Elizabeth A. Gunderson, Ph.D.

Indiana University
Psychological and Brain Sciences
1101 E. 10th St., Bloomington, IN 47405

Email: eagunder@iu.edu Twitter: @GundersonLab https://cognitionandlearning.lab.indiana.edu/

2018-2026

EDUCATION	
Doctor of Philosophy , Developmental Psychology, University of Chicago Dissertation: Individual differences in early number knowledge: Variation is learner and the learning environment	2012 in the
Bachelor of Arts, Computer Science & Psychology, Yale University Honors: <i>Magna Cum Laude,</i> Phi Beta Kappa	2005
FACULTY POSITIONS	
Professor, Department of Psychological and Brain Sciences Indiana University, Bloomington, IN	2023-present
Associate Professor , Department of Psychology & Neuroscience Temple University, Philadelphia, PA	2019-2023
Assistant Professor, Department of Psychology & Neuroscience Temple University, Philadelphia, PA	2013-2019
RESEARCH POSITIONS	
Postdoctoral Scholar, Department of Psychology, University of Chicago Chicago, IL, Laboratory of Dr. Susan Levine	2012
Graduate Student , Department of Psychology, University of Chicago Chicago, IL, Laboratory of Dr. Susan Levine	2007-2012
ONGOING GRANTS	
NSF ECR, DRL-2410889, Role: Lead PI PI of U of Dayton site: Fuhs	2023-2028
Improving Flexible Attention to Numerical and Spatial Magnitudes in Your Total Costs (Indiana University site): \$1,787,145	ng Children
NSF ECR, DRL-2347386, Role: Co-PI (PI: Tian) Pathways to Conceptual Knowledge of Decimals Total Costs: \$815,385	2023-2025
NSF ECR, DRL-2201964 (Temple), DRL-2405548 (IU), Role: PI of IU site PIs: Barner (Lead PI), Cordes, Feigenson, Hyde, Kibbe, Libertus, Sullivan Collaborative Research: A Multi-Lab Investigation of the Conceptual Four Early Number Development Total Costs (Indiana University site): \$552,712	

James S. McDonnell Foundation Scholar Award #220020546, Role: Pl

Developing Mathematical Skills and Motivation

Total Costs: \$600,000

NSF ECR, DRL-1760144 (Temple), DRL-2452066 (IU), Role: PI

2018-2024

Co-Pls: Hindman, Newcombe, Newton, Weinraub

Developing STEM Achievement and Motivation: The Role of Spatial Skills and Parent-

Child Interactions
Total Costs: \$2,434,948

COMPLETED GRANTS

NSF CAREER Award, DRL-1452000, Role: Sole PI

2015-2021

CAREER: Spatial Foundations of Symbolic Numeracy Skills in Young Children

Total Costs: \$1,227,559

AWARDS, HONORS, & FELLOWSHIPS

Excellence in Undergraduate Mentoring, Temple University Psychology Honors Program	2023
Excellence in Undergraduate Mentoring, Temple University Psychology Honors Program	2022
Learning Sciences Exchange (LSX) Fellowship (New America/Jacobs Foundation) 202	20-2022
Boyd McCandless Award, APA Division 7 (Developmental Psychology)	2020
International Mind, Brain, and Education Society (IMBES) Early Career Award	2018
James S. McDonnell Foundation Scholar Award	2018
Excellence in Undergraduate Mentoring, Temple University Psychology Honors Program	2018
APS Rising Star Award	2015
APA Achievement Award for Early Career Psychologists	2014
Institute for Education Sciences (IES) Outstanding Pre-Doctoral Fellow Award	2012
Institute for Education Sciences (IES) Pre-Doctoral Fellowship 200	07-2012
Norman H. Anderson Research Fund	2011
Yale College Dean's Research Fellowship	2003

PUBLICATIONS

(Mentee Roles: ^Post-doc, **Graduate Student, *Post-Bac, †Undergraduate Student)

- 1. **Bennett-Pierre, G., Shipley, T. F., Newcombe, N. S., & **Gunderson, E. A.** (2025). Developing a novel measure of non-rigid, ductile spatial skill. *Cognitive Research: Principles and Implications*, 10(1), 13. https://doi.org/10.1186/s41235-025-00621-w
- 2. ^Abreu-Mendoza, R. A., Barner, D., Boni, I., Cheung, P., Cordes, S., Hyde, D., ... **Gunderson, E. A.** (Stage 1 registered report accepted). ManyNumbers 1: A multi-lab international study of early number knowledge. *Developmental Science*.
- 3. **Ren, K., ^Grenell, A., & **Gunderson, E. A.** (2025). Are students' math and verbal motivational beliefs malleable? The role of praise in dimensional comparisons. *Journal of Experimental Child Psychology*, 249, 106100. https://doi.org/10.1016/j.jecp.2024.106100
- 4. **Bennett-Pierre, G., †Chernuta, T., †Altamimi, R., & **Gunderson, E. A.** (2024). Effects of praise and "easy" feedback on children's persistence and self-evaluations. *Journal of Experimental Child Psychology*, 247, 106032. https://doi.org/10.1016/j.jecp.2024.106032
- 5. ^Tian, J., **Bennett-Pierre, G., **Tavassolie, N., Newcombe, N. S., Weinraub, M., Hindman, A. H., Newton, K. J., & **Gunderson, E. A.** (2023). A growth mindset message leads parents

- to choose more challenging learning activities. *Journal of Intelligence*, *11*(10), 193. https://www.mdpi.com/2079-3200/11/10/193
- 6. **Bennett-Pierre, G., Weinraub, M., Newcombe, N. S., & **Gunderson, E. A.** (2023). "This is hard!": Children's and parents' talk about difficulty during dyadic interactions. *Developmental Psychology 59*(7), 1268–1282. https://doi.org/10.1037/dev0001555
- 7. Park, D., **Gunderson, E. A.**, Maloney, E. A., Tsukayama, E., Beilock, S. L., Duckworth, A. L., & Levine, S. C. (2023). Parental intrusive homework support and math achievement: Does the child's mindset matter? *Developmental Psychology*, *59*(7), 1249–1267. https://doi.org/10.1037/dev0001522
- 8. ^Tian, J., **Ren, K., & **Gunderson, E. A.** (2023). Verbal labels influence children's processing of decimal magnitudes. *Journal of Applied Developmental Psychology, 86*, 101537. https://doi.org/10.1016/j.appdev.2023.101537
- 9. ^Tian, J., **Ren, K., Newcombe, N. S., Weinraub, M., Vandell, D. L., & **Gunderson, E. A.** (2023). Tracing the origins of the STEM gender gap: The contribution of childhood spatial skills. *Developmental Science*, 26, e13302. https://doi.org/10.1111/desc.13302
- 10. **Bennett-Pierre, G., & **Gunderson, E. A.** (2023). Fiber arts require spatial skills: How a stereotypically feminine practice can help us understand spatial skills and improve spatial learning. Sex Roles, 88(1), 1-16. https://doi.org/10.1007/s11199-022-01340-y Winner of 2024 Distinguished Publication Award from the Association for Women in Psychology.
- 11. **Gunderson, E. A.** (2022). Early prediction of learning outcomes in mathematics. In M. A. Skeide (Ed.), *The Cambridge Handbook of Dyslexia and Dyscalculia* (pp. 318-332). Cambridge University Press. https://doi.org/10.1017/9781108973595.025
- 12. **Ren, K., *Wang, Y., Weinraub, M., Newcombe, N. S., & **Gunderson, E. A.** (2022). Fathers' and mothers' praise and spatial language during play with first graders: Patterns of interaction and relations to math achievement. *Developmental Psychology*, *58*(10), 1931–1946. https://doi.org/10.1037/dev0001410
- 13. Dearing, E., Casey, B., Davis-Kean, P. E., Eason, S., **Gunderson, E.,** Levine, S. C., Laski, E. V., Libertus, M., Lu, L., Lombardi, C. M., Nelson, A., Ramani, G., & Susperreguy, M. I. (2022). Socioeconomic variations in the frequency of parent number talk: A meta-analysis. *Education Sciences, 12*(5). https://doi.org/10.3390/educsci12050312
- 14. [^]Tian, J., [†]Dam, S., & **Gunderson, E. A.** (2022). Spatial skills, but not spatial anxiety, mediate the gender difference in number line estimation. *Developmental Psychology, 58*(1), 138-151. https://doi.org/10.1037/dev0001265, 10.1037/dev0001265.supp (Supplemental)
- 15. **Gunderson, E. A.,** & *Hildebrand, L. (2021). Relations among spatial skills, number line estimation, and exact and approximate calculation in young children. *Journal of Experimental Child Psychology*, *212*, 105251. https://doi.org/10.1016/j.jecp.2021.105251
- 16. Fuhs, M. W., **Tavassolie, N., *Wang, Y., *Bartek, V., Sheeks, N. A., & **Gunderson, E. A.** (2021). Children's flexible attention to numerical and spatial magnitudes in early childhood. *Journal of Cognition and Development*, 22(1), 22-47. doi:10.1080/15248372.2020.1844712

- 17. **Ren, K., & **Gunderson, E. A.** (2021). The dynamic nature of children's strategy use after receiving accuracy feedback in decimal comparisons. *Journal of Experimental Child Psychology*, 202, 105015. https://doi.org/10.1016/j.jecp.2020.105015
- 18. [^]Tian, J., *Bartek, V., [†]Rahman, M. Z., & **Gunderson, E. A.** (2021). Learning improper fractions with the number line and the area model. *Journal of Cognition and Development*, 22(2), 305-327. https://doi.org/10.1080/15248372.2021.1890603
- 19. Gibson, D. J., **Gunderson, E. A.,** & Levine, S. C. (2020). Causal effects of parent number talk on preschoolers' number knowledge. *Child Development, 91*(6), e1162-e1177. https://doi.org/10.1111/cdev.13423
- 20. [^]Tian, J. & **Gunderson, E. A.** (2020). Teaching fractions to young children. *Young Children*, *75*(4), 62-67.
- 21. **Ren, K., & **Gunderson, E. A**. (2019). Malleability of whole-number and fraction biases in decimal comparison. *Developmental Psychology*, *55*(11), 2263–2274. doi:10.1037/dev0000797
- 22. †Ham, L., & **Gunderson, E. A.** (2019). Utilizing analogical reasoning to aid children's proportional reasoning understanding. *Journal of Numerical Cognition*, *5*(2), 140-157. doi:10.5964/jnc.v5i2.193
- 23. **Gunderson, E. A.,** **Hamdan, N., *Hildebrand, L., & *Bartek, V. (2019). Number line unidimensionality is a critical feature for promoting fraction magnitude concepts. *Journal of Experimental Child Psychology*, *187*, 104657. doi:10.1016/j.jecp.2019.06.010
- 24. §**Ren, K., §*Lin, Y., & **Gunderson, E. A.** (2019). The role of inhibitory control in strategy change: The case of linear measurement. *Developmental Psychology*, 55(7), 1389-1399. doi:10.1037/dev0000739 §Both authors contributed equally.
- 25. Gibson, D. J., **Gunderson, E. A.,** Spaepen, E., Levine, S. C., & Goldin-Meadow, S. (2019). Number gestures predict learning of number words. *Developmental Science*, *22*(3), e12791. doi:10.1111/desc.12791
- 26. Newcombe, N. S., Booth, J. L., & **Gunderson, E. A.** (2019). Spatial skills, reasoning, and mathematics. In J. Dunlosky & K. Rawson (Eds.), *Cambridge Handbook on Cognition and Education*. Cambridge, UK: Cambridge University Press.
- 27. Ramirez, G., Fries, L., **Gunderson, E.,** Schaeffer, M. W., Maloney, E. A., Beilock, S. L., & Levine, S. C. (2019). Reading anxiety: An early affective impediment to children's success in reading. *Journal of Cognition and Development*, *20*(1), 15-34. doi:10.1080/15248372.2018.1526175
 - Winner of 2019 Journal of Cognition and Development Editor's Choice Award.
- 28. §Spaepen, E., §**Gunderson, E. A.,** Gibson, D., Goldin-Meadow, S., & Levine, S. C. (2018). Meaning before order: Cardinal principle knowledge predicts improvement in understanding the successor principle and exact ordering. *Cognition*, *180*, 59-81. doi:https://doi.org/10.1016/j.cognition.2018.06.012

- §Both authors contributed equally.
- 29. **Gunderson, E. A.,** Donnellan, M. B., Robins, R. W., & Trzesniewski, K. H. (2018). The specificity of parenting effects: Differential relations of parent praise and criticism to children's theories of intelligence and learning goals. *Journal of Experimental Child Psychology*, 173, 116-135. doi: 10.1016/j.jecp.2018.03.015
- 30. **Gunderson, E. A.,** Sorhagen, N. S., Gripshover, S., Dweck, C., Goldin-Meadow, S., & Levine, S. C. (2018). Parent praise to toddlers predicts fourth grade academic achievement via children's incremental mindsets. *Developmental Psychology*, *54*(3), 397-409. doi: 10.1037/dev0000444, 10.1037/dev0000444.supp (Supplemental)
- 31. **Gunderson, E. A.,** Park, D., Maloney, E. A., Beilock, S. L., & Levine, S. C. (2018). Reciprocal relations among motivational frameworks, math anxiety, and math achievement in early elementary school. *Journal of Cognition and Development, 19*(1), 21-46. doi: 10.1080/15248372.2017.1421538
- 32. **Gunderson, E. A.,** **Hamdan, N., Sorhagen, N. S., & *D'Esterre, A. P. (2017). Who needs innate ability to succeed in math and literacy? Academic-domain-specific theories of intelligence about peers versus adults. *Developmental Psychology*, *53*(6), 1188-1205. doi: 10.1037/dev0000282
- 33. **Hamdan, N., & **Gunderson, E. A.** (2017). The number line is a critical spatial-numerical representation: Evidence from a fraction intervention. *Developmental Psychology, 53*(3), 587-596. doi: 10.1037/dev0000252, 10.1037/dev0000252.supp (Supplemental)
- 34. Park, D., **Gunderson, E. A.**, Tsukayama, E., Levine, S. C., & Beilock, S. L. (2016). Young children's motivational frameworks and math achievement: Relation to teacher-reported instructional practices, but not teacher theory of intelligence. *Journal of Educational Psychology*, *108*(3), 300-313. doi: 10.1037/edu0000064
- 35. Suskind, D. L., Leffel, K. R., Graf, E., Hernandez, M. W., **Gunderson, E. A.,** Sapolich, S. G., Suskind, E., Leininger, L., Goldin-Meadow, S., & Levine, S. C. (2016). A parent-directed language intervention for children of low socioeconomic status: a randomized controlled pilot study. *Journal of Child Language*, *43*(02), 366-406. doi: 10.1017/S0305000915000033
- 36. **Gunderson, E. A.,** Spaepen, E., Gibson, D., Goldin-Meadow, S., & Levine, S.C. (2015). Gesture as a window onto children's number knowledge. *Cognition, 144,* 14-28. doi: http://dx.doi.org/10.1016/j.cognition.2015.07.008
- 37. **Gunderson, E.A.,** Spaepen, E., & Levine, S.C. (2015). Approximate number word knowledge before the cardinal principle. *Journal of Experimental Child Psychology, 130,* 35-55. doi: 10.1016/j.jecp.2014.09.008
- 38. Maloney, E. A., Ramirez, G., **Gunderson, E. A.,** Levine, S. C., & Beilock, S. L. (2015). Intergenerational effects of parents' math anxiety on children's math achievement and anxiety. *Psychological Science*, *26*(9):1480-1488. doi: 10.1177/0956797615592630
- 39. **Gunderson, E. A.,** Gripshover, S. J., Romero, C., Dweck, C. S., Goldin-Meadow, S., & Levine, S. C. (2013). Parent praise to 1- to 3-year-olds predicts children's motivational frameworks 5 years later. *Child Development*, *84*(5), 1526-1541. doi: 10.1111/cdev.12064

- 40. **Gunderson, E. A.,** Ramirez, G., Beilock, S. L., & Levine, S. C. (2013). Teachers' spatial anxiety relates to 1st- and 2nd-graders' spatial learning. *Mind, Brain, and Education,* 7(3), 196-199. doi: 10.1111/mbe.12027
- 41. Ramirez, G., **Gunderson, E. A.,** Levine, S. C., & Beilock, S. L. (2013). Math anxiety, working memory, and math achievement in early elementary school. *Journal of Cognition and Development*, *14*(2), 187-202. doi: 10.1080/15248372.2012.664593
- 42. **Gunderson, E. A.,** Ramirez, G., Beilock, S. L., & Levine, S. C. (2012). The relation between spatial skill and early number knowledge: The role of the linear number line. *Developmental Psychology*, *48*(5), 1229-1241. doi: 10.1037/a0027433
- 43. **Gunderson, E. A.,** Ramirez, G., Levine, S. C., & Beilock, S. L. (2012). New directions for research on the role of parents and teachers in the development of gender-related math attitudes: Response to commentaries. *Sex Roles*, *66*(3), 191-196. doi: 10.1007/s11199-011-0100-8
- 44. **Gunderson, E. A.,** Ramirez, G., Levine, S. C., & Beilock, S. L. (2012). The role of parents and teachers in the development of gender-related math attitudes. *Sex Roles, 66*(3), 153-166. doi: 10.1007/s11199-011-9996-2
- 45. Ramirez, G., **Gunderson, E. A.,** Levine, S. C., & Beilock, S. L. (2012). Spatial anxiety relates to spatial abilities as a function of working memory in children. *The Quarterly Journal of Experimental Psychology, 65*(3), 474-487. doi: 10.1080/17470218.2011.616214
- 46. **Gunderson, E. A.,** & Levine, S. C. (2011). Some types of parent number talk count more than others: Relations between parents' input and children's number knowledge. *Developmental Science, 14*(5), 1021-1032. doi: 10.1111/j.1467-7687.2011.01050.x
- 47. Levine, S. C., **Gunderson,** E. A., & Huttenlocher, J. (2011). Number development in context: Variations in home and school input during the preschool years. In N. L. Stein & S. W. Raudenbush (Eds.), *Developmental Cognitive Science Goes to School* (pp. 189-202). New York: Routledge.
- 48. Beilock, S. L., **Gunderson, E. A.**, Ramirez, G., & Levine, S. C. (2010). Reply to Plante et al.: Girls' math achievement is related to their female teachers' math anxiety. *Proceedings of the National Academy of Sciences*, *107*(20), E80. doi: 10.1073/pnas.1003899107
- 49. Beilock, S. L., **Gunderson, E. A.**, Ramirez, G., & Levine, S. C. (2010). Female teachers' math anxiety affects girls' math achievement. *Proceedings of the National Academy of Sciences*, *107*(5), 1860-1863. doi: 10.1073/pnas.0910967107
- 50. Levine, S. C., Suriyakham, L. W., Rowe, M. L., Huttenlocher, J., & **Gunderson, E. A.** (2010). What counts in the development of young children's number knowledge? *Developmental Psychology, 46*(5), 1309-1319. doi: 10.1037/a0019671

MANUSCRIPTS SUBMITTED FOR PUBLICATION

(Mentee Roles: ^Post-doc, **Graduate Student, *Post-Bac, †Undergraduate Student)

- 1. **Tavassolie, N. S., *Sylverne, L., *D'Antonio, E., Newcombe, N. S., Weinraub, M., & **Gunderson, E. A.** (under review). Using books to improve mental rotation skills with 4- and 5-year-old children.
- 2. ^Tian, J., **Bennett-Pierre, G., **Tavassolie, N., **Zhang, X., *D'Antonio, E., *Sylverne, L., Newcombe, N., Weinraub, M., Hindman, A., Newton, K., & **Gunderson, E. A.** (under revised review). A month-long parent-led spatial intervention failed to improve children's spatial skills.
- 3. **Zhang, X. & **Gunderson, E. A.** (under revised review). The relation between spatial anxiety and spatial skills is moderated by visuospatial working memory and grade level.
- 4. **Zhang, X. & **Gunderson, E. A.** (under review). The transfer effect of mental rotation training on arithmetic skill: The role of state anxiety and arithmetic strategy use.

INVITED TALKS

INVITED TACKS	
Colloquium, Cognitive Science Program, Indiana University	Nov. 2023
Workshop on Equality & Exact Number, Virtual	Aug. 2023
Colloquium, Dept. of Psychological & Brain Sciences, Indiana University	Apr. 2023
Workshop on Education, University of Chicago	Jan. 2023
Psychology Department Colloquium, University of Pittsburgh	Dec. 2021
Applied Developmental & Educational Psychology (ADEP) Colloquium Series, Boston College	Oct. 2021
Psychology Department Colloquium, University of Chicago	Mar. 2020
Developmental Psychology Brown Bag, University of Pennsylvania	Feb. 2020
Psychology Brown Bag, University of the Sciences	Feb. 2019
Michael S. Goodman '74 Memorial Colloquium Series, Department of Cognitive, Linguistic, & Psychological Sciences, Brown University	Jan. 2019
Psychology Department Colloquium, Stanford University	Jan. 2019
Campaign for Grade Level Reading (GLR) Week, Philadelphia, PA	July 2018
Character Lab Research Seminar, University of Pennsylvania	May 2017
Psychology Brownbag, Rutgers University-Camden	Mar. 2017
Keynote speaker, Southeastern-Massachusetts Quantitative Engagement & Literacy (SEQuEL) Conference, Bridgewater State University	Jan. 2017
Workshop on Education, University of Chicago	May 2016
Psychology Department Colloquium, Villanova University	Mar. 2016
"Space and Mathematics: What's the Connection?", University of Chicago	Nov. 2015
Center for Children, Relationships, and Culture Seminar Series, University of Maryland	Oct. 2015
TeenSHARP Parent Network	Oct. 2015
Grand Rounds, Department of Psychiatry, University of Vermont	May 2015
Current Work in Developmental Psychology Seminar, Yale University	Oct. 2013
Institute of Education Sciences Principal Investigators Meeting	Sep. 2013
Developmental Seminar, University of Illinois at Urbana-Champaign	Nov. 2011

Harvard Achievement Gap Initiative (AGI) Research-to-Practice Conference, Harvard University	Jun. 2011
Workshop on Education, University of Chicago	Apr. 2011
Developmental Psychology Seminar, University of Chicago	Feb. 2011
Spatial Intelligence and Learning Center Research Seminar, Temple University	Feb. 2011
Spatial Intelligence and Learning Center Research Seminar, Northwestern University	Feb. 2011
Comparative Human Development Workshop on Culture, University of Chicago	Feb. 2011
Research Seminar, Stanford University	May 2010
Developmental Psychology Seminar, Stanford University	May 2010
Workshop on Education, University of Chicago	Jan. 2010
Developmental Psychology Seminar, University of Chicago	Nov. 2009

CONFERENCE PRESENTATIONS (SINCE 2018)

(Mentee Roles: ^Post-doc, **Graduate Student, *Post-Bac, †Undergraduate Student)

- ^Abreu-Mendoza, R., Ahmed, S., Arias-Trejo, N., Chamorro, Y., Chan, J. Y., García Sanz, S., Krajcsi, A., Musullulu, H., Romero, D., & Gunderson, E. A. (June 2025). The contributions of executive functions to number word learning across cultures: A pilot study. Talk accepted for presentation at the 2025 Mathematical Cognition and Learning Society Conference, Hong Kong S.A.R., China.
- 2. ^Park, H., **Zhang, X., Brown, M., *Scott, N., Griffin, M., ^Grenell, A., Wagner, M., & **Gunderson, E. A.** (June 2025). Improving young children's flexible attention to magnitudes through mathematical language. Talk accepted for presentation at the 2025 Mathematical Cognition and Learning Society Conference, Hong Kong S.A.R., China.
- 3. Tian, J. & **Gunderson, E. A.** (June 2025). Exploring the role of procedural feedback and conceptual prompts in fostering decimal knowledge. Poster accepted for presentation at the 2025 Mathematical Cognition and Learning Society Conference, Hong Kong S.A.R., China.
- 4. ^Tian, J., **Bennett-Pierre, G., **Tavassolie, N., **Zhang, X., *D'Antonio, E., *Sylverne, L., Newcombe, N., Weinraub, M., Hindman, A., Newton, K., & **Gunderson, E. A.** (April 2025). A parent-led spatial intervention. Talk accepted for presentation at the 2025 Mathematical Cognition and Learning Society Conference, Hong Kong S.A.R., China.
- 5. **Zhang, X., **Gunderson, E. A.** & Wagner, M. (June 2025). Measuring flexible attention to magnitude skill in young children. Talk accepted for presentation at the 2025 Mathematical Cognition and Learning Society Conference, Hong Kong S.A.R., China.
- 6. **Zhang, X. & **Gunderson, E. A.** (May 2025). The impact of mental rotation training on arithmetic accuracy and strategies. Poster accepted for presentation at the Society for Research in Child Development (SRCD) Biennial Meeting.
- 7. *Scott, N., ^Park, H., Tian, J., Newcombe, N. & **Gunderson, E. A.** (April 2025). Burstiness of speech in a task-oriented parent-child interaction. Poster accepted for presentation at the 2025 Midwestern Psychological Association Conference, Chicago, IL.

- 8. **Bennett-Pierre, G., ^Tian, J., **Tavassolie, N., **Zhang, X., *D'Antonio, E., *Sylverne, L., Newcombe, N., Weinraub, M., Hindman, A., Newton, K., & **Gunderson, E. A.** (April 2025). A parent-led spatial activities intervention. Talk accepted for presentation at the 2025 Annual Meeting of the American Educational Research Association, Denver, CO.
- 9. †Rose, K., ^Abreu-Mendoza, R. A. & **Gunderson, E. A.** (April 2025). Cross-cultural tests of executive functioning and numerical conceptual change. Poster accepted for presentation at the 2025 Midwestern Psychological Association Conference, Chicago, IL.
- 10. **Bennett-Pierre, G. & **Gunderson, E. A.** (March 2025). Fiber arts require spatial skills: How a stereotypically feminine practice can help us understand spatial skills and improve spatial learning. Invited talk for Distinguished Publication Award at 2025 Association for Women in Psychology Annual Conference, Santa Fe, NM.
- 11. ^Abreu-Mendoza, R. A. & **Gunderson, E. A.** (June 2024). Nonsymbolic proportional estimation profiles are not associated with better magnitude understanding at the early stages of fraction instruction. Poster presented at the 2024 Mathematical Cognition and Learning Society Conference, Washington, DC.
- 12. **Zhang, X. & **Gunderson, E. A.** (June 2024). Linking arithmetic strategy use to spatial skills in children. Talk presented at the 2024 Mathematical Cognition and Learning Society Conference, Washington, DC.
- 13. **Bennett-Pierre, G., Shipley, T. F., Newcombe, N., & **Gunderson, E. A.** (March 2024). All tied up: Developing the knot reasoning task, a novel measure of non-rigid spatial thinking. Poster presented at the 2024 Cognitive Development Society Biennial Conference, Pasadena, CA.
- 14. **Tavassolie, N., *Sylverne, L., *D'Antonio, E., Newcombe, N., Weinraub, M., & **Gunderson, E. A.** (March 2024). Using books to improve mental rotation skills in 4- and 5-year-old children. Poster presented at the 2024 Cognitive Development Society Biennial Conference, Pasadena, CA.
- 15. ^Tian, J., †Camarote, J., & **Gunderson, E. A.** (March 2024). Children's motivational beliefs in math, verbal, and spatial domains: relations to gender, grade level, and achievement. Poster presented at the 2024 Cognitive Development Society Biennial Conference, Pasadena. CA.
- 16. **Zhang, X. & **Gunderson, E. A.** (March 2024). How does mental rotation training affect calculation skills? The role of state anxiety and calculation type. Poster presented at the 2024 Cognitive Development Society Biennial Conference, Pasadena, CA.
- 17. †Feinberg, H., **Bennett-Pierre, G., & **Gunderson, E. A.** (March 2024). Creation of the Knot Reasoning Task, a novel measure of non-rigid spatial thinking. Poster presented at the 2024 Eastern Psychological Association Conference, Philadelphia, PA
- 18. **Bennett-Pierre, G., *Chernuta, T., *Altamimi, R., & **Gunderson, E. A.** (August 2023). Effects of praise and "easy" feedback on children's persistence after failure on an online puzzle. Poster presented at the 2023 American Psychological Association Convention, Washington, DC.

- 19. **Gunderson, E. A.,** Barner, D., Cheung, P., Cordes, S., Feigenson, L., Hyde, D., Izard, V., Kibbe, M., Libertus, M., Sullivan, J., vanMarle, K. (June 2023). ManyNumbers 1: Conceptual foundations of number word learning in preschoolers. Talk presented at the 2023 Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 20. Hyde, D., Barner, D., Cheung, P., Cordes, S., Feigenson, L., **Gunderson, E. A.**, Izard, V., Kibbe, M., Libertus, M., Sullivan, J., vanMarle, K. (June 2023). ManyNumbers 2: The nature and development of small set number representation in toddlers. Talk presented at the 2023 Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 21. Libertus, M., Barner, D., Cheung, P., Cordes, S., Feigenson, L., **Gunderson, E. A.,** Hyde, D., Izard, V., Kibbe, M., Sullivan, J., vanMarle, K. (June 2023). ManyNumbers: Getting involved and opportunities beyond the two foundational studies. Talk presented at the 2023 Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 22. **Tavassolie, N., *Sylverne, L., Newcombe, N., Weinraub, M., & **Gunderson, E. A.** (June 2023). Using books to improve mental rotation skills in 4- and 5-year-old children. Poster presented at the Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 23. ^Tian, J., **Bennett-Pierre, G., **Tavassolie, N., **Zhang, X., *D'Antonio, E., *Sylverne, L., Newcombe, N. S., Weinraub, M., Hindman, A., Newton, K., & **Gunderson, E. A.** (June 2023). A month-long parent-led spatial intervention. Poster presented at the Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 24. **Zhang, X., **Ren, K., & **Gunderson, E. A.** (June 2023). Do additional magnitude cues benefit children's number line performance? Poster presented at the Mathematical Cognition and Learning Society Conference, Loughborough, UK.
- 25. *D'Antonio, E. & **Gunderson, E. A.** (July 2022). Do Mom and Dad both talk about school? Longitudinal relations between parent involvement equality and children's academic achievement. Poster presented at the Annual Conference of the International Mind, Brain, and Education Society (IMBES), Montreal, Canada.
- 26. *Sylverne, A. & **Gunderson, E. A.** (July 2022). Spatial skills and number line estimation skills in low math achieving children. Poster presented at the Annual Conference of the International Mind, Brain, and Education Society (IMBES), Montreal, Canada.
- 27. **Tavassolie, N., ^Tian, J., **Bennett-Pierre, G., Newcombe, N., Weinraub, M., Hindman, A., Newton, K. & **Gunderson, E. A.** (June 2022). Measuring the spatial home learning environment: Initial test of the Spatial Toys and Activities Checklist (STAC). Poster presented at the 2022 Mathematical Cognition and Learning Society Conference, Antwerp, Belgium.
- 28. [^]Tian, J., **Tavassolie, N., **Bennett-Pierre, G., Newcombe, N., Weinraub, M., Hindman, A., Newton, K. & **Gunderson, E. A.** (June 2022). Growth mindset message influences parents' choices of challenging learning activities. Poster presented at the 2022 Mathematical Cognition and Learning Society Conference, Antwerp, Belgium.

- 29. **Zhang, X, & **Gunderson, E. A.** (June 2022). The interactive effect of working memory and spatial anxiety on spatial skills changes with children's age. Poster presented at the 2022 Mathematical Cognition and Learning Society Conference, Antwerp, Belgium.
- 30. **Gunderson, E. A.** (April 2022). Supporting early to mid-career researchers: Work-family conflict, service, and (self) promotion. Talk presented at the Cognitive Development Society Preconference: Working toward a more diverse, equitable, and inclusive cognitive developmental science, Madison, WI.
- 31. **Bennett-Pierre, G., Weinraub, M., Newcombe, N., & **Gunderson, E. A.** (April 2022). "This is hard!": Children and parents talk about difficulty during dyadic interactions in two observational datasets. Poster presented at the 2022 Cognitive Development Society Biennial Conference, Madison, WI.
- 32. **Tavassolie, N. & **Gunderson, E. A.** (April 2022). Flexible attention to magnitudes: Investigating specificity in dimensional attention. Poster presented at the 2022 Cognitive Development Society Biennial Conference, Madison, WI.
- 33. [^]Tian, J., **Ren, K., Newcombe, N. S., Weinraub, M., Vandell, D. L., & **Gunderson, E. A.** (April 2022). Tracing the origins of the STEM gender gap: Childhood spatial skills contribute to women's underrepresentation in STEM college majors. Poster presented at the 2022 Cognitive Development Society Biennial Conference, Madison, WI.
- 34. **Zhang, X. & **Gunderson, E. A.** (April 2022). The interactive effect of working memory and spatial anxiety on spatial skills changes with children's age. Poster presented at the 2022 Cognitive Development Society Biennial Conference, Madison, WI.
- 35. **Bennett-Pierre, G., Weinraub, M., Newcombe, N., & **Gunderson, E. A.** (April 2021). "This is hard!": Children's and parents' talk about difficulty during a dyadic interaction. Poster presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.
- 36. Dearing, E., Casey, B., Davis-Kean, P., Eason, S., **Gunderson, E. A.,** Levine, S., Lombardi, C., Nelson, A., Ramani, G., & Susperreguy, M. I. (April 2021). Synthesizing mixed evidence on associations between parent number talk and SES. Talk presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.
- 37. Park, D., **Gunderson, E. A.,** Maloney, E., Tsukayama, E., Beilock, S., Duckworth, A., & Levine, S.C. (April 2021). Intrusive parental homework support and children's math achievement: Relation to children's theories of intelligence. Talk presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.
- 38. **Ren, K., Sorhagen, N., & **Gunderson, E. A.** (April 2021). Incremental theorists are less dependent on their math achievement when forming their competence self-concepts. Talk presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.
- 39. **Tavassolie, N., *Wang, Y., **Gunderson, E. A.,** Sheeks, N., Vrabec, A., & Fuhs, M. W. (April 2021). Young children's flexible attention to numerical and spatial magnitudes. Poster presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.

- 40. [^]Tian, J., [†]Rahman, M., & **Gunderson, E. A.** (April 2021). Do children understand fraction magnitudes? Sometimes yes, and sometimes no. Talk presented at the Society for Research in Child Development (SRCD) Virtual Biennial Meeting.
- 41. †Ueki, P., **Bennett-Pierre, G., & **Gunderson, E. A.** (March 2021). Children's statements about difficulty relate to duration of parent-child dyads' task engagement. Poster presented at the Eastern Psychological Association Virtual Annual Meeting.
- 42. **Tavassolie, N., *Wang, Y., **Gunderson, E. A.,** Sheeks, N., Vrabec, A., & Fuhs, M. W. (June 2020). Young children's flexible attention to numerical and spatial magnitudes. Poster accepted for presentation at the 3rd Mathematical Cognition and Learning Society (MCLS) Conference (cancelled), Dublin, Ireland.
- 43. ^Tian, J., †Rahman, M., *Bartek, V., **Gunderson, E. A.** (June 2020). Intervention on improper fractions with number lines versus area models. Paper accepted for presentation at the 3rd Mathematical Cognition and Learning Society (MCLS) Conference (cancelled), Dublin, Ireland.
- 44. *Carvalho Pereira, J., & **Gunderson, E. A.** (October 2019). Socioeconomic status moderates the relation between spatial and numerical skills in children. Poster presented at the 2019 Cognitive Development Society Biennial Conference, Louisville, KY.
- 45. †Dam, N., *Carvalho Pereira, J., & **Gunderson, E. A.** (October 2019). Spatial skills, but not spatial anxiety, partially account for the gender gap in number line estimation. Poster presented at the 2019 Cognitive Development Society Biennial Conference, Louisville, KY.
- 46. **Ren, K., & **Gunderson, E. A.** (October 2019). The dynamic nature of children's strategy use after receiving feedback in decimal comparisons. Talk presented at the 2019 Cognitive Development Society Biennial Conference, Louisville, KY.
- 47. *Wang, Y., & **Gunderson, E. A.** (October 2019). Does parents' spatial language relate to parent and child gender? Poster presented at the 2019 Cognitive Development Society Biennial Conference, Louisville, KY.
- 48. Fuhs, M., *Wang, Y., *Bartek, V., & **Gunderson, E. A.** (June 2019). Flexible attention to numerical and spatial magnitudes in early childhood. Poster presented at the 2nd Mathematical Cognition and Learning Society (MCLS) Conference, Ottawa, ON, Canada.
- 49. **Ren, K., & **Gunderson, E. A.** (June 2019). The impact of decimal labeling on decimal comparison biases. Talk presented at the 2nd Mathematical Cognition and Learning Society (MCLS) Conference, Ottawa, ON, Canada.
- 50. *Bartek, V., Fuhs, M., & **Gunderson, E.A.** (March 2019). Flexible attention to numerical and spatial magnitudes in pre-K through first graders. Poster presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 51. †Cannon, A., *Hildebrand, L., & **Gunderson, E.A.** (March 2019). Self-reported proportional reasoning strategies as predictors of performance. Poster presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.

- 52. **Gunderson, E.A.** (March 2019). Longitudinal relations among spatial and numerical skills in pre-k to fourth grades. Talk presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 53. *Hildebrand, L. & **Gunderson**, **E.A.** (March 2019). Proportional reasoning as a spatial foundation of number line estimation. Poster presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 54. *Hildebrand, L., Jirout, J., Newcombe, N. S., & **Gunderson, E.A.** (March 2019). The development of gender stereotypes about spatial, math, and reading domains. Talk presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 55. †Pepper, S., **Ren, K., *Bartek, V., & **Gunderson, E.A.** (March 2019). Mothers' and fathers' motivational talk to first-graders: Praise, enjoyment, and high expectations. Poster presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 56. **Ren, K. & **Gunderson**, **E.A.** (March 2019). Malleability of whole-number and fraction biases in decimal comparison. Poster presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 57. **Ren, K., Newcombe, N. S., & **Gunderson, E.A.** (March 2019). Parent praise during spatial tasks: Mothers, fathers, and longitudinal relations to math and spatial skills. Talk presented at the Society for Research in Child Development (SRCD) Biennial Meeting, Baltimore, MD.
- 58. **Gunderson, E. A.** (April 2018). Number line uni-dimensionality is key to promoting fraction representations. Talk presented at the 1st Mathematical Cognition and Learning Society Conference, Oxford, UK.
- 59. **Gunderson, E. A.,** Park, D., Maloney, E. A., Beilock, S. L., & Levine, S. C. (April 2018). Reciprocal relations among motivational frameworks, math anxiety, and math achievement in early elementary school. Talk presented at the 1st Mathematical Cognition and Learning Society Conference, Oxford, UK.
- 60. †Ham, L., & **Gunderson, E. A.** (March 2018). Utilizing analogical reasoning to aid children's proportional reasoning understanding. Poster presented at the 2018 Eastern Psychological Association Meeting, Philadelphia, PA.
 - Winner of Psi Chi Eastern Regional Research Award.

TEACHING EXPERIENCE

Graduate

Instructor, Cognitive Development, PSY 657, Indiana University, Spring 2025

Instructor, Topical Seminar in Developmental Psychology: Cognitive Development, PSY 8510, *Temple University*, Fall 2020

Instructor, Topical Seminar in Developmental Psychology: Mathematical Development, PSY 8510, *Temple University*, Spring 2014, Spring 2018

Undergraduate

Instructor, Cognitive Development, PSY 443, *Indiana University*, Spring 2025 **Instructor**, Capstone: Psychology in Education, PSY 457, *Indiana University*, Spring 2024

- **Instructor**, Capstone: Psychology in Education, PSY 4696, *Temple University*, Spring 2016, Fall 2017, Spring 2018, Spring 2020, Spring 2021, Spring 2022, Spring 2023
- **Instructor**, Phases of Development: Infancy, PSY 3301, *Temple University*, Spring 2015, Fall 2018
- **Instructor**, Cognitive and Language Development, PSY 3305, *Temple University*, Fall 2014, Spring 2015, Fall 2015, Spring 2016, Fall 2019, Fall 2021, Fall 2022
- **Instructor**, Capstone: Mathematical Cognition & Development, PSY 4596, *Temple University*, Spring 2013

UNDERGRADUATE HONORS STUDENTS AND PROJECTS/THESES SUPERVISED

Joei Camarote, Undergraduate Honors Thesis, Temple University	Completed Spring 2023
Taylor Chernuta, Undergraduate Honors Thesis, Temple University	Completed Spring 2023
Natasha Vahora, Undergraduate Honors Thesis, Temple University	Completed Spring 2023
Rawan Altamimi, Undergraduate Honors Thesis, Temple University	Completed Spring 2022
Khushi Sibal, Undergraduate Honors Thesis, Temple University	Completed Spring 2022
Sarah Pepper, Undergraduate Honors Thesis, Temple University	Completed Spring 2019
Alysa Cannon, Undergraduate Honors Thesis, Temple University	Completed Fall 2018
Lillian Ham, Undergraduate Honors Thesis, Temple University	Completed Spring 2018
Brooke Singer, Undergraduate Honors Thesis, Temple University	Completed Spring 2015

MASTER'S STUDENTS AND PROJECTS/THESES SUPERVISED

Corey Elise Young, Master's Student, Neuroscience Program, Temple University	2017-2019
Co-mentors: Gunderson & Reilly	
	0015 0010

Lindsey Hildebrand, M.Ed. in Urban Education, Temple University 2015-2018

Mentor of Master's Thesis research project. *Note:* Ms. Hildebrand completed her M.Ed.

while concurrently working as a full-time research assistant in my lab.

DOCTORAL STUDENTS AND PROJECTS/DISSERTATIONS SUPERVISED

Mariana Sosa, Doctoral Student, Indiana University	2024-present
Xinhe Zhang, Doctoral Student, Temple University, Indiana University	2021-present
Committee Chair, Qualifying Exam	Sep. 2024
Grace Bennett-Pierre, Doctoral Student, Temple University	2019-2024
Dissertation Advisor	Defended Apr. 2024
Committee Chair, Preliminary Exam	Jan. 2022
Nadia Tavassolie, Doctoral Student, Temple University	2019-2024
Dissertation Advisor	Defended Apr. 2024
Committee Chair, Preliminary Exam	May 2022
Kexin (Cathy) Ren, Doctoral Student, Temple University	2016-2021
Dissertation Advisor	Defended May 2021
Committee Chair, Preliminary Exam	Oct. 2019
Noora Hamdan, Doctoral Student, Temple University	2013-2018
Committee Chair, Preliminary Exam	Dec. 2016

ADVISORY, QUALIFYING EXAM, AND DISSERTATION COMMITTEE SERVICE: DEPARTMENT OF PSYCHOLOGICAL AND BRAIN SCIENCES, INDIANA UNIVERSITY

Rachel Johnson, Advisory Committee (Dept. of Speech, Language & Hearing Sciences)

March 2025-present
Aaron Cecil-Xavier, Advisory Committee
Yao Xiao, Advisory Committee
Megan Merrick, Dissertation Committee

March 2025-present
Mov. 2024-present
Feb. 2024-present

PRELIMINARY EXAM AND DISSERTATION COMMITTEE SERVICE: TEMPLE UNIVERSITY

Ally Masters Dissertation Committee Dent of Dayahalasy	Defended May 200	24
Ally Masters, Dissertation Committee, Dept. of Psychology	Defended May 202	
Preliminary Exam Committee, Dept. of Psychology	Defended Feb. 202	
Rebekah Banerjee, Dissertation Committee, Dept. of Psychology	Defended Apr. 202	
Preliminary Exam Committee, Dept. of Psychology	Defended May 202	21
Elias Blinkoff, Dissertation Committee, Dept. of Psychology	Defended Jul. 202	23
Preliminary Exam Committee, Dept. of Psychology	Defended Dec. 202	21
Michelle Chiu, Dissertation Committee, Dept. of Psychology	Defended Nov. 202	22
Rachel Myer, Dissertation Committee, Dept. of Psychology	Defended Oct. 202	
Preliminary Exam Committee, Dept. of Psychology	Defended April 201	
Natalie Evans, Dissertation Committee, Dept. of Psychology	Defended April 202	
Preliminary Exam Committee, Dept. of Psychology	Defended April 201	
	Defended Jun. 202	
Molly Scott, Dissertation Committee, Dept. of Psychology		
Staci Weiss, Dissertation Committee, Dept. of Psychology	Defended Mar. 202	
Jill Rabinowitz, Dissertation Committee, Dept. of Psychology	Defended April 201	
Laura Young, Dissertation Committee, College of Education	Defended April 201	
Ashley Drew, Dissertation Committee, Dept. of Psychology	Defended April 201	17
Preliminary Exam Committee, Dept. of Psychology	Defended April 201	15
Corinne Holmes, Dissertation Committee, Dept. of Psychology	Defended Jan. 201	17
Preliminary Exam Committee, Dept. of Psychology	Defended June 201	14
Junko Kanero, Dissertation Committee, Dept. of Psychology	Defended July 201	16
Preliminary Exam Committee, Dept. of Psychology	Defended Feb. 201	
Jessa Reed, Dissertation Committee, Dept. of Psychology	Defended June 201	
Steve Weisberg, Dissertation Committee, Dept. of Psychology	Defended Dec. 201	
Nicole Sorhagen, Dissertation Committee, Dept. of Psychology	Defended Aug. 201	
	Defended May 201	
Ilyse Resnick, Dissertation Committee, Dept. of Psychology	Delended May 20	13
MENTEE AND STUDENT AWARDS		
Joei Camarote, Temple University Diamond Award	202	22
Lillian Ham, Psi Chi Eastern Regional Research Award	201	
Lindsey Hildebrand, Poster Award, International Mind, Brain, and Educati		
Emacoy Findobrana, Footor Findra, micrimational Mina, Brain, and Educati	201	
MENTEE GRANTS / FUNDING FOR MENTORED RESEARCH		
Liberal Arts Undergraduate Research Awards (LAURA), Temple University	ersity 202	23
Mentor: Gunderson, Undergraduate Student Mentee: Bennett (\$1,	500)	
The Impact of Spatial Book-Reading on Preschoolers' Mental Rota		
ς φ		
Liberal Arts Undergraduate Research Awards (LAURA), Temple University	ersity 202	22
Mentor: Gunderson, Undergraduate Student Mentee: Camarote (\$		
Improving preschoolers' spatial skills through an at-home parent-le		
improving presented spatial skills through an at home parent k	od intervention	
Building Research Independence by Developing Goals and Hands-o	n Experiences	
(BRIDGE), Temple University	202	22
Mentor: Gunderson, Undergraduate Student Mentee: DiSalvo (\$3,		
montor. Sandorson, Shasi gradate Stadent Montos. Disalvo (40,	<i></i>	
Creative Arts, Research and Scholarship (CARAS) Travel Award, Ter	nple University 201	19
Mentor: Gunderson, Undergraduate Student Mentee: Dam (\$626)	p.o Crintolotty ZO	
Monto. Ganderson, Chacigraduate Stadent Mentee. Dam (#020)		

roster presentation at the Cognitive Development Society (CDS) Comerc	e Cognitive Development Society (CDS) Conference
---	--

Creative Arts, Research and Scholarship (CARAS) Project Grant, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Rahman (\$2,025) Number-line Improper Fraction Training in Youth (NIFTY)	2019
National Study of Learning Mindsets Early Career Fellowship, PI: Sorhagen Relations Between Motivation, Math Anxiety, and Math Achievement Total Costs: \$8,000 Role: Collaborator	3-2019
Creative Arts, Research and Scholarship (CARAS) Project Grant, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Pepper (\$2,925) Gender differences in parents' motivational praise during spatial activities	2018
Creative Arts, Research and Scholarship (CARAS) Travel Award, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Ham (\$1,000) Poster presentation at the Cognitive Development Society (CDS) Conference	2017
Liberal Arts Undergraduate Research Awards (LAURA), Temple University Mentor: Gunderson, Undergraduate Student Mentee: Wrobel (\$2,000) The importance of parent language and gesture for children's spatial reasoning	2017
Diamond Research Scholars Program, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Ham (\$4,000) The influence of familiarity on children's proportional reasoning knowledge	2017
Creative Arts, Research and Scholarship (CARAS) Travel Award, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Wrobel (\$1,000) Poster presentation at the Eastern Psychological Association (EPA) Conference	2017
Creative Arts, Research and Scholarship (CARAS) Travel Award, Temple University Mentor: Gunderson, Undergraduate Student Mentee: Ham (\$994) Poster presentation at the International Mind, Brain, and Education Society (IMBES)	2016 S)

MENTORING: UNDERGRADUATE STUDENTS, INDIANA UNIVERSITY

MENTORINO: ONDERGRADOATE OTODERTO, INDIANA O	WALLES OF T
Mira Sparks, Research Intern	Spring 2025-present
Mercy Adeyiolu, Research Intern	Fall 2024-present
Annie Beardmore, Research Intern	Fall 2024-present
Anna DeFour, Research Intern	Fall 2024-present
Noah Fletcher, Research Intern	Fall 2024-present
Lyndsey Gentil, Research Intern	Fall 2024-present
Cecilia Meneghini, Research Intern	Fall 2024-present
Belle Paris, Research Intern	Fall 2024-present
Amadeus Wagner, Research Intern	Fall 2024-present
Ashley Nirtaut, Research Intern	Spring 2024-present
Kelsey Rose, Research Intern, Summer Intern	Spring 2024-Fall 2024
Sarah Dunn, Research Intern	Fall 2023-Spring 2024
Meghan Tierney, Research Intern	Fall 2023-Spring 2024

MENTORING: UNDERGRADUATE STUDENTS, TEMPLE UNIVERSITY

MENTORING: UNDERGRADUATE STUDENTS, TEMPLE UNIVER	(5)) 1
Jamie-Nicole Luistro, Research Intern	Fall 2023-Spring 2024
Abby Neitch, Research Intern	Fall 2023-Spring 2024
Dabin Yim, Research Intern	Fall 2023-Spring 2024
Hannah Feinberg, Research Intern, Summer Intern	Summer 2023-Spring 2024
Jammie Letona, Research Intern, Summer Intern	Summer 2023-Spring 2024
Jules Mirales, Research Intern, Summer Intern	Fall 2022-Fall 2023
Sherese Bennett, Research Intern	Spring 2022-Fall 2023
Caitlin Romanelli, Research Intern, Summer Intern	Fall 2022-Summer 2023
Joei Camarote, Research Intern, Summer Intern & Honors Thesis	Fall 2021-Summer 2023
Ava Pasewicz, Research Intern	Fall 2022-Spring 2023
Elisabetta DiSalvo, Research Intern & Summer Intern	Summer 2022-Spring 2023
Natasha Vahora, Research Intern, Summer Intern & Honors Thesis	Spring 2022-Spring 2023
Ashley Bontempo, Research Intern	Fall 2021-Spring 2023
Taylor Chernuta, Research Intern, Summer Intern & Honors Thesis	Fall 2021-Spring 2023
Katie Probst, Research Intern	Spring 2022-Fall 2022
Jada Macksoud, Research Intern	Fall 2022
Sevila Temirova, Research Intern & Summer Intern	Fall 2021-Summer 2022
Asravi Chilakamari, Research Intern	Fall 2021-Spring 2022
Rawan Altamimi, Research Intern & Honors Thesis	Spring 2020-Spring 2022
Khushi Sibal, Research Intern & Summer Intern & Honors Thesis	Fall 2019-Spring 2022
Lexi Sylverne, Research Intern & Summer Intern	Fall 2020-Summer 2021
Kim Bohl, Research Intern & Summer Intern	Fall 2020-Summer 2021
Paula Ueki, Research Intern & Summer Intern	Fall 2019-Spring 2021
Jennifer Dooher, Research Intern	Spring 2020
Nadhia Engle, Research Intern	Fall 2019-Spring 2020
Su Dam, Research Intern & Summer Intern	Spring 2019-Spring 2020
Dianna Wambach, Research Intern & Summer Intern	Spring 2019-Spring 2020
Maya Rahman, Research Intern & Summer Intern	Spring 2018-Spring 2020
Madyson Kolbes, Research Intern & Summer Intern	Fall 2018-Fall 2019
Clem Paolantonio, Research Intern & Summer Intern	Fall 2018-Summer 2019
Sarah Pepper, Research Intern, Summer Intern, & Honors Thesis	Spring 2018-Spring 2019
Daniel Keefer, Research Intern & Summer Intern	Spring 2018-Fall 2018
Alysa Cannon, Research Intern, Summer Intern, & Honors Thesis	Fall 2017-Fall 2018
Carrie Weaver, Research Intern	Spring 2018
Sania Latif, Research Intern	Fall 2017-Spring 2018
Kyle McCloskey, Research Intern	Fall 2017-Spring 2018
RJ Nair, Research Intern	Fall 2017-Spring 2018
Marly Pred, Research Intern	Fall 2017-Spring 2018
Anza Thomas, Research Intern	Fall 2017-Spring 2018
Lillian Ham, Research Intern, Summer Intern, & Honors Thesis	Spring 2016-Spring 2018
Jaeyong Sung, Research Intern	Fall 2016-Spring 2018
Audrey Wrobel, Research Intern & Summer Intern	Fall 2015-Fall 2017
Cory Ardekani, Research Intern & Summer Intern	Fall 2016-Fall 2017
Christin Kim, Research Intern	Spring 2017-Fall 2017
Amma-Sika Adomako, Research Intern	Fall 2017
Stephy Sebastian, Research Intern	Fall 2017
Elizabeth Kohlbrenner, Research Intern & Summer Intern	Fall 2016-Summer 2017
Synclaire Arthur, Research Intern	Fall 2016-Spring 2017
Tyler Burger, Research Intern	Fall 2016-Spring 2017
Olivia Dermody, Research Intern	Fall 2016-Spring 2017
	. •

Nicole Lee, Research Intern	Fall 2016-Spring 2017
Samantha McLaughlin, Research Intern	Fall 2016-Spring 2017
Jessica Palmarini, Research Intern	Fall 2016-Spring 2017
·	
Yesha Dave, Research Intern	Spring 2017
Brittany Worthington, Research Intern	Spring 2017
Najah Young, Research Intern	Spring 2017
Jiai Jung, Research Intern	Fall 2015- Fall 2016
Gabriella Riccardo, Research Intern	Spring 2016-Fall 2016
Sherly Smith, Research Intern	Fall 2016
Riley Brown, Research Intern & Summer Intern	Fall 2015-Summer 2016
Jennifer Brandley, Research Intern & Summer Intern	Spring 2016-Summer 2016
John Durison, Research Intern	Fall 2015-Spring 2016
Maya Johnson, Research Intern	Fall 2015-Spring 2016
Shuo Liu, Research Intern	Fall 2015-Spring 2016
·	
Victoria McLaughlin, Research Intern	Fall 2015-Spring 2016
Sumaiya Nusrath, Research Intern	Fall 2015-Spring 2016
LiaJo DeStefano, Research Intern	Spring 2016
Mahala Femovich, REU Summer Intern	Summer 2015
Courtney Gray, REU Summer Intern	Summer 2015
Brooke Singer, Research Intern & Honors Thesis	Fall 2013-Spring 2015
Alaina Chlebek, Research Intern	Fall 2014-Spring 2015
Marisol Savage, Research Intern	Fall 2014-Spring 2015
Kate Knebels, Research Intern	Fall 2013-Spring 2014
	2024-present 2024-present
Academic Fairness Committee Member, College of Arts & Scien	nces 2024-present
Academic Fairness Committee Member, College of Arts & Scientification SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE	2024-present ES, INDIANA UNIVERSITY
Academic Fairness Committee Member, College of Arts & Scien	nces 2024-present
Academic Fairness Committee Member, College of Arts & Scientification SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE	ES, INDIANA UNIVERSITY 2024-present
Academic Fairness Committee Member, College of Arts & Science SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEMPORTURE PROPERTY OF PSYCHOLOGY & NEUROSCIENCE, TEMPORTURE PSYCHO	ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY
Academic Fairness Committee Member, College of Arts & Science SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDEVELOPMENTAL Area Director	ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member	ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEMPORTURE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENC Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDEVELOPMENTAL Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEM Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEM Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDEVELOPMENTAL Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member	## 2024-present ### 2024-present ### 2024-present ### 2022-2023
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015
Academic Fairness Committee Member, College of Arts & Scient SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDEVELOPMENTAL Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member	## 2024-present ### 2024-present ### 2024-present ### 2022-2023
SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TENDE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member Undergraduate Committee Member SERVICE TO THE PROFESSION	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015 2013-2014
SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEMPORE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member Undergraduate Committee Member SERVICE TO THE PROFESSION Mentor, Cognitive Development Society (CDS) Mentorship Program	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015 2013-2014
SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEM Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member Undergraduate Committee Member SERVICE TO THE PROFESSION Mentor, Cognitive Development Society (CDS) Mentorship Program Member, 2023 Boyd McCandless Award Committee (APA Division)	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015 2013-2015 2013-2014
SERVICE TO DEPT. OF PSYCHOLOGICAL AND BRAIN SCIENCE Policy and Steering Committee Member SERVICE TO DEPT. OF PSYCHOLOGY & NEUROSCIENCE, TEMPORE Developmental Area Director Graduate Committee Member Fellowship Committee Member Student Awards Committee Member Outreach and Translation Committee Chair Clinical Faculty Search Committee Member Outreach and Translation Committee Member Cognitive Faculty Search Committee Member Diversity Committee Member Faculty Awards Committee Member Colloquium Committee Member Undergraduate Committee Member SERVICE TO THE PROFESSION Mentor, Cognitive Development Society (CDS) Mentorship Program	2024-present ES, INDIANA UNIVERSITY 2024-present MPLE UNIVERSITY 2022-2023 2022-2023 2022-2023 2022-2023 2017-2019, 2020-2022 2019-2022 2019-2020 2017-2019 2014-2016 2015-2016 2014-2015 2013-2015 2013-2014

JOURNAL EDITING AND REVIEWING

Associate Editor, *Developmental Psychology* (2022-present)

Associate Editor, Journal of Cognition and Development (2021-present)

Guest Editor, Proceedings of the National Academy of Science (PNAS) (2021)

Consulting Editor, Journal of Cognition and Development (2016-2021)

Consulting Editor, *Child Development* (2017-2021)

Ad-hoc reviewer:

Assessment Journal of Educational Psychology

Journal of Experimental Child Psychology Behavioral and Brain Functions

Journal of Experimental Education Child Development Research Journal of Numerical Cognition Cognition

Cognitive Development Journal for Research in Mathematics Education

Cognitive Processing Learning and Instruction

Cognitive Psychology Learning and Individual Differences

Cognitive Research: Principles and Implications Mind, Brain, and Education

Cognitive Science Personality and Social Psychology Bulletin

Contemporary Educational Psychology Perspectives on Psychological Science

Developmental Psychology PLoS ONE

Developmental Science Proceedings of the National Academy of Sciences

Early Education and Development Psychological Research Educational Psychology Psychological Science

Educational Psychology Review Psychonomic Bulletin & Review

European Journal of Developmental Psychology Quarterly Journal of Experimental Psychology

Fields Mathematics Education Journal Review of Philosophy and Psychology

Frontiers in Psychology: Developmental Psychology Sex Roles

Infant and Child Development Social Science Research

Journal of Abnormal Child Psychology

GRANT REVIEWER

Old Will Reviewer		
Ad hoc reviewer, National Science Foundation (NSF), Social, Behavioral and Econo	mic	
Sciences (SBE) and STEM Education (EDU)	2013-present	
Review panel member, NSF Education Core Research (ECR), Division of Research	on	
Learning in Formal and Informal Settings (DRL)	2024	
Ad hoc reviewer, Natural Sciences and Engineering Research Council of Canada	2024	
Review panel member, NSF CAREER Program, Division of Research on Learning i	n Formal	
and Informal Settings (DRL)	2019	
Ad hoc reviewer, Israel Science Fund	2019	
Review panel member, Institute for Education Sciences (IES), Early Intervention and	d Early	
Childhood Education	2015	
Ad hoc reviewer, Austrian Science Fund	2015	
CONFERENCE REVIEWER		

Conference reviewer, Biennial Meeting of the Cognitive Development Society	2023
Conference reviewer, Biennial Meeting of the Cognitive Development Society	2019
Program committee member, 41st Annual Meeting of the Cognitive Science Society	2019
Conference reviewer, Society for Research on Child Development Biennial Meeting	2018
Program committee member, 40th Annual Meeting of the Cognitive Science Society	2018

Conference reviewer, Biennial Meeting of the Cognitive Development Society Program committee member, 38 th Annual Meeting of the Cognitive Science Society Conference reviewer, Society for Research on Child Development Biennial Meeting Conference reviewer, Third Annual inter-Science of Learning Center (iSLC) Conference	
PROFESSIONAL AFFILIATIONS	
Mathematical Cognition and Learning Society 201	3-present
	3-present
Association for Psychological Science 200)-present
Cognitive Development Society 200	9-present
Society for Research in Child Development 2	009-2022
PROFESSIONAL POSITIONS HELD	
Consultant, Oliver Wyman 2	05-2007