2020-	Founder and Member of the Steering Committee, Tutor-ND
2013-	Faculty Affiliate, Wilson Sheehan Lab for Economic Opportunities
2012-2022	Director, Education, Schooling, and Society (ESS), University of Notre Dame
2012-2017	ACE Associate Professor of Psychology (tenured), University of Notre Dame
2010-2012	Mary Hesburgh Flaherty & James Flaherty Assistant Professor of Psychology, Notre Dame
2006-2010	Assistant Professor, Department of Psychology, University of Notre Dame
2005-2006	Project Director, PACE Center, Yale University
2003-2005	Project Assistant, Wisconsin Center for Education Research, University of Wisconsin
1999-2003	Research Assistant, Department of Psychology, University of Wisconsin
1999	Research Assistant, Department of Psychology, Carnegie Mellon University
1998	Undergraduate Intern, Western Psychiatric Institute and Clinic, Pittsburgh, PA

SELECTED HONORS, AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS

2025	Thought Leader Award, Intercultural Relations Institute *Recognizes local leaders who demonstrate commitment to community engagement*
2022	Grenville Clark Award, University of Notre Dame *Given for voluntary activities that advance the cause peace and human rights*
2021	Faculty Award, University of Notre Dame *Recognizes impactful and lasting service as a leader among faculty colleagues*
2018	Elected Fellow of the Association for Psychological Science (APS)
2017	Invited participant in ND-LEAD, Notre Dame's leadership development program
2016	Christ the Teacher Award, ACE M.Ed. Program, University of Notre Dame
2013	Boyd McCandless Award, American Psychological Association
2011	National Science Foundation CAREER Award

SELECTED HONORS, AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS (continued)

2007	Presidential Early Career Award for Scientists and Engineers (PECASE)
2004-2005	American Psychological Association (APA) Dissertation Award [$3000]
2003-2004	American Psychological Foundation E. M. Koppitz Graduate Travel Stipend [$4000]
2001-2002	Marian Schwartz Fellowship in Experimental Psychology, University of Wisconsin
1999-2000	Henry Vilas Graduate Fellowship, University of Wisconsin
1999	Phi Beta Kappa and Phi Kappa Phi Honors Societies
1999	Phi Kappa Phi Research Award, First Place, Carnegie Mellon [$250]
1997-1999	Alumni Memorial Scholarship, Carnegie Mellon University
1998	Sigma Xi Research Award, First Place, Carnegie Mellon [$500]
1997-1998	National Institute of Mental Health (NIMH) Undergraduate Fellowship

GRANTS AND SPONSORED PROGRAMS

2026-2030	U.S. Department of Education, Education and Innovation Research (EIR), Grant #TBD (role: co-PI; primary lead for University of Notre Dame team [Notre Dame serves as the implementation and research-practice partnership hub for the Indiana Department of Education]) "Strengthening state infrastructure for high-impact tutoring: Scaling evidence-based literacy support through cognitive science" (Partners: Indiana Department of Education [lead PI: Melanie Hazelwood with Anna Shults, co-PI], Notre Dame [co-PIs Michelle Luna, Kati Macaluso, Jill Pentimonti, Gerald Haeffel, Patrick Kirkland], WestEd [co-PIs Jodi Davenport, Yvonne Kao). [$10M total award, plus $1M cost share from IDOE and Notre Dame]
2024-2027	National Science Foundation, EHR Core Research, DRL-2400686 (role: co-PI, with Patrick Kirkland, PI, and Alison Cheng, co-PI) "Assessing the malleability and impact of third through eighth grade students' mature number sense." [$496,337]
2024-2027	Lilly Endowment (role: co-PI, with Kati Macaluso, PI, Mike Macaluso, co-PI, Jill Pentimonti, co-PI, Ted Caron, co-PI) "Advancing the science of reading in Indiana" [$496,900 implementation grant]
2023-2026	AmeriCorps 23VG257630 (role: PI, with co-PIs, Kati Macaluso, Gerald Haeffel, Jill Pentimonti, Matthew Kloser, Patrick Kirkland, and Michelle Luna) "Connecting volunteer tutors to cognitive science" [$1,010,746/year with 63.3% financed with federal sources and 36.7% financed with non-governmental sources in 2023-2024, opportunity to renew each year for 3 years; 2nd year awarded 10/1/24; 3rd year 10/1/25]
2023-2026	National Science Foundation, DRL-2300764 (role: Advisory Board) "Examining the effects of perceptual cues on middle school students' online mathematical reasoning and learning." (PI: Erin Ottmar, WPI; co-PIs: Avery Closser, University of Florida; Caroline Hornburg, Virginia Tech; Ji-Eun Lee, WPI)
2022-2026	National Science Foundation, DRL-2201960 (roles: Advisory Board, collaborating research site, and exploratory project lead) "Collaborative Research: A multi-lab investigation of the conceptual foundations of early number development." (PI: David Barner; UCSD; PI: Liz Gunderson, Temple University; PI: Melissa Libertus, Pitt; Kristy van Marle, Missouri; Melissa Kibbe, Boston University; Lisa Feigenson, Johns Hopkins; Dan Hyde, Illinois; Jess Sullivan, Skidmore; Sara Cordes, Boston College)

GRANTS AND SPONSORED PROGRAMS (continued)

2021-2026 Institute of Education Sciences, U.S. Department of Education R305A210018 (role: co-PI, with WestEd colleagues Jodi Davenport, PI, Yvonne Kao, co-PI, Kristen Johannes, co-PI) "Leveraging technology to improve children's understanding of mathematical equivalence" [$2 million]

2020-2025 National Science Foundation, SBE, BCS-2017280 (role: co-PI, with Susan Goldin-Meadow, PI; Breckie Church, co-PI; Fey Parrill, co-PI; David Simkins, co-PI; Ryan Lepic, co-PI) "Using gesture to augment web-based mathematics instruction for children and adults." [$723,113]

2021-2024 National Science Foundation, EHR Core Research, DRL- 2100214 (role: PI, with co-PIs Alison Cheng and Patrick Kirkland) "Characterizing and assessing mature number sense in third through eighth grade students." [$553,429]

2022-2023 Lilly Endowment, #2022 1822 (role: co-PI with Kati Macaluso, PI) "Improving reading instruction in Indiana." [$75,000 planning grant]

2020-2023 National Science Foundation, DRL-2000661 (role: Advisory Board) "Collaborative Research: Development of symbolic and non-symbolic representations of exact equality." (PI: David Barner, UCSD; PI: Roman Feiman, Brown University)

2018-2023 National Science Foundation, CAREER, DRL-1749294 (role: Advisory Board) "Mechanisms underlying the relation between mathematical language and mathematical knowledge." (PI: David Purpura, Purdue University)

2017-2021 National Science Foundation, EHR Core Research, DRL-1661086 (role: PI) "Improving children's ability to connect counting to cardinality through shared book reading." [$736,033]

2015-2019 Institute of Education Sciences, U.S. Department of Education, R305A150088 (role: co-PI, with WestEd colleagues, Jodi Davenport, PI, Yvonne Kao, co-PI, and Steve Schneider, co-PI) "Improving children's understanding of mathematical equivalence: An efficacy study" [$3.49 million]

2015-2020 National Science Foundation, CAREER, DRL-1452000 (role: Advisory Board) "Spatial foundations of symbolic numeracy skills in young children." (PI: Liz Gunderson, Temple University)

2015-2016 University of Notre Dame, Office of Research, Faculty Research Support Program (FRSP) Initiation Grant (role: PI) "Comparison of three early math interventions." [$10,000]

2014-2017 National Science Foundation, REAL, #1420249 & 1420196 (role: Advisory Board) "Collaborative Research: Language structure and number word learning." (co-PIs: David Barner, UCSD, and Ana Shusterman, Wesleyan)

2011-2017 National Science Foundation, CAREER, DRL-1054467 (role: PI) "Predictors and consequences of early understanding of mathematical equivalence." [$749,830]

GRANTS AND SPONSORED PROGRAMS (continued)

2011-2015 Institute of Education Sciences, U.S. Department of Education, R305A110198 (role: PI) "Improving children's understanding of mathematical equivalence." [$565,456]

2009-2012 National Science Foundation, REESE, #0910218 (role: Advisory Board) "Transfer for perceptually grounded principles." (PI: Rob Goldstone, Indiana University)

2007-2012 Institute of Education Sciences, U.S. Department of Education, R305B070297 (role: PI) "Arithmetic practice that promotes conceptual understanding and computational fluency." [$761,425]

2002-2004 Graduate Student Research Grants, University of Wisconsin [4 totaling $1700]

1997-1999 Small Undergraduate Research Grants, Carnegie Mellon [3 totaling $1200]

BOOKS, MONOGRAPHS, AND BOOK CHAPTERS

McNeil, N. M., [G]Hornburg, C. B., Fuhs, M. W., & [G]O'Rear, C. (2017). Understanding children's difficulties with mathematical equivalence. In D. C. Geary, D. B. Berch, & K. Mann Koepke (Eds). *Mathematical Cognition and Learning, Volume 3*, San Diego, CA: Elsevier Academic Press.

Knuth, E. J., Alibali, M. W., **McNeil**, N. M., Weinberg, A., & Stephens, A. C. (2011). Middle school students' understanding of core algebraic concepts: Equivalence and variable. In J. Cai & E. Knuth (Eds.), *Early Algebraization: A Global Dialogue from Multiple Perspectives* (pp. 259-275). New York, NY: Springer.

REFEREED JOURNAL ARTICLES

[P]indicates postdoc author; [G]indicates graduate student author; [B]indicates postbac author; [U]indicates undergraduate student author; [R]indicates staff research assistant author; [F]indicates former student, postbac, postdoc, or research assistant author

Yousif, S., Arrighi, R., Brannon, E., Clarke, S., Togoli, I…**McNeil**, N. M… He, Y. (registered report conditionally accepted). Registered report: A multi-site replication of audiovisual cross-modal number adaptation. *Psychological Science*.

[F]Kirkland, P. K., [F]Guang, C., [G]Otuonye, C. J., Cheng, Y., & **McNeil**, N. M. (2025). Developing a vertically scaled assessment of elementary students' number sense. *Journal of Psychoeducational Assessment*.

Abreu-Mendoza, R. A., Barner, D.,.. **McNeil, N.M.,** …Gunderson, E. A. (registered report in principle acceptance). ManyNumbers 1: A multi-lab international study of early number knowledge. *Developmental Science*. (McNeil Role: Member of the ManyNumbers Advisory Board and Participating Research Lab, CRediT: conceptualization, supervision, investigation, resources, writing – review & editing)

McNeil, N. M., Jordan, N., [F]Viegut, A., & Ansari, D. (2025). What the science of learning teaches us about arithmetic fluency. *Psychological Science in the Public Interest*, 26, 10-57.

REFEREED JOURNAL ARTICLES (continued)

[F]Kirkland, P. K., [B]Guang, C., Cheng, Y., & **McNeil**, N. M. (2024). Mature number sense predicts middle school students' mathematics achievement. *Journal of Educational Psychology, 116,* 1404-1420.

Alibali, M. W., [F]Matthews, P. G., Rodrigues, J., Meng, R., Vest, N., Jay, V., Menendez, D., Murray, J. O., Donovan, A. M., Anthony, L. E., & **McNeil**, N. M. (2024). A birds'-eye view of research practices in mathematical cognition, learning, and instruction: Reimagining the status quo. *Journal of Experimental Child Psychology*, *248*, 106056.

[G]Clerjuste, S. N., [B]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,* 105922. https://doi.org/10.1016/j.jecp.2024.105922

[F]Kirkland, P. K., [B]Guang, C., [G]Otuonye, C., & **McNeil**, N. M. (2024). Measuring mature number sense: Comparing brief assessment scores and number sense strategies, *Journal of Numerical Cognition, 10,* 1-18.

[G]Kirkland, P.K., Cheng, Y., & **McNeil**, N. M. (2024). Developing a validity argument for a brief assessment of mature number sense. *Journal for Research in Mathematics Education, 55(1),* 51-67. https://doi.org/10.5951/jresematheduc-2022-0071

[F]Devlin, B. L., [F]Hornburg, C. B., & **McNeil**, N. M. (2023). Kindergarten predictors of formal understanding of mathematical equivalence in second grade. *Developmental Psychology 59*(8), 1426–1439. https://doi.org/10.1037/dev0001559

[U]Jazbutis, O., Wiseheart, M., Radvansky, G.A., & **McNeil**, N. M. (2023). Distributed practice and time pressure interact to affect learning and retention of arithmetic facts. *Journal of Numerical Cognition, 9(2)* 302-326. https://doi.org/10.5964/jnc.7721

[G]O'Rear, C. D., [U]Seip, I. [R]Azar, J., Baroody, A. J., & **McNeil**, N. M. (2023). Features in children's counting books that lead dyads to both count and label sets during shared book reading. *Child Development, 94(4)*, 985-1001.

Davenport, J., Kao, Y., Johannes, K., [F]Hornburg, C. B., & **McNeil**, N. M. (2023). Improving children's understanding of mathematical equivalence: An efficacy study. *Journal for Research on Educational Effectiveness, 16(4),* 615-642. DOI: 10.1080/19345747.2022.2144787

Simsek, E., Xenidou-Dervou, I., Hunter, J., Dowens, M. G., Pang, J. S., Lee, Y., **McNeil**, N. M., [G]Kirkland, P. K., & Jones, I. (2022). Factors associated with children's understanding of mathematical equivalence: An investigation across six countries. *Journal of Educational Psychology, 114(6)*, 1359-1379.

[F]Hornburg, C. B., [F]Devlin, B. L., & **McNeil**, N. M. (2022). Earlier understanding of mathematical equivalence in elementary school predicts algebra readiness in middle school. *Journal of Educational Psychology*, *114*, 540-559.

[G]Kirkland, P.K. & **McNeil**, N. M. (2021). Question design affects students' sense-making on mathematics word problems. *Cognitive Science, 45*, e12960.

[F]Hornburg, C. B., Brletic-Shipley, H., Matthews, J. M., & **McNeil**, N. M. (2021). Improving children's understanding of mathematical equivalence. *Mathematics Teacher: Learning & Teaching PK-12, 114(1)*.

[G]O'Rear, C. D., [G]Kirkland, P. K., & **McNeil**, N. M. (2020). Partial knowledge in the development of number word understanding. *Developmental Science, 25(5)*, e12944.

Davoli, C., [G]O'Rear, C., Ehrman, E., & **McNeil**, N. M., & Brockmole, J. (2020). Hand placement affects performance on multiplication tasks. *Journal of Numerical Cognition, 6,* 1-21.

[U]Gaylord, S., [G]O'Rear, C. D., [G]Hornburg, C. B., & **McNeil**, N. M. (2020). Preferences for tactile and narrative counting books across parents with different education levels. *Early Childhood Research Quarterly, 50(3),* 29-39.

[G]O'Rear, C. D. & **McNeil**, N. M. (2019). Improved set-size labeling mediates the effect of a counting intervention on children's understanding of cardinality. *Developmental Science, 22*(6)*,* e12819.

McNeil, N. M., [G]Hornburg, C. B., Brletic-Shipley, H., & [F]Matthews, J. M. (2019). Improving children's understanding of mathematical equivalence via an intervention that goes beyond nontraditional arithmetic practice. *Journal of Educational Psychology, 111*, 1023-1044.

McNeil, N. M., [G]Hornburg, C. B., [B]Devlin, B. L., [F]Carrazza, C., & [F]McKeever, M. O. (2019). Consequences of individual differences in children's formal understanding of mathematical equivalence. *Child Development, 90,* 840-956.

[G]Hornburg, C. B., Wang, L. & **McNeil**, N. M. (2018). Comparing meta-analysis and individual person data analysis using raw data on children's understanding of equivalence. *Child Development, 89*, 1983-1995.

[F]Chesney, D. L., **McNeil**, N. M., [F]Petersen, L. A., & [F]Dunwiddie, A. E. (2018). Arithmetic practice that includes relational words promotes understanding of symbolic equations. *Learning and Individual Differences, 64*, 104-112.

Alibali, M. W., [F]Crooks, N. M., & **McNeil**, N. M. (2018). Perceptual support promotes strategy generation: Evidence from equation solving. *British Journal of Developmental Psychology, 36,* 153-168.

[F]Fyfe, E. R., [F]Matthews, P. G., Amsel, E., McEldoon, K. L., & **McNeil**, N. M. (2018). Assessing formal knowledge of math equivalence among algebra and pre-algebra students. *Journal of Educational Psychology, 110,* 87-101.

[G]Hornburg, C. B., [U]Rieber, M., & **McNeil**, N. M. (2017). An integrative data analysis of gender differences in children's understanding of mathematical equivalence. *Journal of Experimental Child Psychology, 63,* 140-150.

[F]Fuhs, M. W., [G]Hornburg, C. B., & **McNeil**, N. M. (2016). Specific number sense skills mediate the association between inhibitory control and mathematics achievement. *Developmental Psychology, 52,* 1217-1235.

[F]Fuhs, M. W., **McNeil**, N. M., Kelley, K., Villano, M., & [G]O'Rear, C. (2016). The role of non-numerical stimulus features in approximate number system training in preschoolers from low-income homes. *Journal of Cognition and Development, 17.*

Alcock, L., Ansari, D., Batchelor, S., Bisson, M., De Smedt, B., Gilmore, C., Gobel, S., Hannula-Sormunen, M., Hodgen, J., Inglis, M., Jones, I., Mazzocco, M., **McNeil**, N. M., Schneider, M., Simms, V., & Weber, K. (2016). Challenges in mathematical cognition: A collaboratively-derived research agenda. *Journal of Numerical Cognition*, 2, 20-41.

McNeil, N. M., [F]Fyfe, E. R., & [F]Dunwiddie, A. E. (2015). Arithmetic practice can be modified to promote understanding of math equivalence. *Journal of Educational Psychology, 107,* 423-436.

[F]Fyfe, E. R., **McNeil**, N. M., & Rittle-Johnson, B. (2015). Easy as ABCABC: Abstract language facilitates performance on a concrete patterning task. *Child Development, 86,* 927-935.

[G]Byrd, C. E., **McNeil**, N. M., [P]Chesney, D. L., & [P]Matthews, P. G. (2015). A specific misconception of the equal sign acts as a barrier to children's learning of early algebra. *Learning and Individual Differences, 38,* 61-67.

[U]Fyfe, E. R., **McNeil**, N. M., & [U]Borjas, S. (2015). Benefits of "concreteness fading" for children's mathematics understanding. *Learning and Instruction, 35,* 104-120.

[P]Chesney, D. L. & **McNeil**, N. M. (2014). Activation of operational thinking during arithmetic practice hinders learning and transfer. *Journal of Problem Solving*, *7*, 24-35.

[P]Chesney, D. L., **McNeil**, N. M., [P]Matthews, P. G., [G]Byrd, C. E., [G]Petersen, L. A., [U]Wheeler, M. C., [U]Fyfe, E. R., & [F]Dunwiddie, A. E. (2014). Organization matters: Individual differences in children's mental organization of addition knowledge correlate with understanding of math equivalence in symbolic form. *Cognitive Development, 30,* 30-46.

McNeil, N. M. (2014). A "change-resistance" account of children's difficulties understanding mathematical equivalence. *Child Development Perspectives, 8,* 42-47.

[U]Fyfe, E. R., **McNeil**, N. M., Son, J. Y., & Goldstone, R. L. (2014). Concreteness fading in mathematics and science instruction: A systematic review. *Educational Psychology Review, 26,* 9-25.

[P]Chesney, D. L., **McNeil**, N. M., Brockmole, J. R., & Kelley, K. (2013). An eye for relations: Eye-tracking indicates long-term negative effects of operational thinking on understanding of math equivalence. *Memory & Cognition, 41,* 1079-1095.

[G]Petersen, L. A., & **McNeil**, N. M. (2013). Using perceptually rich objects to help children represent number: Established knowledge counts. *Child Development, 84,* 1020-1033.

[G]Fuhs, M. W., & **McNeil**, N. M. (2013). ANS acuity and mathematics ability in preschoolers from low-income homes: Contributions of inhibitory control. *Developmental Science, 16,* 136-48.

McNeil, N. M., [P]Chesney, D. L., [P]Matthews, P. G., [U]Fyfe, E. R., [G]Petersen, L. A., & [R]Dunwiddie, A. E. (2012). It pays to be organized: Organizing addition knowledge around equivalent values facilitates understanding of mathematical equivalence. *Journal of Educational Psychology*, *104,* 1109-1121.

McNeil, N. M., & [U]Fyfe, E. R. (2012). "Concreteness fading" promotes transfer of mathematical knowledge. *Learning and Instruction, 22*, 440-448.

McNeil, N. M., [U]Fyfe, E. R., [G]Petersen, L. A., [R]Dunwiddie, A. E., & Brletic-Shipley, H. (2011). Benefits of practicing 4 = 2 + 2: Nontraditional problem formats facilitate children's understanding of mathematical equivalence. *Child Development, 82*, 1620-1633.

McNeil, N. M., [G]Fuhs, M. W., [G]Keultjes, M. C., [U]Gibson, M. H. (2011). Influences of problem format and SES on preschoolers' understanding of approximate addition. *Cognitive Development, 26*, 57-71.

McNeil, N. M., Rittle-Johnson, B., Hattikudur, S., & [G]Petersen, L. A. (2010). Continuity in representation between children and adults: Arithmetic knowledge hinders undergraduates' algebraic problem solving. *Journal of Cognition and Development, 11*, 437-457.

McNeil, N. M., Weinberg, A., Stephens, A. C., Hattikudur, S., Asquith, P., Knuth, E. J., & Alibali, M. W. (2010). A is for apple: Mnemonic symbols hinder students' interpretation of algebraic expressions. *Journal of Educational Psychology, 102,* 625-634.

McNeil, N. M., & Uttal, D. H. (2009). Rethinking the use of concrete materials in learning: Perspectives from development and education. *Child Development Perspectives, 3,* 137-139.

[1]Brown, M. C., [1]**McNeil**, N. M., & Glenberg, A. M. (2009). Using concreteness in education: Real problems, potential solutions. *Child Development Perspectives, 3,* 160-164.
[1]contributed equally, so listed alphabetically

Haeffel, G. J., Thiessen, E. D., Campbell, M. W., Kaschak, M. P., & **McNeil**, N. M. (2009). Theory, not cultural context, will advance psychology. *American Psychologist, 64,* 570-571.

McNeil, N. M., Uttal, D. H., Jarvin, L., & Sternberg, R. J. (2009). Should you show me the money? Concrete objects both hurt and help performance on mathematics problems. *Learning and Instruction, 19,* 171-184.

McNeil, N. M. (2008). Limitations to teaching children 2 + 2 = 4: Typical arithmetic problems can hinder learning of mathematical equivalence. *Child Development, 79*, 1524-1537.

Knuth, E. J., Alibali, M. W., Hattikudur, S., **McNeil**, N. M., & Stephens, A. C. (2008). The importance of equal sign understanding in the middle grades. *Mathematics Teaching in the Middle School, 13,* 514-520.

McNeil, N. M. & Jarvin, L. (2007). When theories don't add up: Disentangling the manipulatives debate. *Theory Into Practice, 46*, 309-316.

McNeil, N. M. (2007). U-shaped development in math: Seven year olds outperform nine year olds on mathematical equivalence problems. *Developmental Psychology, 43*, 687-695.

Alibali, M. W., Knuth, E. J., Hattikudur, S., **McNeil**, N. M., & Stephens, A. C. (2007). A longitudinal examination of middle school students' understanding of the equal sign and performance solving equivalent equations. *Mathematics Thinking and Learning, 9,* 221-247.

McNeil, N. M., Grandau, L., Knuth, E. J., Alibali, M. W., Stephens, A. S., Hattikudur, S., & Krill, D. E. (2006). Middle-school students' understanding of the equal sign: The books they read can't help. *Cognition and Instruction, 24,* 367-385.

Knuth, E. J., Stephens, A. C., **McNeil**, N. M. & Alibali, M .W. (2006). Does understanding the equal sign matter? Evidence from solving equations. *Journal for Research in Mathematics Education, 37,* 297-312.

McNeil, N. M., & Alibali, M. W. (2005b). Why won't you change your mind? Knowledge of operational patterns hinders learning and performance on equations. *Child Development, 76,* 883-899.

McNeil, N. M., & Alibali, M. W. (2005a). Knowledge change as a function of mathematics experience: All contexts are not created equal. *Journal of Cognition and Development, 6,* 385-206.

Knuth, E. J., Alibali, M. W., **McNeil**, N. M., Weinberg, A., Stephens, A. C. (2005). Middle school students' understanding of core algebraic concepts: Equality and variable. *Zentralblatt für Didaktik der Mathematik / International Reviews on Mathematical Education, 37*, 68-76.

McNeil, N. M., & Alibali, M. W. (2004). You'll see what you mean: Students encode equations based on their knowledge of arithmetic. *Cognitive Science*, *28*, 451-466.

Evans, J. L., Alibali, M. W., & **McNeil**, N. M. (2001). Divergence of verbal expression and embodied knowledge: Evidence from speech and gesture in children with Specific Language Impairments. *Language and Cognitive Processes, 16*, 309-331.

REFEREED JOURNAL ARTICLES (continued)

McNeil, N. M., & Alibali, M. W. (2000). Learning mathematics from procedural instruction: Goals influence learning from the outside in. *Journal of Educational Psychology, 92*, 734-744.

McNeil, N. M., Alibali, M. W., & Evans, J. L. (2000). Role of gesture in children's language comprehension: Now they need it, now they don't. *Journal of Nonverbal Behavior, 24*, 131-150.

REFEREED PUBLICATIONS IN PROCEEDINGS

[B]Beacham, R. E., [U]Ochocki, S., [B]Miyahara, A. L., & **McNeil**, N. M. (2025). Inferential language is limited and unevenly distributed in popular texts used for literacy tutoring. *Proceedings of the Annual Meeting of the Cognitive Science Society*, *47*. Retrieved from https://escholarship.org/uc/item/4f0941hm

[G]Otuonye, C. J, [B]Miyahara, A. L, Eberhard, K., & **McNeil,** N. M. (2025). Picture book features influence the use of complex modifiers during shared number book reading. *Proceedings of the Annual Meeting of the Cognitive Science Society*, *47*. Retrieved from https://escholarship.org/uc/item/3f61h913

Bartel, A., Powers, J., [B]Miyahara, A. L, Kao, Y., Davenport, J., & **McNeil**, N. M. (2025). The Impact of Immediate and elaborative feedback on second grade students' equation solving and understanding of the equal sign. *Proceedings of the Annual Meeting of the Cognitive Science Society*, *47*. Retrieved from https://escholarship.org/uc/item/59m76741

[B]Miyahara, A. L, [F]Guang, C., [U]Sayler, E., [U]Ochocki, S., [U]Erbini, S., [F]Jarrell, E., & **McNeil,** N. M. (2025). Equal > equals: Labels affect how math symbols are interpreted. *Proceedings of the Annual Meeting of the Cognitive Science Society*, *47*. Retrieved from https://escholarship.org/uc/item/1jd1w28f

Luna, M. L, [F]Guang, C., [G]Otuonye, C. J, [F]Boada, A., & **McNeil,** N. M. (2025). Preschoolers' Use of Quantitative math language in picture descriptions predicts early numeracy skills. *Proceedings of the Annual Meeting of the Cognitive Science Society, 47*. Retrieved from https://escholarship.org/uc/item/2s40q6wx

Bartel, A. N., [U]Celeste, S., [B]Guang, C., Francis-Bongue, L., Hsu, V., Davenport, J., Kao, Y., & **McNeil**, N. M. (2023). Designing dynamic feedback to help second graders understand equivalence: Centering students' perspectives. *Proceedings of the Association for Computing Machinery (ACM) Interaction Design and Children (IDC) Annual Meeting of IDC*. Northwestern University, Evanston, IL.

[F]Kirkland, P.K., [B]Guang, C., **McNeil**, N.M. (2023, October). Exploring the association between upper elementary students' mature number sense and grade-level mathematics achievement. *Proceedings of the Forty-Fifth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)*. Reno, NV.

[G]Kirkland, P.K., [B]Guang, C., Cheng, Y., Trinter, C., [U]Kumar, S., [U]Nakfoor, S., [U]Sullivan, T., **McNeil**, N.M. (2022, November). Middle school students' mature number sense is uniquely associated with grade-level mathematics achievement. *Proceedings of the Forty-Fourth Annual Meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA)*. Nashville, TN

Johannes, K., Davenport, J., Kao, Y., & **McNeil**, N. M. (2021). Predicting learning and knowledge transfer in two early mathematical equivalence interventions. T. Fitch, C. Lamm, H. Leder, & K. Teβmar-Raible (Eds.), *Proceedings of the Annual Meeting of the Cognitive Science Society, 43*. Retrieved from Retrieved from https://escholarship.org/uc/item/6fn6n24w

[F]Silla, E. M., [F]Hornburg, C. B., Kloser, M., & **McNeil**, N. M. (2020) Research-based teaching practices for improving students' understanding of mathematical equivalence have not made it into elementary classrooms. In S. Denison, M. Mack, Y. Xu, & B. Armstrong (Eds.), *Proceedings of the 42nd Annual Conference of the Cognitive Science Society* (pp. 2937-2943). Austin, TX: Cognitive Science Society.

[G]O'Rear, C. D., **McNeil**, N. M., & [G]Kirkland, P. (2018) Evidence of partial number word knowledge on The give-*n* task. In C. Kalish, M. Rau, J. Zhu, & T. T. Rogers (Eds.), *Proceedings of the 40th Annual Conference of the Cognitive Science Society* (pp. 834-839). Austin, TX: Cognitive Science Society.

Johannes, K., Davenport, J., Kao, Y., [G]Hornburg, C. B. & **McNeil**, N. M. (2017). Promoting children's relational understanding of equivalence. In G. Gunzelmann, A. Howes, T. Tenbrink, & E. Davelaar (Eds.), *Proceedings of the 39th Annual Conference of the Cognitive Science Society* (pp. 600-605). Austin, TX: Cognitive Science Society.

[G]Byrd, C. E., **McNeil**, N. M., D'Mello, S. K., & Cook, S. W. (2014). Gesturing may not always make learning last. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 1982-1987). Austin, TX: Cognitive Science Society.

[F]Matthews, P. G., [F]Chesney, D. L., & **McNeil**, N. M. (2014). Are fractions natural numbers, too? In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 982-987). Austin, TX: Cognitive Science Society.

[G]Petersen, L. A., **McNeil**, N. M., [U]Tollaksen, A. K., [U]Boehm, A. G., [U]Hall, C. J., [B]Carrazza, C., & [R]Devlin, B. L. (2014). Counting practice with pictures, but not objects, improves children's understanding of cardinality. In P. Bello, M. Guarini, M. McShane, & B. Scassellati (Eds.), *Proceedings of the 36th Annual Conference of the Cognitive Science Society* (pp. 2633-2637). Austin, TX: Cognitive Science Society.

[G]Petersen, L. A., [U]Heil, J. K., **McNeil**, N. M., & Haeffel, G. J. (2010). Learning from errors in game-based versus formal mathematics contexts. In S. Ohlsson & R. Catrambone (Eds.), *Proceedings of the 32nd Annual Conference of the Cognitive Science Society* (pp. 2578-2582). Austin, TX: Cognitive Science Society.

[U]Crooks, N. M., & **McNeil**, N. M. (2009). Increased practice with "set" problems hinders performance on the water jar task. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 643-648). Austin, TX: Cognitive Science Society.

[G]Keultjes, M. C., [U]Gibson, M. H., & **McNeil**, N. M. (2009). Children's understanding of approximate arithmetic depends on problem format. In N. A. Taatgen & H. van Rijn (Eds.), *Proceedings of the 31st Annual Conference of the Cognitive Science Society* (pp. 329-334). Austin, TX: Cognitive Science Society.

[G]Petersen, L. A., & **McNeil**, N. M. (2008). Using perceptually rich objects to help children represent number: Established knowledge counts. In B. C. Love, K. McRae, & V. M. Sloutsky (Eds.), *Proceedings of the 30th Annual Conference of the Cognitive Science Society* (pp. 1567-1572). Austin, TX: Cognitive Science Society.

McNeil, N. M. (2004a). Don't teach me 2 + 2 = 4: Knowledge of arithmetic operations hinders equation learning. In K. D. Forbus, D. Gentner, & R. Regier (Eds.), *Proceedings of the 26th Annual Conference of the Cognitive Science Society* (pp. 938-943). Mahwah, NJ: Lawrence Erlbaum Associates.

McNeil, N. M., Grandau, L., Stephens, A. C., Krill, D. E., Alibali, M. W., & Knuth, E. J. (2004). Middle-school students' experience with the equal sign: *Saxon Math ≠ Connected Mathematics*. In D. McDougall (Ed.), *Proceedings of the XXVI Annual Conference of the North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA), Toronto, Canada* (Vol. 1, pp. 271-6). Columbus, OH: ERIC.

McNeil, N. M., & Alibali, M.W. (2002). A well-established schema can interfere with learning: The case of children's typical addition schema. In C. D. Schunn & W. Gray (Eds.), *Proceedings of the 24th Annual Conference of the Cognitive Science Society* (pp. 661-6). Mahwah, NJ: Lawrence Erlbaum Associates.

McNeil, N. M., & Alibali, M. W. (2001). Gesture production is associated with task motivation. In C. Cavé, I. Guaïtella, & S. Santi (Eds.), *Oralité et gestualité: Interactions et comportements multimodaux dans la communication* [Orality and gestuality: Multimodal interaction and behavior in communication]. *Actes du colloque* [Proceedings of the meeting of] *ORAGE 2001* (pp. 247-252) Paris, France: L'Harmattan.

Alibali, M. W., **McNeil**, N. M., & Perrott, M. A. (1998). What makes children change their minds? Changes in encoding lead to changes in strategy selection. In M. A. Gernsbacher & S. Derry (Eds.), *Proceedings of the 20th Annual Conference of the Cognitive Science Society* (pp. 36-41). Mahwah, NJ: Lawrence Erlbaum Associates.

UNREFEREED PUBLICATIONS

Gubbins, E. J., Housand, B., Oliver, M., Schader, R., de Wet C. F., Moon, T. R., Hertberg-Davis, H., Callahan, C. M., Brighton, C., Sternberg, R. J, Grigorenko, E., Jarvin, L., **McNeil**, N. M., Connolly, K. (2008). Unclogging the mathematics pipeline through access to algebraic understanding. Storrs, CT: National Research Center on the Gifted and Talented.

OTHER PUBLICATIONS

McNeil, N. M. (2004b). Test item file to accompany *Children's Thinking* 4th edition by R. S. Siegler & M. W. Alibali. Upper Saddle River, NJ: Prentice Hall.

MANUSCRIPTS UNDER REVIEW OR IN REVISION PROCESS

Yu, Y., Abreu-Mendoza, R. A., …**McNeil, N. M**., …Barner, D. (revise and resubmit). ManyNumbers 3: A multi-lab study of demographic correlates of early number knowledge. (**McNeil** Role: Member of the ManyNumbers Advisory Board and Participating Research Lab, CRediT: conceptualization, supervision, investigation, resources, writing – review & editing)

[U]Sayler, E. M., [U]Ochocki, S. L., [U]Erbini, S. M., [B]Guang, C., [U]Jarrell, E., & **McNeil**, N. M. (revise and resubmit). Equal > equals: Labels affect how math symbols are interpreted.

[F]Hornburg, C. B., & **McNeil**, N. M. (revise and resubmit). The role of problem format in children's learning of mathematical equivalence.

[U]Mogan, A. D., [B]Guang, C., [U]Bishop, C., [U]Zajas, M., [U]Alvarez, S., [U]Whitsitt, C. Wilkey, E. D., & **McNeil**, N. M. (revise and resubmit). Bridging the divide: Comparing the efficiency and transparency of two division algorithms.

Boni, I.,…**McNeil, N. M**., …Cordes, S. (revise and resubmit). ManyNumbers 2: A multi-lab investigation of the development of small set representations. (**McNeil** Role: Member of the ManyNumbers Advisory Board and Participating Research Lab, CRediT: conceptualization, supervision, investigation, resources, writing – review & editing).

INVITED LECTURES AND ADDRESSES

2025 Icahn School of Medicine at Mount Sinai, Mount Sinai Parenting Center's Keystones of Development Speaker Series
2024 Teachers College at Columbia University, Proseminar in Human Development
2024 Excellence in Teaching Conference, Making Sense of a Mathematical World, University of Notre Dame
2024 University of Texas at Austin, Doctoral Seminar in Mathematics Education
2023 University of Wisconsin-Madison, IES Interdisciplinary Training Program Seminar Series
2023 Excellence in Teaching Conference, Reading for a Better World, University of Notre Dame
2022 Aspiring Teachers As Tutors Network Convening, National Louis University, Chicago, IL
2022 Worcester Polytechnic Institute, Learning Sciences Colloquium
2021 Brown University, Department of Cognitive, Linguistic, and Psychological Sciences, Developmental Brown Bag Series
2021 University of California San Diego, Language and Development Lab
2019 Andrew's University, Leaders in the Field Lecture Series, Berrien Springs, MI

INVITED LECTURES AND ADDRESSES (continued)

2019 University of Chicago, Role of Gesture in Math Learning Meeting, Chicago, IL
2019 Midwestern Psychological Association (discussant for invited symposium), Chicago, IL
2018 Kent State University, Department of Psychological Sciences
2018 University of Chicago, Chicago Education Workshop Lecture Series
2017 Notre Dame Institute for Advanced Study
2016 Illinois State University, School of Teaching & Learning
2015 Math Cognition Conference (sponsored by NICHD), St. Louis, MO
2015 Annual Conference on Research in Undergraduate Mathematics Education, Pittsburgh, PA
2014 Temple University, Institute for Learning and Education Sciences
2014 Grand Challenges in Mathematical Cognition Conference, Royal Society International Center
2014 University of Illinois, Department of Psychology, Developmental Brown Bag Series
2014 Carnegie Mellon University, Department of Psychology, PIER Speaker Series
2013 Wesleyan University, Department of Psychology
2013 American Psychological Association Annual Convention, Division 7 Program, Honolulu, HI
2012 University of Delaware, School of Education Conference on Improving Teaching and Learning
2009 University of Wisconsin-Madison, IES Interdisciplinary Training Program Seminar Series
2009 Indiana University, Symposium on Transfer of Learning
2009 Indiana University, Dept. of Psychological and Brain Sciences, Cognitive Colloquium Series
2009 Institute of Education Sciences, Fourth Annual IES Research Conference
2009 Institute of Education Sciences, Meeting of the National Board of Education
2008 Institute of Education Sciences, PECASE Colloquium
2008 University of Chicago, Department of Psychology, Developmental Seminar Series
2008 University of Portland, Symposium on Education
2006 Michigan State University, School of Education
2006 University of Notre Dame, Department of Psychology
2006 University of Oregon, Department of Psychology
2006 University of Colorado, Institute of Cognitive Science
2006 Colgate University, Department of Psychology
2006 Boston College, Lynch School of Education
2006 Oklahoma State University, Department of Psychology
2006 University of Miami, Department of Psychology
2006 Emory University, Department of Psychology
2006 Florida State University, Department of Psychology
2006 Wake Forest University, Department of Psychology
2006 Syracuse University, Department of Psychology
2006 University of Pittsburgh, Department of Psychology and LRDC
2006 University of Illinois—Chicago, Department of Psychology
2005 Yale University, Center for the Psychology of Abilities, Competencies, & Expertise
2005 Texas Tech University, Human Development & Family Studies
2005 Indiana University, School of Education
2005 University of North Carolina—Chapel Hill, School of Education
2005 University at Buffalo (SUNY), Department of Psychology
2005 Northwestern University, School of Education and Social Policy
2005 University of Missouri, Department of Psychology
2005 Northwestern University, Department of Psychology
2004 University of Iowa, Department of Psychology

CONFERENCE PRESENTATIONS

Levan, Z., Semushina, N., Parrill, F., **McNeil, N. M.,** Church, R. B., Goldin-Meadow, S. (2025, June). Gesture can be used to teach adults statistical concepts. Poster presented at the 10th Conference of the International Society for Gesture Studies, Nijmegen, Netherlands.

[B]Poston, B., [F]Walter, K., Quinn, C., [F]Luna, M. L., Pentimonti, J. M., Kirkland, P. K., Macaluso, K., [G]Otuonye, C. J., Angst, W., Gibbs, C. R., **McNeil**, N. M. (2025, June). Early numeracy is underemphasized in pediatric practice, but opportunities exist to promote it. Poster to be presented at the eighth annual meeting of the Mathematical Cognition and Learning Society (MCLS) hosted by The Education University of Hong Kong, Hong Kong S. A. R., China.

[B]Miyahara, A. L., Bartel, A. N., Davenport, J., Kao, Y., [F]Celeste, S., & **McNeil**, N. M. (2025, April). Optimal feedback for students solving mathematical equivalence problems differs between boys and girls. In *Elementary Students' Mathematical Cognition: Insights Into Estimation, Relational Reasoning, and Effective Feedback in Mathematics.* Paper session presented at the Annual Meeting of the American Educational Research Association (AERA), Denver, CO.

[F]Mogan, A. D., [F]Guang, C., [U]Bishop, C., [F]Zajas, M., [F]Alvarez, S., [F]Whitsitt, C., Wilkey, E. D., & **McNeil**, N. M. (2024, July). Bridging the divide: Comparing the efficiency and transparency of two division algorithms. Poster presented at the annual meeting of the International Mind, Brain, and Education Society (IMBES), Leuven, Belgium.

[P]Luna, M. L., [B]Boada, A. R., Stankiewicz, B., Argueta, A., Pentimonti, J. M., & **McNeil**, N. M. (2024, June). *Leveraging shared book reading in the community to examine the connection between literacy and numeracy*. In E. Turan (Organizer), Why does storybook reading matter? Influences of storybook reading on STEM disciplines. Symposium presented at the seventh annual meeting of the Mathematical Cognition and Learning Society (MCLS) hosted by Gallaudet University, Washington, D.C.

[P]Gesuelli, K., [F]Kirkland, P. K., & **McNeil,** N. M. (2024, June). *Elementary and middle school students' multiplication fluency is strongly correlated with their mature number sense*. In J. Eaves (Organizer), Multiplication fact knowledge: Integrating findings across multiple levels. Symposium presented at the seventh annual meeting of the Mathematical Cognition and Learning Society (MCLS) hosted by Gallaudet University, Washington, D.C.

McNeil, N. M. (2024, June). *Invited Discussant*. In A. Closser (Organizer), Understanding perceptual influences on math cognition and learning. Symposium presented at the annual meeting of the Mathematical Cognition and Learning Society (MCLS) hosted by Gallaudet University, Washington, D.C.

[U]Alvarez, S., Pentimonti, J., [P]Luna, M. L., & [U]Bishop, C., & **McNeil**, N. M. (2024, May). *Differences in small group versus whole group implementation of a shared book reading intervention*. Poster presented at the Midwestern Psychological Association (MPA), Chicago, IL.

Clerjuste, S., [B]Guang, C., Miller-Cotto, D., & **McNeil**, N. M. (2024, May). *Unpacking the challenges and predictors of students' use of the distributive property*. Poster presented at the biennial meeting of the Cognitive Development Society, Pasadena, CA.

[P]Luna, M. L., [F]O'Rear, C. D., [F]Cobb, W., Pentimonti, J. M., & **McNeil**, N.M. (2023, June). *Iterative development of numeracy and literacy supports for preschoolers*. Talk presented at the 6th Annual Conference of the Mathematical Cognition and Learning Society (MCLS), Loughborough, UK.

[F]Cobb, W., [B]Guang, C., [G]Kirkland, P.K., [U]Bahadursingh, A., [U]Kumar, S., [U]Ona, C. S., [F]O'Rear, C., & **McNeil**, N.M. (2022, June). *Race moderates the effect of tactility on children's learning from counting books*. Poster presented at the Cognitive Science Society (CogSci), Toronto, Canada.

[G]Kirkland, P.K., [B]Guang, C., [U]Campbell, N., [U]Kumar, S., [U]Mogan, A., **McNeil**, N.M. (2022, June). *Investigating mature number sense: Middle school students' brief assessment scores correlate with their use of number sense strategies*. Poster presented at the Mathematical Cognition and Learning Society Conference (MCLS), Antwerp, Belgium.

[G]Kirkland, P.K., Cheng, Y., Trinter, C., & **McNeil**, N.M. (2022) Analyzing student use of number sense strategies. Paper to be presented virtually at the Annual Meeting of the National Council of Teachers of Mathematics (NCTM) Research Conference.

[U]Maron, M., [U]Seip, I., [U]Celeste, S., [F]Azar, J., [G]O'Rear, C. D., [U]Gomez, J., [U]Jarrell, E., [G]Kirkland, P. K., [G]Cobb, W. T., & **McNeil**, N. M. (2022, April). The effect of tactile versus non-tactile counting books on children's number talk during shared book reading. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Madison, WI.

[F]O'Rear, C. D. & **McNeil**, N. M. (2021, April). The influence of counting book features on the numerical input provided during shared book reading. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Virtual.

[F]Devlin, B. L., [F]Hornburg, C. B., & **McNeil**, N. M. (2020, October). Young children's mental organization of arithmetic relates to specific number skills and understanding of mathematical equivalence. Poster presented at the Annual Meeting of the Mathematical Cognition and Learning Society (MCLS).

[G]Kirkland, P.K., Cheng, Y., Trinter, C., & **McNeil**, N.M. (2020). Developing a measure of student number sense with valid and reliable scores. Poster was accepted to be presented at the Annual Meeting of the National Council of Teachers of Mathematics (NCTM) Research Conference, Chicago, IL. (Conference cancelled due to covid-19)

Johannes, K., Kao, Y., Davenport, J., & **McNeil**, N. M. (2020). Understanding how students improve through targeted training in mathematical equivalence. Poster was accepted to be presented at the Annual Meeting of the American Educational Research Association (AERA), San Francisco, CA. (Conference cancelled due to covid-19)

[G]O'Rear, C. D. & **McNeil**, N. M. (2019, October). U-shaped development of spontaneous counting on tasks designed to assess children's number word knowledge. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Louisville, KY.

[F]Hornburg, C. B., [F]Devlin, B. L., & **McNeil**, N. M. (2019, April). Grade of acquisition of understanding of mathematical equivalence in elementary school predicts algebra readiness in middle school. In T. Reddick (Organizer), *The Influence of Math Cognition on Academic Outcomes.* Invited Symposium presented at the Midwestern Psychological Association (MPA), Chicago, IL.

McNeil, N. M. (2019, April). Invited Discussant. In T. Reddick (Organizer), The Influence of Math Cognition on Academic Outcomes. Invited Symposium presented at the Midwestern Psychological Association (MPA), Chicago, IL.

McNeil, N. M. (2019, April). A discussion of probing students' understanding with differing external representations. In A. Bartell (Organizer), *Probing Students' Understanding with Differing External Representations.* Symposium presented at the American Education Research Association, Toronto, ON.

[G]O'Rear, C. D., [F]Gaylord, S. M., [F]Hornburg, C. B., & **McNeil**, N. M. (2019, March). Features that affect parents' preferences for different counting books. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Baltimore, MD.

[F]Devlin, B. L., [F]Hornburg, C. B., & **McNeil**, N. M. (2019, March). Grade of acquisition of understanding of mathematical equivalence predicts algebra readiness. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Baltimore, MD.

[G]Hornburg, C. B., **McNeil**, N. M., & Wang, L. (2017, November). Problem encoding does not always drive problem solving: Evidence from children's performance on mathematical equivalence problems. Poster presented at the 58th Annual Meeting of the Psychonomics Society, Vancouver, British Columbia, Canada.

[G]Hornburg, C. B., **McNeil**, N. M., & Wang, L. (2017, October). The role of encoding in children's understanding of mathematical equivalence depends on problem format. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Portland, OR.

McNeil, N. M., [G]O'Rear, C. D., [F]Petersen, L. A., [U]Viegut, A. A., [U]Bohnsack, A. E., & [U]Boehm, A. (2017, October). Translating cognitive developmental theory to improve children's understanding of counting. In N. C. Jordan & C. Barbieri (Organizers), *Usable Knowledge for Improving Mathematics Learning: Bridging Research in Cognition and Development with Educational Practice in Diverse Contexts.* Symposium presented at the Biennial Meeting of the Cognitive Development Society (CDS), Portland, OR.

[G]Hornburg, C. B., [U]Rieber, M. L., & **McNeil**, N. M. (2017, October). An integrative data analysis of gender differences in children's understanding of mathematical equivalence. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Portland, OR.

[G]O'Rear, C. D., & **McNeil**, N. M. (2017, October). Increases in set labeling performance mediate the effect of counting practice on preschoolers' understanding of cardinality. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Portland, OR.

[G]O'Rear, C. D., [U]Bohnsack, A., & **McNeil**, N. M. (2017, May). Random arrangements are better than canonical patterns for promoting understanding of cardinality. Poster presented at the Annual Meeting of the Mathematical Cognition and Learning Society (MCLS), Nashville, TN.

[G]Hornburg, C. B., **McNeil**, N. M. (2017, May). The role of problem format in children's learning of mathematical equivalence. Poster presented at the Annual Meeting of the Mathematical Cognition and Learning Society (MCLS), Nashville, TN.

[F]Carrazza, C., **McNeil**, N. M., [F]Tollaksen, A. K., & [B]Devlin, B. L. (2017, May). Parental adherence to a research-based counting intervention. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Austin, TX.

[B]Devlin, B. L., [G]Hornburg, C. B., **McNeil**, N. M. (2017, May). Kindergarteners' understanding of math language predicts response to a math intervention. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Austin, TX.

[G]O'Rear, C. D., **McNeil**, N. M., Wang, L. (2017, May). Arithmetic fluency and understanding of math equivalence interact to predict children's use of inversion. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Austin, TX.

Davenport, J., Kao, Y. & **McNeil**, N. M. (2016, December). Improving children's understanding of mathematical equivalence: An efficacy study. Poster presented at the Annual PI Meeting of the Institute of Education Sciences. Washington, DC.

[B]Devlin, B. L., [G]Hornburg, C. E., **McNeil**, N. M., & [F]Carrazza, C. (2016, May). Gender differences in response to supplemental early math interventions. Poster presented at presented at the Annual Meeting of the Association for Psychological Science (APS). Chicago, IL.

[G]Byrd, C. E., **McNeil**, N. M., [B]Devlin, B. L., & [F]McKeever, M. O. (2015, October). Proficiency with number sets in kindergarten predicts understanding of math equivalence in second grade. In N. **McNeil** (Chair) *"Math and number."* Oral paper presented at the Biennial Meeting of the Cognitive Development Society (CDS), Columbus, OH.

[G]O'Rear, C. D., [F]Fuhs, M. W., **McNeil**, N. M., [U]Silla, E. (2015, October). Approximate number system acuity (ANS) training in preschoolers from low-income homes. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Columbus, OH.

[G]Byrd, C. E., **McNeil**, N. M., [B]Carrazza, C., [F]Matthews, J. M., Brletic-Shipley, H., & [U]Celeste, E. (2015, April). Pilot Test of a Comprehensive Intervention to Improve Children's Understanding of Math Equivalence. In D. Francis (Organizer) and E. Bullock (Chair) *"Explorations in Mathematics in the Elementary Grades."* Talk presented at the Annual Meeting of the American Education Research Association (AERA), Chicago, IL.

[U]Fyfe, E. R., **McNeil**, N. M., & Rittle-Johnson, B. (2015, March). The effect of abstract versus concrete labels on children's relational reasoning. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Philadelphia, PA.

CONFERENCE PRESENTATIONS (continued)

[F]Fuhs, M. W., & **McNeil**, N. M. (2015, March). Investigating preschoolers' ANS acuity on conflict trials: Does object type matter? Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Philadelphia, PA.

[B]Devlin, B.L., McNeil, N. M., [B]Carrazza, C., [G]Byrd., C. E., & [F]McKeever, M. (2015, March). Early understanding of math equivalence predicts future math achievement. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Philadelphia, PA.

Brockmole, J. R., Davoli, C. C., Ehrman, E. K., & **McNeil**, N. M. (2013, November). Getting a grip on concepts: Hand position affects access to mathematical knowledge. Talk presented at the 54th Annual Meeting of the Psychonomic Society. Toronto, ON, Canada.

[G]Petersen, L. A., & **McNeil**, N. M. (2013, October). Counting practice with pictures but not objects improves children's understanding of cardinality. In K. H. Herold (Organizer), *Concrete symbols and instruction: Do they facilitate or hinder learning?* Symposium presented at the Biennial Meeting of the Cognitive Development Society (CDS). Memphis, TN.

[G]Fuhs, M. W., [G]Byrd, C. E., & **McNeil**, N. M. (2013, October). Specific number sense skills mediate the association between inhibitory control and mathematics achievement. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS). Memphis, TN.

[G]Byrd, C. E., & **McNeil**, N. M., Brletic-Shipley, H., & [R]Matthews, J. M. (2013, September). Development of a comprehensive intervention to improve children's understanding of math equivalence. Poster presented at the Fall Conference of the Society for Research on Educational Effectiveness (SREE). Washington, DC.

[P]Chesney, D. L., [P]Matthews, P. G., & **McNeil**, N. M. (2013, May). Fraction format affects adults' performance on magnitude comparison problems. Poster presented at the Annual Meeting of the Association for Psychological Science (APS), Washington, D.C.

[U]Fyfe, E. R., & **McNeil**, N. M. (2013, May). The benefits of "concreteness fading" generalize across task, age, and prior knowledge level. In K. Mix (Organizer), *Learning from concrete models.* Symposium presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Seattle, WA.

[P]Chesney, D. L., **McNeil**, N. M., [P]Matthews, P. G., [G]Byrd, C. E., [G]Petersen, L. A., [U]Wheeler, M., [U]Fyfe, E. R., & [R]Dunwiddie, A. E. (2013, May). Organization matters: Children's mental organization of arithmetic knowledge correlates with understanding of math equivalence. Talk presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Seattle, WA.

[G]Byrd, C. E., **McNeil**, N. M., [P]Chesney, D. L., & [P]Matthews, P. G. (2013, May). Children's "arithmetic-specific" interpretation of the equal sign constitutes risk for poor learning of early algebra. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Seattle, WA.

[P]Chesney, D. L., **McNeil**, N. M., [G]Petersen, L. A., & [R]Dunwiddie, A. E. (2012, May). Arithmetic practice that includes relational words promotes conceptual understanding and computational fluency. Poster presented at the Annual Meeting of the Association for Psychological Science (APS). Chicago, IL.

[U]Wester, L. E., & **McNeil**, N. M. (2011, March). Familiar contexts can promote transfer of children's mathematical knowledge. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD). Montreal, Quebec, Canada.

[U]Crooks, N. M., Alibali, M. W., & **McNeil**, N. M. (2011, March). Highlighting relevant problem features improves encoding of equivalence problems and leads to the generation of correct strategies. Poster resented at the Biennial Meeting of the Society for Research in Child Development (SRCD). Montreal, Quebec, Canada.

McNeil, N. M., [R]Dunwiddie, A. E., [G]Petersen, L. A., [U]Fyfe, E. R., & Brletic-Shipley, H. (2010, June). Arithmetic practice that promotes conceptual understanding and computational fluency: Year 3. Poster presented at the Annual Research Conference of the Institute of Education Sciences (IES), National Harbor, MD.

[U]Fyfe, E. R., & **McNeil**, N. M. (2009, October). Benefits of "concreteness fading" for children with low knowledge of mathematical equivalence. Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), San Antonio, TX.

McNeil, N. M., [R]Dunwiddie, A. E., [G]Petersen, L. A., [U]Fyfe, E. R., & Brletic-Shipley, H. (2009, June). Arithmetic practice that promotes conceptual understanding and computational fluency: Year 2. Poster presented at the Annual Research Conference of the Institute of Education Sciences (IES), Washington, DC.

McNeil, N. M. (2009, May). Effect of arithmetic practice on mathematical thinking. In C. L. O'Donnell & E. R. Albros (Co-Chairs), *Developing preschool through middle school students' understandings of fundamental concepts in mathematics.* Symposium presented at the Annual Convention of the Association for Psychological Science, San Francisco, CA.

McNeil, N. M. (2009, April). Invited Discussion: Evaluating the role of input in children's (mis)understanding of mathematical equivalence. In M. M. Capraro (Chair), *An international perspective on sixth graders' interpretation of the equal sign.* Symposium presented at the Annual Meeting of the American Education Research Association (AERA), San Diego, CA.

[G]Petersen, L. A., & **McNeil**, N. M. (2009, April). Effect of concrete objects on counting skill: An interaction between perceptual richness and established knowledge. In P. G. Matthews (Organizer), *Unpacking concreteness: Understanding how symbol choice impacts learning and transfer.* Symposium presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Denver, CO.

Alibali, M. W., Prather, R. W., & **McNeil**, N. M. (2009, April). Are abstract or concrete materials most beneficial for learning? It depends on problem difficulty and learners' skills. In M. J. Nathan (Organizer), *The role of concrete examples in learning math: Resolving some paradoxes.* Symposium presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Denver, CO.

McNeil, N. M., [R]Dunwiddie, A. E., Brletic-Shipley, H., [G]Petersen, L. A., & [U]Gibson, M. H., (2008, June). Arithmetic practice that promotes conceptual understanding and computational fluency. Poster presented at the Annual Research Conference of the Institute of Education Sciences (IES), Washington, DC.

[G]Petersen, L. A., & **McNeil**, N. M. (2007, October). How do different types of objects affect children's developing counting skill? Poster presented at the Biennial Meeting of the Cognitive Development Society (CDS), Santa Fe, NM.

McNeil, N. M., Jarvin, L., Sternberg, R. J., Uttal, D. H. (2007, March). Trade offs between more and less concrete manipulatives. In D. H. Uttal (Organizer), *Concreteness and cognitive development: New perspectives on a classic developmental issue.* Symposium presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Boston, MA.

McNeil, N. M. (2007, March). Tales of a fourth-grade misconception: U-shaped development in children's performance on mathematical equivalence problems. In J. H. Bisanz & J. L Sherman (Organizers), *Overcoming misconceptions: Mechanisms of positive change for a common mathematical misunderstanding.* Symposium presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Boston, MA.

Jarvin, L., **McNeil**, N. M., & Sternberg, R. J. (2006, June). Understanding students' mathematical competencies: An exploration of the impact of contextualizing math problems. Poster presented at the Institute of Education Sciences (IES) Research Conference, Washington, DC.

McNeil, N. M., Weinberg, A., Alibali, M. W., & Knuth, E. J. (2005, April). Children's prior knowledge of letters influences the interpretation of algebraic expressions. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Atlanta, GA.

Weinberg, A., Stephens, A. C., **McNeil**, N. M., Krill, D.E., Knuth, E. J., & Alibali, M. W. (2004, April). Students' initial and developing conceptions of variable. Paper presented at the 2004 meeting of the American Educational Research Association (AERA), San Diego, CA.

Evans, J. L., Alibali, M. W., Mainela-Arnold, E., **McNeil**, N. M., Ryan, K. E., & Simon, L. C. (2003, June). The role of gesture in comprehension of spoken language in children with E-SLI and ER-SLI. Poster presented at the Symposium for Research on Child Language Disorders (SRCLD), Madison, WI.

McNeil, N. M., & Alibali, M. W. (2002, June). A well-established schema can interfere with learning: Evidence from children's mathematical problem solving. Poster presented at the Fourteenth Annual Convention of the American Psychological Society (APS), New Orleans, LA.

CONFERENCE PRESENTATIONS (continued)

McNeil, N. M., & Alibali, M. W. (2001, October). Don't be too sure about that: Certainty about an incorrect strategy hinders cognitive change. Poster presented at the Second Biennial Meeting of the Cognitive Development Society, Virginia Beach, VA.

McNeil, N. M. (2001, April). Mental sets and flexibility in the development of mathematical skill. Poster presented at the Biennial Meeting of the Society for Research in Child Development (SRCD), Minneapolis, MN.

McNeil, N. M., Alibali, M. W., & Evans, J. L. (1998, June). *Cognitive deficits in children with Specific Language Impairments: Do gestures reveal hidden knowledge?* Poster presented at the Symposium for Research on Child Language Disorders (SRCLD), Madison, WI.

MASTER'S THESES DIRECTED

Chineme Jane Otuonye (Current).

Patrick Kirkland (Passed June 2021). *Developing a measure of student number sense.*

Connor O'Rear (Passed June 2017). *Optimizing input to accelerate children's acquisition of the cardinal word principle.*

Caroline Byrd Hornburg (Passed April 2014). *Gesturing may not always make learning last.*

Lori Petersen (Passed April 2010). *The effects of concrete objects on counting skill: An interaction between perceptual features and established knowledge*.

M. Claire Keultjes (Passed April 2010). *Children's understanding of approximate addition depends on problem format*.

DOCTORAL DISSERTATIONS DIRECTED

Patrick Kirkland (Passed proposal, August 2021; Successfully defended, May 2022). *Characterizing mature number sense and its association to other constructs in middle school students.*

Connor O'Rear (Passed proposal, October 2019; Successfully defended, March 2020). *Counting book features that encourage both counting the set and labeling the set size during shared book reading.*

Caroline Byrd Hornburg (Passed proposal, December 2015; Successfully defended, April 2017). *Optimizing problem format to facilitate children's understanding of math equivalence.*

Lori Petersen (Passed proposal, February 2012; Successfully defended, Summer 2013). *How does the representational status of to-be-counted objects affect children's understanding of cardinality?*

PROFESSIONAL AFFILIATIONS AND MEMBERSHIPS

American Educational Research Association
Association for Psychological Science
Cognitive Development Society
Cognitive Science Society
Mathematical Cognition and Learning Society
Society for Research in Child Development
Spark Society

OTHER NOTABLE CONTRIBUTIONS

Teaching

Courses Taught or Designed

Research Lab in Psychology, University of Notre Dame, 2006-present
Research Lab in Education, Schooling, and Society, University of Notre Dame, 2012-present
Topics in Educational Psychology: Learning and Instruction (ACE Teaching Fellows M.Ed.), University of Notre Dame, spring semesters 2007-2012, 2014-2022, 2024
Cognitive Science of Reading and Dyslexia (Undergrad), University of Notre Dame, 2023
Cognitive Science Goes to School (Undergraduate, CBL), University of Notre Dame, 2020, 2021
Developmental Psychology and Moral Education in Childhood and Adolescence (ACE Teaching Fellows M.Ed.), University of Notre Dame, summers 2007, 2009-2012, 2014-2022, 2024
Using Research to Help Children Learn (Designed, Undergraduate), University of Notre Dame, 2013
Cognitive Development (Graduate), University of Notre Dame, 2008, 2024
Cognitive Development (Undergraduate), University of Notre Dame, 2007, 2008, 2010
Research Methods (Undergraduate), University of Notre Dame, 2006

Undergraduate Students in the CLAD Lab

Current: Carlton Clay (2025-), Ari Bond (2025-), Bridget Bodey (2025-), Brianna Brandon (2025-), Anna Hawkins (2025-), Claire McCann (2025-), Emma Latchford (2025-), Ella Walter (2025-), Owen Leneghan (2025-), Keanu Saenz (2025-), Glory Fouetio (2025-), Alana Jardenil (2025-), Nora Kulak (2025-), Jennifer Jo (2025-), Abbie Uche-Ejekwu (2025-), Abby Klink (2024-), Allison Petrasek (2024-), Audrey Berryman (2024-), Ella Hunter (2024-), Emma Campbell (2024-), Evan Mollick (2024-), Grace Gillie (2024-), Marly Hanna (2024-), Nora Cronin (2024-), Kelechi Nduka (2024-), Katie Burke (2024-), Sarah Elliott (2024-)

Natalie Gildea (2024-)
Research: Cognitive reflection, high-quality instruction, cognitive mechanisms involved in the coordination of orthographic, phonological, and semantic information during passage reading
Honors: Neuroscience Honors Program

Maxine Zamora (2024-)
Research: Student-tutor relationships
Honors: Glynn Family Honors Thesis

Brody Rolston (2023-)
Research: Mature number sense
Honors: Cognition Fellow

Madison Frazier (2023-, secondary advisor)
Research: Promoting adaptive attributions in educators working with students who face barriers to equal education
Honors: Senior Thesis

Tommy Hedman (2024-2025)
Research: Mature number sense
After Notre Dame: Clinical Technician gap year before med school

Bridget Blaney (2024-2025)
Research: Preschool progress monitoring and school readiness
Ater Notre Dame: Medical School at University of Minnesota

Ryan Georgi (2024-2025)
Research: Preschool school readiness, high-quality instruction
After Notre Dame: ACE Teaching Fellows

Katherine Honegger (2024-2025)
Research: Learning and understanding of fractions
After Notre Dame: PACE Graduate Teaching Program

Ella Darrow (2024-2025)
Research: Cognitive reflection; early number
After Notre Dame: Science Teacher at Alleman Catholic High School

Riley Bock (2023-2025)
Research: Shared book reading and addition fluency
Honors: Senior Thesis
After Notre Dame: ACE Teaching Fellows

Valeria Sanchez Martinez (2023-2025)
Research: Cognitive reflection
Honors: Cognition Fellow
After Notre Dame: UCLA Public Health Scholars Training Program

Daniela Leal Bonifasi (2023-2025)
Research: Shared book reading
After Notre Dame: M.Ed. at Teachers College at Columbia University

Katie Sack (2022-2025)
Research: Reading achievement
After Notre Dame: Medical Assistant gap year before med school

Hayden Tomlin (2022-2025)
Research: Arithmetic fluency
After Notre Dame: Dental School at University of Connecticut

Lauren Lee (2022-2025)
Research: Mature number sense
Honors: Valdes Impact Award
After Notre Dame: Gap year before medical school

Caroline Bishop (2022-2025)
Research: Mature number sense, Counting books
Honors: Senior Thesis; Cognition Fellow
After Notre Dame: ACE Teaching Fellows

Mikayla Copley (2022-2025)
Research: Mature number sense
Honors: Cognition Fellow
After Notre Dame: Medical Assistant at Del Pilar Medical and Urgent Care Center

Nicholas Buhay (2023-2024)
Research: Counting books
After Notre Dame: Consultant at Recon Strategy

Erin Ward (2022-2024)
Research: Shared book reading
After Notre Dame: St. Joseph Regional Medical Center

Ashley Utnage (2022-2024)
Research: Mature number sense
After Notre Dame: ACE Teaching Fellows

Shaker Erbini (2022-2024)
Research: Understanding of the equal sign
Honors: Salutatorian
After Notre Dame: Medical School at Indiana University

Emmanuel Levy (2022-2024)
Research: Mature number sense
Honors: Senior Recognition Award in Psychology; The Dr. Robert Joseph Barnet Award
After Notre Dame: Service then Medical School at LSU

Rachel Thompson (2022-2024)
Research: Mature number sense
Honors: Cognition Fellow
After Notre Dame: ACE Teaching Fellows

Cade Whitsitt (2022-2024)
Research: Mature number sense
Honors: Cognition Fellow
After Notre Dame: Registered Behavior Technician at Action Behavior Centers

Emma Sayler (2022-2024)
Research: Understanding of the equal sign; mature number sense
Honors: Senior Thesis, Cognition Fellow
After Notre Dame: ACE Teaching Fellows

Emily Kirk (2022-2024)
Research: Understanding of the equal sign; mature number sense; fractions
Honors: Senior Thesis

Christian Yoder (2022-2024)
Research: Fraction workbook
After Notre Dame: Medical School at University of Cincinnati

Sophia Alvarez (2021-2024)
Research: Mature number sense; integration of math and reading
Honors: Senior Honors Thesis; Cognition Fellow, Santos Award for Achievement in Psychology
After Notre Dame: ACE Teaching Fellows

Sarah Ochocki (2021-2024)
Research: Understanding of the equal sign; mature number sense
Honors: Senior Thesis
After Notre Dame: Civic Innovation Fellow with enFocus

Saachi Kumar (2021-2024)
Research: Mature number sense; counting books
Honors: Senior Honors Thesis
After Notre Dame: Medical School at Emory

Stephanie Ona (2021-2024)
Research: Counting books; mature number sense
Honors: Cognition Fellow
After Notre Dame: ACE Teaching Fellows

Tiana Sullivan (2021-2024)
Research: Optimizing instruction on mathematical equivalence for English Language Learners
Honors: Outstanding Undergraduate Leadership and Service Award in Neuroscience

Katherine O'Neal (2021-2024)
Research: Mature number sense; service to the Black community
After Notre Dame: Fulbright Teaching Assistant in Czech Republic

Caroline Mohammed (2021-2023)
Research: Mature number sense
After Notre Dame: Postbac neuroscience research at University of North Carolina at Chapel Hill

Sofia Nakfoor (2021-2023)
Research: Use of evidence-based instructional practices for teaching elementary mathematics
After Notre Dame: Fulbright Teaching Fellowship in Spain

Nicole Campbell (2021-2023)
Research: Mature number sense; cognitive reflection
Honors: Senior Thesis
After Notre Dame: ACE Teaching Fellows

Alexa Mogan (2020-2023)
Research: Use of comparison in mathematics; optimizing instruction for PK-12 mathematics
Honors: Honors Thesis, Santos Award for Distinction in Psychology, National Science Foundation (NSF) Graduate Fellowship
After Notre Dame: Graduate student in psychology at Vanderbilt University

Madison Zajas (2019-2023)
Research: Understanding of cardinality; optimizing instruction for elementary math
After Notre Dame: Year as an EMT while preparing for medical school

Elena Denner (2021-2022)
Research: Mature number sense

Megan Dillon (2021-2022)
Research: Mature number sense
After Notre Dame: Graduate school in speech-language pathology at Vanderbilt

Grace Monagan (2021-2022)
Research: Optimizing instruction on mathematical equivalence for English Language Learners
Honors: Senior Thesis; Senior Recognition Award in Psychology
After Notre Dame: High school math teacher with Teach For America in Indianapolis

Grace Fjermedal (2020-2022)
Research: Understanding of cardinality; optimizing instruction for elementary math and literacy
After Notre Dame: Postbac Research Associate at the Yale Child Study Center

Mitchell Kennedy (2020-2022)
Research: Understanding of cardinality; optimizing instruction for elementary math and literacy
After Notre Dame: Medical school at University of Massachusetts

Ellyn Jarrell (2019-2022)
Research: Understanding of cardinality; understanding of the equal sign
After Notre Dame: Application & Program Analyst with Deloitte Consulting

Isabella Seip (2019-2022)
Research: Understanding of cardinality; optimizing instruction for elementary math
Honors: Senior Thesis
After Notre Dame: Graduate student in clinical psychology at University of North Carolina Wilmington

Amy Bahadursingh (2019-2022)
Research: Understanding of cardinality; understanding of mathematical equivalence
After Notre Dame: Consultant in Chicago

Shannon Celeste (2019-2022)
Research: Understanding of cardinality; optimizing instruction for elementary math
Honors: Senior Thesis
After Notre Dame: Postbac Research-Practice Associate with CLAD Lab and Tutor-ND

Hannah Koch (2019-2021)
Research: Understanding of cardinality; optimizing instruction for elementary math
After Notre Dame: Clinical intern at Parkview hospital

Alexandra Hicks (2019-2021)
Research: Understanding of cardinality
After Notre Dame: Nutritional Sciences at University of Arizona

Chloe Spang (2020-2021)
Research: How mathematics word problem design affects student thinking
Honors: Senior Thesis
After Notre Dame: ACE Teaching Fellows

Micaela Maron (2020-2021)
Research: Understanding of cardinality and attention
Honors: Senior Thesis
After Notre Dame: Postbac, Sleep and Mental Health Research Center at Brown University

Abubakar Mian (2020-2021)
Research: Understanding of cardinality; optimizing instruction for elementary math and literacy
After Notre Dame: AmeriCorps Behavioral Health Coordinator at UPMC

Jisel Gomez (2019-2021)
Research: Understanding of cardinality; optimizing instruction for elementary math
After Notre Dame: ACE Teaching Fellows

Olivia Jazbutis (2019-2021)
Research: Understanding of cardinality; ideal spacing for practicing arithmetic facts
Honors: Honors Thesis; Glynn Research Grant
After Notre Dame: Fulbright Teaching Fellowship in Spain

William Huffman (2020)
Research: Understanding of cardinality
After Notre Dame: Medical school at University of Pennsylvania

Odalis Gonzalez (2019)
Research: Understanding of cardinality; optimizing instruction for second and third grade math
After Notre Dame: Fifth grade teacher at St. Therese

Claire Rudden (2018-2020)
Research: Understanding of cardinality; promoting student number sense
After Notre Dame: ACE Teaching Fellows

Alli VanOverberghe (2018-2020)
Research: Understanding of cardinality; optimizing instruction for second and third grade math
After Notre Dame: Graduate student in school psychology at Columbia University

Alice Felker (2017-2020)
Research: Understanding of cardinality; learning and developmental disabilities
Honors: Senior Thesis; ISLA Grant, Santos Award for Distinction in Psychology
After Notre Dame: Director of L'Arche Highland House then MBA program at UVA

Samuel Adofo (2019-2020)
Research: Understanding of cardinality; education policy; mathematical equivalence

Caila Lindsey (2019)
Research: Understanding of cardinality; children's media use

Katie Bellaschi (2019)
Research: Understanding of cardinality
After Notre Dame: Executive Search and Assessment Professional at Russell Reynolds Associates

Christina Hayford (2018-2019)
Research: Understanding of cardinality
After Notre Dame: LU-CHOICE Service Through Teaching Program

Bridget Naylor-Komyatte (2018-2019)
Research: Understanding of cardinality; restorative justice in education
After Notre Dame: Immigration Counseling Service

Carolina Botero (2018-2019)
Research: Understanding of cardinality
After Notre Dame: Masters in Education at Columbia University

Maria "Lily" Kenesey (2018-2019)
Research: Understanding of cardinality
After Notre Dame: Masters in Education at University of Michigan

Grace Devitt (2018-2019)
Research: Understanding of cardinality
After Notre Dame: Postbac Research Assistant at University of Chicago

Elizabeth Chen (2017-2019)
Research: Understanding of cardinality; how the narrativity of books affects mathematics learning
Honors: Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: Postgraduate service with Bon Secours volunteer Ministry in Baltimore

Kimberly Walter (2017-2019)
Research: Understanding of cardinality; role of pediatricians in promoting early cognitive development
Honors: Senior Thesis; ISLA Undergraduate Research Grant
After Notre Dame: Medical School at Texas A&M

Wiktoria Kozlowska (2016-2019)
Research: Understanding of cardinality; stereotype threat
Honors: Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: Middle School Mathematics Teacher

Sarah Sun (2016-2018)
Research: How language shapes mathematical understanding
After Notre Dame: Educational Research Assistant at Child Trends

Zofia Zdanowicz (2017-2018)
Research: Individual differences in early understanding of mathematics, effects of poverty
Honors: Honors Thesis
After Notre Dame: Medical School at Loyola University

Regina Ekaputri (2016-2018)
Research: Use of visual thinking strategies to promote mathematical problem solving
Honors: Senior Thesis
After Notre Dame: ACE Teaching Fellows

Rachel Iverson (2015-2018)
Research: Understanding of cardinality
Honors: Summer Research Internship in Golinkoff's Lab at University of Delaware; Honors Thesis
After Notre Dame: AmeriCorps then Peace Corps

Jenna Galuska (2015-2018)
Research: Understanding of math equivalence; how to reduce stereotype threat in women math majors
Honors: CLAD Lab's NSF Summer Research Fellowship for Math Majors; Honors Thesis
After Notre Dame: Analyst with Huron Consulting Group

Alex Acuna (2015-2017)
Research: Factors that affect people's attention to number
After Notre Dame: Case Western Reserve University School of Medicine

Alexandria Viegut (2015-2017)
Research: Approximate number system (ANS) training and understanding of cardinality
Honors: Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: Graduate school in educational psychology at University of Wisconsin-Madison

Thomas Hughes (2015-2017)
Research: Which concepts and skills provide the best foundation for children's school math learning?
After Notre Dame: Deloitte in NYC

Natalie Vos (2015-2017)
Research: Which concepts and skills provide the best foundation for children's school math learning?
After Notre Dame: PACE Teaching Fellows

Elena Silla (2014-2017)
Research: Approximate number system (ANS) training and understanding of math equivalence
Honors: ISLA Undergraduate Research Grant; Summer Research Internship in the Social Cognitive Development Lab at Yale University; ACE Intern; Senior Thesis
After Notre Dame: ACE Teaching Fellows then Ph.D. in Learning Sciences at Delaware

Shannon Gaylord (2014-2017)
Research: Understanding of mathematical equivalence and understanding of cardinality
Honors: Senior Thesis
After Notre Dame: Masters in Social Work at University of North Carolina at Chapel Hill

Patrick Rodgers (2015-2016)
Research: Understanding of cardinality
After Notre Dame: ACE Teaching Fellows

Alexandra Bohnsack (2015-2016)
Research: Kindergarten intervention and understanding of cardinality
Honors: Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: ACE Teaching Fellows

Taylor Kelly (2014-2016)
Research: Understanding of mathematical equivalence
After Notre Dame: ACE Teaching Fellows

Ellie Sato (2013-2016)
Research: Understanding of mathematical equivalence
Honors: Department of Psychology Senior Recognition Award
After Notre Dame: Medical school at University of Wisconsin-Madison

Steven SonSon (2014-2015)
Research: Understanding of mathematical equivalence
After Notre Dame: Unknown; did not stay in lab through senior year

Grace Bunsa (2013-2015)
Research: Understanding of cardinality and understanding of mathematical equivalence
After Notre Dame: Position in Human Resources

Emily Geiger-Medina (2013-2015)
Research: Understanding of mathematical equivalence and effects of approximate number system (ANS) training in children at risk of academic failure
After Notre Dame: Mathematica Policy Research

Alex Bohem (2013-2015)
Research: Understanding of math equivalence; understanding of cardinality
Honors: CLAD Lab's NSF Summer Research Fellowship for Math Majors; Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: Graduate Student in Actuarial Science at Middle Tennessee State

Alice Tollaksen (2013-2015)
Research: Understanding of cardinality
Honors: Senior Thesis; ISLA UROP Senior Thesis Grant
After Notre Dame: Au Pair for family in Paris, France

Marisa Rieber (2012-2015)
Research: Understanding of math equivalence; gender differences in math performance
Honors: Senior Thesis
After Notre Dame: PACE Teaching Fellows

Valerie Williams (2012-2015)
Research: Understanding of mathematical equivalence
After Notre Dame: Masters in nursing at NYU

Erin Celeste (2012-2015)
Research: Understanding of mathematical equivalence
Honors: CLAD Lab's NSF Summer Research Fellowship for Math Majors; Honors Thesis; Glynn Family Honors Program Undergraduate Research Grant
After Notre Dame: ACE Teaching Fellows

Erin Foley (2013-2014)
Research: Understanding of mathematical equivalence
After Notre Dame: Doctoral Program in Occupational Therapy at MGH Institute of Health Professions

Molly Knapp (2013-2014)
Research: Understanding of mathematical equivalence
After Notre Dame: Democracy International

Casey Hall (2012-2014)
Research: Understanding of cardinality; Use of concreteness fading in math instruction
Honors: Summer Research Internship in the Laboratory for Child Development at John's Hopkins; UROP Undergraduate Research Grant; Honors Thesis; Santos Award for Distinction in Psychology
After Notre Dame: Graduate student in psychology at University of Chicago

Katelynn Kelly (2012-2013)
Research: Understanding of mathematical equivalence
Honors: CLAD Lab's NSF Summer Research Fellowship for Math Majors
After ND: AmeriCorps then graduate student in Learning Sciences & Policy at University of Pittsburgh

Paul DiGaetano (2012-2013)
Research: Improving children's understanding of mathematical equivalence
After Notre Dame: Medical student at St. George's University

Rebecca Kibler (2011-2013)
Research: Arithmetic practice that promotes conceptual understanding and computational fluency
After Notre Dame: Teaching Assistant in the French Embassy's Teaching Assistant Program in France then Teach for America

Andrea Renfroe (2010-2013)
Research: Arithmetic practice that promotes conceptual understanding and computational fluency
After Notre Dame: Graduate student in speech and language pathology at University of Washington

Serah Han (2010-2011)
Research: Use of the equal sign in 6th-8th grade textbooks in the U.S. and Japan
Honors: UROP Undergraduate Research Grant to conduct research in Japan
After Notre Dame: Business Management Associate at General Mills

Anne Smrek (2011-2012)
Research: Sources of individual differences in susceptibility to mental sets
Honors: Glynn Family Honors Program Summer Award; UROP Undergraduate Research Grant; Honors Thesis
After Notre Dame: Graduate student in school psychology at Ohio State University

Mary Wheeler (2010-2012)
Research: Sources of individual differences in understanding of mathematical equivalence
Honors: Honors Thesis
After Notre Dame: Research Assistant at University of Texas at Dallas

Stephanie Borjas (2010-2012)
Research: Advantages and disadvantages of concrete vs. abstract representations in mathematics
Honors: McGrath Award (Summer UROP)
After Notre Dame: Graduate student in school psychology at University of Wisconsin

Lauren Wester (2010-2011)
Research: Effects of contextualization of mathematics problems on learning and transfer
After Notre Dame: Graduate student in French at Notre Dame, Fulbright Fellow

Erica Pepitone (2009-2011)
Research: Arithmetic practice that promotes conceptual understanding and computational fluency
After Notre Dame: Graduate student in Irish writing at Trinity College Dublin

Joanna Thurnes (2009-2010)
Research: Arithmetic practice that promotes conceptual understanding and computational fluency
Honors: Senior Recognition Award in Psychology
After Notre Dame: Graduate student in physical therapy school

Jenny Heipp (nee Heil) (2008-2010)
Research: Early symbolic understanding; effects of games on children's mathematics learning
Honors: Honors Thesis; Senior Recognition Award in Psychology
After Notre Dame: Jesuit Volunteer Corps, Graduate student in psychological anthropology at Wash U

Emily Fyfe (nee Conrad) (2007-2010)
Research: Advantages and disadvantages of concrete vs. abstract representations in mathematics
Honors: Loughrey Award (summer UROP), Honors Thesis, Santos Award for Distinction in Psychology, National Science Foundation (NSF) Graduate Fellowship
After Notre Dame: Graduate student in psychology at Vanderbilt University

Noelle Crooks (2008-2009)
Research: Effects of practice on problem solving
Honors: Honors Thesis, National Science Foundation (NSF) Graduate Fellowship Honorable Mention
After Notre Dame: Graduate student in psychology at University of Wisconsin-Madison

Krysten Bold (formerly Williams) (2007-2008)
Research: Arithmetic practice that promotes conceptual understanding and computational fluency
After Notre Dame: Graduate student in clinical psychology at Rutgers University

Christopher Howard (McNair/Notre Dame Scholars Program, summer 2007)
Research: Association between visual-spatial working memory and math performance

Matthew Gibson (2006-2008)
Research: Effects of problem format on young children's conceptual understanding of addition
Honors: McGrath Scholar (summer UROP), Honors Thesis, Santos Award for Distinction in Psychology
After Notre Dame: Teach for America

Postbaccalaureate Research Associate Advising

Brooke Poston (2024-)
Current Postbac Research Associate for CLAD Lab and Tutor-ND
Co-advisor: Chloe Gibbs, Economics

Rose Beacham (2024-)
Current Postbac Research Associate for CLAD Lab and Tutor-ND
Co-advisor: Clark Power, Moral Development

Amy Miyahara (2023-)
Current Postbac Research Associate and Lab Manager for CLAD Lab
Honors: Sweeney Fellow
After ND, Fall 2025: Graduate student in psychology as Washington University in St. Louis

Alina Boada (2023-2024)
Co-advisor: Michelle Luna
After Postbac: Graduate student in speech-language pathology at Syracuse

Tomás Aguilar-Fraga (2023)
Postbac Research Associate for CLAD Lab and Tutoring Specialist for Tutor-ND

Chineme "Jane" Otuonye (2022-2023)
After Postbac: Graduate Student in psychology at University of Notre Dame

Claire Guang (2021-2023)
After Notre Dame: Graduate Student in psychology at University of Chicago

Shannon Celeste (2022-2023)
After Notre Dame: Child Life Specialist Graduate Program at Miami University

Megan Miranda (2017-2018)
After Notre Dame: Graduate student in school psychology at Tufts University

Lauren Crawford (2016-2017)
After Notre Dame: Graduate student in educational psychology at Boston College

Brianna Devlin (2013-2016)
After Notre Dame: Graduate student in learning sciences at University of Delaware

Cristina Carrazza (2013-2015)
After Notre Dame: Graduate student in psychology at University of Chicago

Julie Johnson (2012-2014)
After Notre Dame: MBA program at Iowa State University

Mary McKeever (2011-2013)
After Notre Dame: School of Veterinary Medicine at the Ohio State University

Graduate Student Advising

Emma Page (2025-)
Research: Developmental pathways to high mathematical achievement, individual differences in learning mechanims
Honors: ND PIER Burns Fellowship

Chineme "Jane" Otuonye (2024-)
Research: Numerical cognition, role of language in cognition, dyadic interactions in early learning
Honors: ND PIER Burns Fellowship

Patrick Kirkland (2017-2022)
Research: How the design of math problems affects problem solving; measuring mature number sense
Honors: ND PIER Burns Fellowship
After Grad School: Assistant Professor of the Practice, Institute for Educational Initiatives

Cobb (2020-2022)
Research: Harnessing and improving utility value interventions to help spark Black children's interest in math and other tools for liberating their community
Honors: Notebaert Fellowship
After Notre Dame: High School Math Teacher, Consultant

Connor O'Rear (2014-2020)
Research: Improving math skills in young children at risk for academic failure; cardinality
After Notre Dame: Postdoctoral Research Associate at Purdue University (w/ Purpura)

Caroline Byrd Hornburg (2011-2017)
Research: Understanding of mathematical equivalence
Honor: National Science Foundation (NSF) Graduate Fellowship
After Notre Dame: Postdoctoral Research Associate at Purdue University (w/ Karpicke & Purpura)

Lori Petersen (2007-2013)
Research: Use of concrete objects and abstract symbols to represent mathematics concepts
After Notre Dame: Postdoctoral Research Associate at University of Chicago (w/ Levine & Beilock)
M. Claire Keultjes (2008-2010)
Research: Effects of formal mathematics instruction on informal mathematics reasoning
After Notre Dame: Case Manager at Institute for Community Living

Postdoctoral Fellow Advising

Kelly-Ann Gesuelli (2022-2025)
Educational background: B.S. College of New Jersey, Ph.D. University of Delaware (w/ Nancy Jordan)
After Notre Dame: Assistant Professor at University of Florida

Michelle Luna (2022-2024)
Educational background: B.S. University of Notre Dame, Ph.D. UCLA (w/ Catherine Sandhofer)
After Postdoc: Assistant Research Professor and Director of Tutor-ND at University of Notre Dame

Dana Chesney (2010-2013)
Educational background: B.S. University of Virginia, Ph.D. Rutgers (w/ Rochel Gelman)
After Notre Dame: Postdoc at OSU then Assistant Professor at St. John's University

Percival Matthews (2010-2012)
Educational background: B.A. Harvard, Ph.D. Vanderbilt (w/ Bethany Rittle-Johnson)
After Notre Dame: Assistant Professor at University of Wisconsin-Madison

Staff Research Associate Advising

Joanna Azar (2018-2021)
After Notre Dame: Math Interventionist at Union Preparatory Academy

April Dunwiddie (2007-2012)
After Notre Dame: Stay-at-home mom, as of 2021 back to being a middle school teacher

Masters, Preliminary Examination, and Dissertation Committees

Yanran Chen (Dissertation, 2024-2025)
Abigail Csik Doolen (Dissertation, 2020-2021)
Jerry Fisher (Dissertation, 2018-2019)
Ariel Aguero (Masters, 2018-2019; Dissertation, 2021-)
Amber Shoaib (Dissertation, 2017-2018)
Abbie Thompson (Masters, 2016-2017; Dissertation, 2017-2018)
Meg Trucano (Dissertation, 2012-2013)
Paul Stey (Masters, 2010-2011; Dissertation, 2013-2014)
Andrea Tamplin (Masters, 2007-2009)
Melissa Mitchell (Masters, 2008-2009)

M. Windy McNerney (Preliminary Examination, 2008)
Andrea Christensen (Masters, 2008)

University, Institute, College and Departmental Service

2012-23, 24-	Member, Institute for Educational Initiatives (IEI) Faculty Committee
2024-	Member, Search Coordination Committee for Endowed Chairs and University Initiatives
2020-	Member, Tutor-ND Steering Committee, https://sites.google.com/nd.edu/tutornd
2016-	Faculty Committee, ND Program for Interdisciplinary Education Research (PIER)
2015-	Faculty Lecturer, Notre Dame Alumni Hesburgh Lecture Series
2025	Member, Selection Committee for one of the Office of the Provost's faculty excellence awards recognizing outstanding contributions to research, teaching, and service
2024-2025	Member, IEI Self-Study Committee
2015-20, 23-25	Member, Department of Psychology Executive Committee of the Committee on Appointments and Promotions (CAP-EC)
2024	Moderator, Seeds of Compassion: Nurturing Early Childhood Development Globally in Catholic Communities, University of Notre Dame
2024	Invited Speaker, Notre Dame Excellence in Teaching Conference (Awarded a Henkels Mini-Conference Grant in the amount of $3000 to help support the conference)
2023	Chair, Cognition Brain & Behavior Search Committee
2020-2021	Member, Search Committee for Director of the Institute for Educational Initiatives
2020	Organizer/Mentor, A&L Grant Writing Program for Faculty Preparing NSF Grants *4 of the 6 participants' grant proposals were funded by NSF; yay!
2020	Member, College Human Subjects Research Working Group
2019-2022	Member, IEI Seed Grant Review Committee
2018-2020	Member, Provost's Learning Initiative Committee
2017-2024	Faculty Mentor, Building Bridges Mentoring Program
2017-2021	Faculty Organizer, Cognition, Brain, & Behavior (CBB) Studies Group
2016-2022	Chair, Frabutt Prize for Outstanding Community Based Research Selection Committee
2012-2022	Director, Interdisciplinary Program in Education, Schooling, & Society, Notre Dame
2006-2018	Chair, E. M. Koppitz Child Psychology Graduate Fellowship Nomination Committee
2018-2019	Member, Institute for Educational Initiatives Terminal Degree Committee
2018	Member, ISLA Large Grant Committee

University, Institute, College and Departmental Service (continued)

2018	Member, Department of Psychology Self-Study Committee
2018	Member, Search Committee for Visiting Assistant Professor of Psychology
2018	Panelist, "Holy Cross and the Philosophy of Education" (event for new ND faculty)
2016	Member, Cognition, Brain, & Behavior (CBB) Search Committee for Senior Hire
2015	Member, Cognition, Brain, & Behavior (CBB) Search Committee for Junior Hire
2015-2017	Member, Early Childhood Development Center (ECDC) Standing Committee
2014	Keynote Speaker, College of Arts & Letters Advisory Council Dinner
2014-2016	Member, Institute for Educational Initiatives (IEI) Grad Study Program Planning Committee
2014-2017	Member, University Committee on Women Faculty and Students
2014	Organizer/Host, Henkels Lecture presented by Seth Pollak, Ph.D. (award: $3814)
2014-2016	Member, Advisory Grants Development Committee
2010-2016	Member, Policy and Planning Committee
2012	Member, National Math and Science Initiative (NMSI) Advisory Committee

2012	Member, Search Committee for the Lead Faculty Position for the IEI's Excellence in Science and Math Education Initiative
2012	Presenter, College of Arts & Letters Portion of Junior Parents Weekend
2009-2010	Member, Student Research Participation Committee
2009	Member, Search Committee for IEI Postdoc in Curriculum & Instruction
2008-2009	Member, Colloquium Committee
2008-2009	Member, Space, Parking, and Security Committee
2008-2009	Member, Ad-hoc Committee to Develop Protocol for Participant Payment
2008-2009	Member, Cognitive Search Committee
2008-2009	Member, Search Committee for the IEI Postdoc and Dissertation Award in Education
2007-2009	Faculty Mentor, Academic Honors Program for Student-Athletes at Notre Dame
2006-2009	Member, Committee for Change in Teaching Load
2007-2008	Member, Committee for Research Opportunities in the IEI
2007, 2009	Member, ACE Selection Committee
2007, 08, 16	Member, Developmental Area Preliminary Examination Committee

Professional Service

Associate Editor

Cognitive Science, 2018-present

Editorial Board member

Memory & Cognition, 2020-2023
Journal of Cognition and Development, 2016-2022
Journal of Experimental Psychology: General, 2011-2017, 2021-2022
Journal of Educational Psychology, 2012-2020
Developmental Psychology, 2013-2018

Manuscript reviewer (selection of additional journals I've reviewed for; not exhaustive; ad hoc)

American Educational Research Journal: Teaching, Learning, and Human Development
American Psychologist
Applied Cognitive Psychology
Applied Developmental Science
Behavioral and Brain Sciences
Child Development
Child Development Research
Cognition
Cognition and Instruction
Cognitive Development
Cognitive Psychology
Contemporary Educational Psychology
Developmental Science
Early Childhood Research Quarterly
Educational Psychology Review
Journal for Research in Mathematics Education
Journal of Cognition and Development
Journal of Experimental Child Psychology
Journal of Experimental Psychology: Learning, Memory, & Cognition

Journal of Mathematical Behavior
Journal of Numerical Cognition
Learning and Individual Differences
Learning and Instruction
Mathematical Thinking and Learning
Psychological Science
ZDM-Mathematics Education

Promotion reviews

Provide multiple reviews for psychology departments, departments of human development, and schools of education evaluating candidates for promotion to associate professor with tenure, full professor, and nominations for research awards

Grant reviewer

National Science Foundation (NSF)
- EHR Core Research (ECR) (panel member), 2017-2018, 2019, 2025
- EHR STEM Education Postdoctoral Fellowship Program (panel member), 2022, 2024
- EHR Discovery Research PreK-12 (DRK-12) (panel member), 2020-2021
- EHR Core Research (ECR) (ad hoc), 2015, 2020
- EHR Research and Evaluation on Science and Engineering (REESE) (ad hoc), 2012
- SBE Perception, Action & Cognition (ad hoc), 2012
- SBE Developmental and Learning Sciences (ad hoc), 2008, 2010
- EHR Research on Learning in Formal and Informal Environments (DRL) (grant panel member), 2008

National Research Council Canada (NRCC)
- Social Sciences and Humanities Research Council Insight Grants (ad hoc), 2020
- Natural Sciences and Engineering Research Council Discovery Grants (ad hoc), 2013

U.S. Department of Education, Institute for Education Sciences (IES)
- Math and Science Education (principal panel member), 2015-2018
- Math and Science Education (rotating panel member), 2014

Austrian Science Fund (FWF), Humanities and Social Sciences (ad hoc), 2017
Nuffield Foundation (ad hoc reviewer), 2013

Policy working group

Member, Aspiring Teachers and Tutors Network (ATTN) Policy Working Group – part of a small group of leaders in education selected to help Deans For Impact (DFI) develop a national policy framework for scaling and sustaining high-quality tutoring initiatives that are committed to mobilizing aspiring teachers as tutors

Award selection committee member

Member, Selection Committee for the 2019 IES Outstanding Predoctoral Award (awardee: Sade Bonilla)
Member, Selection Committee for the 2016 APA Distinguished Scientific Award for Early Career Contribution to Cognition and Human Learning (awardee: Tania Lombrozo)
Member, 2015 Boyd McCandless Award Selection Committee (awardee: Felix Warneken)
Chair, 2014 Boyd McCandless Award Selection Committee (awardee: Adriana Galvan)

Conference program committee member or chair

Panel chair (Spatial and Numerical Knowledge), Cognitive Development Society, 2019 Meeting
Program chair, AERA Division C, Section 3 (Mathematics), 2011 Meeting
Program committee member, Cognitive Science Society, 2010 Meeting
Program committee member, APA Division 7, 2008 Convention

Conference submission reviewer

Society for Research on Educational Effectiveness Meeting, Fall 2011, Fall 2013
Annual Conference of the Cognitive Science Society, 2005-2011, 2015
SRCD, Education: Literacy, Math, Science, Curriculum, Teaching, & Learning, 2013 Biennial Meeting
Annual Meeting of the American Educational Research Association, 2007-2012
SRCD, Neurodevelopmental and Cognitive Processes, 2011 Biennial Meeting

Book reviewer

John Wiley & Sons, Inc.

Community Involvement

2021-present	High-Impact Tutor, South Bend Community School Corporation (SBCSC)
2011-present	Prayer of the Faithful Writer (Volunteer), St. Joseph Church, South Bend, IN
2023-present	Educational Research and Professional Learning Consultant (Volunteer), SBCSC
2024	Invited Speaker, League of Women Voters of the South Bend Area
2024	Invited Speaker (with Stephanie Steward-Bridges and Taylor Williams), Thought Leadership Conference, South Bend, IN
2024	Invited Speaker, Tolson Center New Youth Program Orientation
2021-2023	Volunteer Tutor, Boys & Girls Club
2007-2023	Editor, *Cognitive Development News*, a biannual newsletter CLAD Lab disseminates to teachers, parents, and administrators to keep them informed of research findings in psychology and education
2017-2023	Member, South Bend Community School Corporation (SBCSC) Restorative Justice Education Committee (renamed SBCSC RJE Advisory Committee in 2021)
2023	Organizer, *The Right To Read* Film Screenings and Panels at Browning Cinema and St. Joseph County Public Library
2022	Invited Speaker, SBCSC Mentor Training Day for Staff
2015, 2022	Instructor, Notre Dame "Teachers As Scholars" Program
2021	Invited Speaker, Helping Students to Build Foundational Skills to Support Reading for Understanding, SBCSC Darden Elementary
2019-2021	Tutor Coordinator, South Bend Community School Corporation's Marquette Elementary
2014-2019	Exhibitor at Science Alive! at the St. Joseph Co. Public Library
2019	Invited Speaker, Talk With Your Baby, Robinson Community Center, South Bend, IN
2015	Invited Speaker, McKinley Primary Center Faculty/Staff Meeting
2015	Invited Speaker, St. Joseph High School Psychology Classes, South Bend, IN
2014	Invited Speaker, Mishawaka Catholic School Faculty/Staff Meeting
2009-2014	Invited Speaker, Notre Dame RET Summer Program for local math and science teachers
2006-2011	Volunteer Reader, "Read to a Child" Literacy Project with South Bend Public Schools
2009-2010	Bread Baker, St. Joseph Church, South Bend, IN
2005	Director, After-School Algebra Enrichment Programs, North Haven & Wallingford, CT
2003-2004	Coordinator, Middle + High School CCD Programs, St. Paul's, Madison, WI

2001-2003	Volunteer Mathematics Tutor (Undergraduate level), Madison, WI
1999-2005	Bread Baker, St. Paul's University Center, Madison, WI
2002	Facilitator, Professional Development Workshop for math teachers, Madison, WI
1997-2002	CCD Teacher, Elizabeth, PA (5th grade); Sun Prairie, WI (7th grade)
1993-1998	Volunteer for the Sudden Infant Death Syndrome Alliance, Pittsburgh, PA