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ACADEMIC APPOINTMENTS

2021-	Professor Penn State University, Brandywine Campus Department of Human Development and Family Studies
2018-	Discipline Coordinator, Health and Human Development Penn State University, University College
2018-	Division Coordinator, Social Sciences (HDFS, Psychology) and Education Penn State University, Brandywine Campus
2015-2021	Associate Professor Penn State University, Brandywine Campus Department of Human Development and Family Studies
2009-2015	Assistant Professor Penn State University, Brandywine Campus Department of Human Development and Family Studies
2014-2017	Rosenberg Endowed Professor for Career Development in Leadership and Innovation

EDUCATION

2004- 2009	The Johns Hopkins University Ph.D.: Psychological and Brain Sciences, 2009 M.A.: Psychological and Brain Sciences, 2006 Advisors: Lisa Feigenson (primary) & Justin Halberda
2001-2003	University of Delaware B.A. with Honors: Psychology, Summa Cum Laude

AWARDS

2019	George W. Atherton Award for Excellence in Teaching, University-wide, Penn State University
2017	Jacob's Foundation Castle Residency program
2017	Distinguished Teacher Award, Penn State University, Brandywine Campus
2017	Faculty Research Award, Penn State University, Brandywine Campus
2014	Arnold A. Markley Honors Faculty Award, Penn State University, Brandywine Campus
2011	Distinguished Teacher Award, Penn State University, Brandywine Campus
2005, 2006	National Science Foundation Graduate Research Fellowship, Honorable Mention

GRANTS

2020	AARP (American Association of Retired Persons; \$30,000), <i>A study to examine the formation of new relationships between grandparents and their grandbabies isolated from one another during the COVID-19 lockdown</i> , co-investigator with Rachel Barr, Elizabeth McClure, Lauren Myers, Gabrielle Strouse, & Georgene Troseth
2015	National Living Laboratory (\$3,000), <i>Please Touch Museum Living Laboratory</i> , co-Investigator with Alice Gonglewski
2014, 2015	National Living Laboratory (\$3,000), <i>Delaware Children's Museum Living Laboratory</i> , co-Investigator with Jennifer Bush

WORKS UNDER REVIEW AND IN PREPARATION

Hassinger-Das, B., Hansen, N., **Zosh, J. M.**, Dyson, N., Hirsh-Pasek, K., Golinkoff, R.M., Jordan, N. (2021). *The four pillars of (mathematics) learning*. Manuscript in preparation.

Zosh, J. M., Booth, J., & Twiss-Garrity, L. (2021). *Unifying the approaches of psychology and education to improve mathematical numerosity judgments: Lessons learned from an intervention study*. Manuscript in preparation.

Zosh, J. M., Verdine, B., Halberda, J., Golinkoff, R.M., & Hirsh-Pasek, K. (2021). A longitudinal investigation of the SES and ANS (Approximate Number Sense): Lower income preschoolers at an early disadvantage. Manuscript in preparation.

Todaro, R., Hassinger-Das, B., **Zosh, J.M.**, Lytle, S., Golinkoff, R.M., Hirsh-Pasek, K. (2021). Playful Learning Landscapes: Promoting literacy through youth engagement and culturally relevant design. Manuscript under review.

JOURNAL ARTICLES

Hassinger-Das, B., **Zosh, J. M.**, Bustamante, A. S., Golinkoff, R. M., & Hirsh-Pasek, K. (in press). Translating cognitive science in the public square. Advance online publication. *Trends in Cognitive Sciences*. Advance online publication. <https://doi.org/10.1016/j.tics.2021.07.001>

Strouse, G., McClure, E., Myers, L. J., **Zosh, J. M.**, Troseth, G., Blanchfield, O., Roche, E., Malik, S., & Barr, R. (2021). Zooming through development: Using video chat to support family connections. *Human Behavior and Emerging Technologies*. Advance online publication. <https://doi.org/10.1002/hbe2.268>

Hassinger-Das, B., Quinones, A., DiFlorio, C., Schwartz, R., Talla, C., & **Zosh, J. M.** (2021). Looking deeper into the toy box: Understanding caregivers' toy selection decisions. *Infant Behavior and Development*, 62, 101529. <https://doi.org/10.1016/j.infbeh.2021.101529>.

Meyer, M., **Zosh, J. M.**, McLaren, C., Robb, M., Golinkoff, R.M., Hirsh-Pasek, K., & Radesky, J. (2021). How educational are 'educational' apps for young children? App store content analysis using the Four Pillars of Learning framework. *Journal of Children and Media*. <https://doi.org/10.1080/17482798.2021.1882516>.

Barr, R., Blanchfield, O., McClure, E., Roche, E., **Zosh, J. M.**, Strouse, G., Troseth, G., & Myers, L. (2020). Virtual family time: How families connect via video chat. *Zero to Three Journal*, 41, 21-29.

Schlesinger, M. A., Hassinger-Das, B., **Zosh, J. M.**, Sawyer, J., Evans, N. E., & Hirsh-Pasek, K. (2020). Cognitive behavioral science behind the value of play: Leveraging everyday experiences to promote play, learning, and positive interactions (Invited). *Journal of Infant, Child, and Adolescent Psychotherapy*. Advance online publication. <https://doi.org/10.1080/15289168.2020.1755084>

Hassinger-Das, B., **Zosh, J. M.**, Hansen, N., Talarowski, M., Zmich, K., Golinkoff, R. M., & Hirsh-Pasek, K. (2020). Play-and-Learn spaces: Leveraging library spaces to promote play and learning. *Library & Information Science Research*, 42, 101002. <https://doi.org/10.1016/j.lisr.2020.101002>

* Featured article in the April 2020 issue of *The Informed Librarian Online* - https://www.informedlibrarian.com/this_month.cfm

Schlesinger, M. A., Hassinger-Das, B., **Zosh, J. M.**, & Hirsh-Pasek, K. (2019). When I was little, I loved to play: Describing play experiences using a community-based lens. *Scottish Educational Review: (Special Issue) Play and Education*, 51(2), 90-107.

Zosh, J. M., Hirsh-Pasek, K., Hopkins, E., Jensen, H., Liu, C., Neale, D., Solis, S.L., & Whitebread, D. (2018). Accessing the inaccessible: Play as a spectrum. *Frontiers in Psychology*, 9. <https://www.frontiersin.org/articles/10.3389/fpsyg.2018.01124/full>

Hassinger-Das, B., Toub, T. S., **Zosh, J. M.**, Michnick, J., Hirsh-Pasek, K., & Golinkoff, R. M. (2017). More than just fun: a place for games in playful learning / Más que diversión: el lugar de los juegos reglados en el aprendizaje lúdico. *Infancia y Aprendizaje / Journal for the Study of Education and Development*, 40, 191-218.

Zosh, J. M., Hassinger-Das, B., Toub, T. S., Hirsh-Pasek, K., & Golinkoff, R. M. (2016). Playing with mathematics: How play supports learning and the Common Core state standards. *Journal of Mathematics Education at Teachers College*, 7, 45-49.

Zosh, J. M., Verdine, B., Filipowicz, A., Golinkoff, R.M., Hirsh-Pasek, K., & Newcombe, N. (2015). Talking shape: Parental language with electronic vs. traditional shape sorters. *Mind, Brain, and Education*, 9, 136-144.

Hirsh-Pasek, K.*, **Zosh, J. M.*** (*joint first authors), Golinkoff, R. M., Gray, J., Robb, M., & Kaufman, J. (2015). Putting education in “educational” apps: Lessons from the Science of Learning. *Psychological Science in the Public Interest*, 16, 3-34.

Zosh, J. M. & Feigenson, L. (2015). Array heterogeneity prevents catastrophic forgetting in infants. *Cognition*, 136, 365-380.

Weisberg, D.S., **Zosh, J. M.** Hirsh-Pasek, K., & Golinkoff, R. M. (2013). Talking it up: An analysis of the role of play in language development. *American Journal of Play*, 6, 39-54.

Zosh, J. M., Brinster, M., & Halberda, J. (2013). Natural contrast: Competition between two referents improves word learning. *Applied Developmental Science*, 71, 20-28.

Zosh, J. M. & Feigenson, L. (2012). Memory load affects object individuation in 18-month old infants. *Journal of Experimental Child Psychology*, 113, 322–336.

Zosh, J. M., Halberda, J. P., & Feigenson, L. (2011). Memory for multiple visual ensembles in infancy. *Journal of Experimental Psychology: General*, 140, 141-158.

CHAPTERS, COMMENTARIES, ENCYCLOPEDIA ENTRIES, PROCEEDINGS, & REPORTS

Kakulla, B., Barr, R., **Zosh, J.M.**, Strouse, G., Myers, L., Troseth, G., & McClure, E. (2021, June). *Boomers and Zoomers: Grandparents Using Video Chat to Connect With Young Grandchildren During the Pandemic* [Research Report]. Washington, DC: AARP Research, June 2021. <https://doi.org/10.26419/res.00468.001>

Zosh, J.M., Gaudreau, C., Golinkoff, R.M., Hirsh-Pasek, K. (2021). Endangered but not extinct: Harnessing playful learning pedagogies in the classroom. Solicited book chapter accepted for publication in the National Association for the Education of Young Children (NAEYC) book: *Developmentally Appropriate Practice in early childhood programs: A strengths-based approach to teaching young children*.

Hassinger-Das, B., Dore, R. & **Zosh, J. M.** (2019). The four pillars of learning: E-books past, present, and future. In J. E. Kim & B. Hassinger-Das (Eds.) *Reading in the digital age: Young children's experiences with e-books* (pp. 11-21). Waltham, MA: Springer.

Dore, R.A., **Zosh, J. M.**, Hassinger-Das, B., Golinkoff, R.M. & Hirsh-Pasek, K. (2019). Reading in the digital age: Lessons learned and future opportunities. In Kucirkova, N., Roswell, J. & Falloon, G. (Eds.) *The Routledge international handbook of learning with technology in early childhood* (pp. 349-361). New York, NY: Routledge.

Weisberg, D. & **Zosh, J. M.** (2018). How guided play promotes early childhood learning. In R. E. Tremblay, M. Boivin, & R. D. Peters (Eds.), A. Pyle topic ed., *Encyclopedia on early childhood development* [online]. Retrieved from: <http://www.child-encyclopedia.com/play-based-learning/according-experts/how-guided-play-promotes-early-childhood-learning>

Hassinger-Das, B., **Zosh, J. M.**, Hirsh-Pasek, K., & Golinkoff, R.M. (2018). Playing to learn mathematics. In R. E. Tremblay, M. Boivin, & R. D. Peters (Eds.), A. Pyle topic ed.,

Encyclopedia on early childhood development [online]. Retrieved from: <http://www.child-encyclopedia.com/play-based-learning/according-experts/playing-learn-mathematics>

Dore, R.A., **Zosh, J. M.**, Hirsh-Pasek, K., Golinkoff, R.M. (2017). Plugging into word learning: The role of electronic toys and digital media in language development. In F. Blumberg & P. Brooks (Eds.) *Cognitive development in digital contexts* (pp. 75-91). Waltham, MA: Elsevier. Manuscript in press.

Hassinger-Das, B., **Zosh, J. M.**, Hirsh-Pasek, K., & Golinkoff, R. (2017). Toys. In K. Peppler (Ed.), *The SAGE Encyclopedia of out-of-school learning* (pp. 781-783). Thousand Oaks, CA: SAGE Publications.

Zosh, J. M., Roseberry Lytle, S., Golinkoff, R., & Hirsh-Pasek, K. (2017). Putting the education back in educational apps: How content and context interact to promote learning. In R. Barr & D. Linebarger (Eds.) *Media exposure during infancy and early childhood* (pp. 259-282). New York, NY: Springer.

Zosh, J. M., Hirsh-Pasek, K., Golinkoff, R.M., & Dore, R.A. (2017). Where learning meets creativity: The promise of guided play. In R. Beghetto & B. Sriraman (Eds.). *Creative contradictions in education: Cross disciplinary paradoxes and perspectives* (pp. 165-180). New York, NY: Springer International Publishing.

Zosh, J. M., Hirsh-Pasek, K., Golinkoff, R.M., & Parish-Morris, J. (2016). Learning in the digital age: Putting education back in educational apps for young children. In R. E. Tremblay, M. Boivin, & R. D. Peters (Eds.), S. Rvachew topic ed., *Encyclopedia on early childhood development*. [online]. Retrieved from: <http://www.child-encyclopedia.com/technology-early-childhood-education/according-experts/learning-digital-age-putting-education-back>

Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. (2016). Guided play. In D. L. Couchenour & K. Chrisman (Eds.) *Encyclopedia of contemporary early childhood education* (pp. 645-646). Thousand Oaks, CA: SAGE Publications.

Zosh, J. M., Reed, J., Golinkoff, R., & Hirsh-Pasek, K. (2014). Play and its role in language development. In P. Brooks, V. Kempe, & G. J. Golson (Eds.) *Encyclopedia of language development* (pp. 467-471). Thousand Oaks, CA: SAGE Publications.

Zosh, J. M., Fisher, K., Golinkoff, R., & Hirsh-Pasek, K. (2013). The Ultimate Block Party: Bridging the science of learning and the importance of play. In M. Honey & D. Kanter (Eds.), *Design, make, play: Growing the next generation of science innovators* (pp. 95-118). New York, NY: Routledge.

Fisher, K. & **Zosh, J. M.** (2011). *NSF Science of Learning Centers workshop report: Translational science initiatives: Ultimate Block Party and beyond*. Unpublished technical report for the National Science Foundation. Philadelphia, PA: Center for Re-Imagining Children's Learning and Education.

- Zosh, J. M.**, & Feigenson, L. (2009). Beyond 'what' and 'how many': Capacity, complexity, and resolution of infants' object representations. In B. Hood & L. Santos (Eds.), *The origins of object knowledge* (pp. 25-51). New York: Oxford University Press.
- Golinkoff, R. M., Pence, K., Pulverman, R., Salkind, S., & **Zosh, J. M.** (2004). [Review of the book *Early category and concept development: Making sense of the blooming, buzzing confusion*, by D. Rakison & L. Oakes (Eds.)]. *Journal of the American Academy of Child & Adolescent Psychiatry*, 43, 783-784.
- Brandone, A., Golinkoff, R. M., Ma, W. Y., Salkind, S. J., & **Zosh, J. M.** (2005). [Review of J. M. Mandler, *Foundations of mind*]. *Journal of Child Language*, 32, 359.
- Rosenberg, K., Golinkoff, R. M., & **Zosh, J. M.** (2004). Did australopithecines (or early Homo) sling? Commentary on "Prelinguistic evolution in early hominins: whence motherese?" by D. Falk. *Behavioral and Brain Science*, 27, 191-203.

INVITED PRESENTATIONS & INTERVIEWS

Zosh, J. M. (2021, July). *The Power of Early Brain Development & The Power of Playful Learning*. Invited keynote presentation. Virtual presentation for the National P-3 Center's P-3 Leadership Certificate Program.

Zosh, J. M. (2020, July). ReadyNation Brain Science Speaker: *The Power of Early Brain Development*. Invited keynote presentation. Virtual presentation for ReadyNation, Ohio.

Zosh, J. M. (2019, April). *Playful learning: A pedagogical approach supporting holistic development*. Invited keynote presentation at the Learning Music Through Play international seminar, Quebec City, Canada.

Zosh, J. M. (2018, October 20). *A play spectrum: Supporting development through play*. Invited keynote presentation at the 2018 Unconference: Play for Change event, Pittsburgh, PA.

Zosh, J. M. & Hirsh-Pasek, K. (2017, October 26). *Deciphering educational toys: How toys can be a conduit for learning*. Invited webinar presentation by The Toy Association, New York, NY.

Zosh, J. M. & Sosa, A. (2016, September 16). Parents' interaction with children around talking versus traditional toys. In K. Hirsh-Pasek & R.M. Golinkoff (Chairs), *Growing up in a digital world: The good, the bad, and the ugly*. Invited symposium presentation at the International Mind, Brain and Education Society Conference, Toronto, Canada.

Zosh, J. M. & Rich, M. (2015, November 5). *Tots on tech: Young children and screen time*. Invited radio interview on WHYY (Philadelphia-based NPR station).

Golinkoff, R.M., **Zosh, J. M.**, Hirsh-Pasek, K., Robb, M., Gray, J., & Kaufman, J. (2015, December). *Playing for learning in a digital world*. Invited presentation at the Connecticut Commission on Children's panel discussion: Technology in the Classroom: What Computes? Hartford, CT.

Zosh, J. M. & Hirsh-Pasek, K. (2015, November). *Putting "education" in educational apps*, Invited presentation at 15th Annual Dust or Magic Institute, Lambertville, N.J.

Zosh, J. M., (2015, November). *Framework for evaluating educational apps*. Invited roundtable presentation moderated with Ellen Wartella at the National Academy of Sciences, Arthur M. Sackler Colloquia: Digital Media and Developing Minds, Irvine, CA.

RESEARCH PRESENTATIONS

Zosh, J. M., Hassinger-Das, B., Hansen, N., Talarowski, M., Zmich, K., Golinkoff, R. M., & Hirsh-Pasek, K. (2022, December). Transforming a public library into a hub of playful learning. In B. Hassinger-Das (Chair), *Learning Landscapes: Playing to learn in community settings*. Symposium accepted in the SRCD Special Topic Meeting: Learning to Play, St. Louis, Missouri.

Zosh, J. M., Hassinger-Das, B., Kaufman, J., & Erkonboni, D. (2022, December). iParenting: Caregiver behaviors, perceptions, and beliefs about children's screen use. In L. Myers (Chair), *Digital play in the modern age*. Symposium accepted in the SRCD Special Topic Meeting: Learning to Play, St. Louis, Missouri.

Hassinger-Das, B., Schwartz, R., Mercedes, N., Salerno, M., Tavdgiridze, M., Takoukam, N. C. T., Gamzehlatova, J., & **Zosh, J. M.** (2021, November 3-5). *Digitizing the toybox: Characteristics of technological and traditional infant toys* [Poster presentation]. Under review for the APA Technology, Mind, and Society Conference, Virtual.

Zosh, J. M. (2021, May). Aligning children's museum experiences with the science of playful learning [Panel moderator]. Association of Children's Museums InterActivity Conference, Virtual.

Zosh, J. M. (2021, April). *Is screen time family time? Media in the family system during COVID19*. Discussant of paper symposium at the Society for Research in Child Development Virtual biennial meeting.

McClure, E., Blanchfield, O., Myers, L.J., Roche, E., Strouse, G.A., Stuckelman, Z., Troseth, G.L., **Zosh, J.M.**, Malik, Subul, M., Barr., & R.F., (2021, April). Zoom-ing through development: Using video chat to support family connections during COVID-19. In L. Myers (Chair), *Is screen time family time? Media in the family system during COVID19*. Symposium presented at the Society for Research in Child Development Virtual biennial meeting.

Hassinger-Das, B., Quinones, A., & **Zosh, J. M.** (2020, July). *Looking deeper into the toy box: Understanding caregivers' toy selection decisions*. Virtual poster presentation at the International Congress of Infant Studies biennial meeting, Glasgow, Scotland.

Zosh, J. M., Hassinger-Das, B., Kaufman, J., & Erkoboni, D. (2020, July). *iParenting: Parenting infants in a digital age*. Virtual poster presentation at the International Congress of Infant Studies biennial meeting, Glasgow, Scotland.

Hassinger-Das, B., Schlesinger, M. A., **Zosh, J. M.**, Hirsh-Pasek, K., & Golinkoff, R. M. (2019, May). "When I was little, I loved to play...": *Exploring playful learning in low- and mixed-*

income communities. Poster presented at the 31st Annual Association for Psychological Science Convention, Washington, DC.

Schlesinger, M., **Zosh, J. M.**, Hassinger-Das, B., Hirsh-Pasek, K., & Golinkoff, R., (2018, November). *When I was little, I loved to play... The joy, difficulty, and the value of conducting community-based play research*. Presentation at the Community of Practice on Play meeting at Harvard University's Center on the Developing Child, Boston, MA.

Zosh, J. M., Clement, J., Ferguson, A., Grullon, Z., Lowery, M., Nguyen, I., Nouri, S., Papp, M., Quinones, A., & Hassinger-Das, B. (2018, October). *Screens and beyond: An analysis of (tech) toys marketed for infants*. Poster presentation at the 2nd Digital Media and Developing Minds Congress, Cold Spring Harbor Laboratories, New York.

Hassinger-Das, B., **Zosh, J. M.**, Dore, R., Golinkoff, R. M., & Hirsh-Pasek, K. (2018, April). Taming technology: Evidence-based principles for app and e-book use. In C. Herodotou (Chair), *Young children learning with mobile devices: Research on design and implementation*. Symposium presented at the annual meeting of the American Educational Research Association, New York, New York.

Zosh, J. M. (2018, April). The forgotten "other" tech: Toys that talk, light up, and move. In R. Dore (Chair), *Growing up a digital native: Effects on cognition, parent-child interaction, and healthy development*. Symposium presented at the special Technology, Mind, & Society meeting of the American Psychological Association, Washington, DC.

Zosh, J. M. & Pecci, B. (2017, June). Does play equal learning? An investigation of attitudes towards play and learning in a children's museum. In paper symposium *Social processes in children's cognitive development*. Paper presentation at the Jean Piaget Society Meeting, San Francisco, CA.

Zosh, J. M. (2017, June). *Taming technology: Making evidence-based decisions regarding digital media*. Discussant of paper symposium accepted at the Jean Piaget Society Meeting, San Francisco, CA.

Zosh, J. M. & Lomas, L. (2017, April). Direct and indirect effects of electronic and traditional books for toddlers. In B. Hassinger-Das (Chair), *Not just playing around: The role of toys and games in playful learning*. Symposium presented at The Society for Research in Child Development, Austin, TX.

Zosh, J. M. & Lomas, L. (2016, October). Traditional versus electronic toys: How toy-type impacts parent-child interactions and self-regulation. In A. Lillard (Chair), *Touch screens and parent-child interaction*. Symposium presented at the Technology and Media in Child Development special topics meeting of the Society for Research in Child Development, Irvine, CA.

Verdine, B.N., Marzouk, M., **Zosh, J. M.**, Golinkoff, R.M., & Hirsh-Pasek, K. (2016, June).

Toys R important: Effects of toy design on parent geometric and spatial talk. In G. Borriello (Chair), *Spatial development and STEM Learning*. Symposium accepted at the Jean Piaget Society 46th Annual Meeting, Chicago, IL.

Zosh, J. M. Verdine, B. N., Golinkoff, R.M., Hirsh-Pasek, K. & Halberda, J. (2015, October). *SES and ANS: How socio-economic status impacts the relation between the approximate number system and mathematics performance*. Poster presented for the Ninth Biennial Meeting of the Cognitive Development Society, Columbus, OH.

Hirsh-Pasek, K., **Zosh, J. M.**, & Golinkoff, R. M. (2015, March). Guided play: A new pedagogical approach to high quality early learning. In A. Mendelson, C. Cates, & A. Weisleder (Chairs), *Applying developmental science in real world settings to address poverty-related disparities in school readiness*. Symposium presented at the biennial meeting of the Society for Research in Child Development, Philadelphia, Pennsylvania.

Zosh, J. M., Verdine, B. N., Filipowicz, A., Golinkoff, R. M., Hirsh-Pasek, K., & Newcombe, N. (2015, March). Talking shape: Parental language during play with electronic vs. traditional shape sorters. In B. Hassinger-Das (Chair), *Learning to play: Identifying and assessing key elements of playful learning*. Symposium presented at the biennial meeting of the Society for Research in Child Development, Philadelphia, Pennsylvania.

Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. (2015, March). Playing for learning in a digital world. Invited paper presentation in M. Rincón-Cortés (Chair), *Comparative aspects of play in humans and rodents*. Invited symposium conducted at the annual meeting of the Eastern Psychological Association. Philadelphia, Pennsylvania.

Hirsh-Pasek, K., Golinkoff, R.M., **Zosh, J. M.**, Robb, M., Gray, J., & Kaufman, J. (2014, May). *Putting “education” back in educational apps*. Symposium presented at Association for Psychological Science Conference, San Francisco, CA.

Zosh, J. M., Booth, J., & Twiss-Garrity, L. (2014, April). *Differential Impact of proportional estimation training for fifth and eighth grade students*. Paper presented at American Educational Research Association Conference, Philadelphia, PA.

Zosh, J. M., Patte, M., Nell, M., Johnson, J., Sevimli-Celik, S., Cohen, L., . . . Han, M. (2013, November). *Weaving together the golden strands of play and research*. Roundtable presentation presented at the National Association for the Education of Young Children, Washington DC.

Zosh, J. M. & Gillin, J. (2013, October). *Lights, camera, action, and apps: What the science of learning research tells us about learning with traditional vs. electronic toys*. Workshop presented at Jane Davidson Forum on Play at the University of Delaware, Newark, DE.

Zosh, J. M., Verdine, B., Golinkoff, R. & Halberda, J. (2013, April). *Which is more? Approximate number system varies by SES in preschoolers*. Poster presented at Society for Research in Child Development Conference, Seattle, WA.

Twiss-Garrity, L., Booth, J., & **Zosh, J. M.** (2013, April). *Differential impacts of proportional estimation training based on ability level among 8th graders*. Poster presented at Society for Research in Child Development Conference, Seattle, WA.

Gillin, J. & **Zosh, J. M.** (2013, April). *Parent perceptions of educational and electronic products in an electronic era*. Poster presented at 24th Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Roache, C. L. & **Zosh, J. M.** (2013, April). *The impact of heterogeneity on working memory limits in infancy*. Poster presented at 24th Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Zosh, J. M., Filipowicz, A., Fombi, J., Verdine, B., Hirsh-Pasek, K., & Golinkoff, R. (2013, March). *Promoting spatial learning in preschoolers: Electronic vs. traditional toys*. Paper presented at 2013 Annual Conference of The Association for the Study of Play (TASP)/Conference of The American Association for the Child's Right to Play (IPA/USA), Newark, DE.

Zosh, J. M., Fisher, K., Golinkoff, R., & Hirsh-Pasek, K. (2013, March). *The Ultimate Block Party: Promoting the science of playful learning*. Paper presented at 2013 Annual Conference of The Association for the Study of Play (TASP)/Conference of The American Association for the Child's Right to Play (IPA/USA), Newark, DE.

Zosh, J. M. & Gillin, J. (2013, March). *Parental perceptions of toys in an electronic era*. Paper presented at 2013 Annual Conference of The Association for the Study of Play (TASP)/Conference of The American Association for the Child's Right to Play (IPA/USA), Newark, DE.

DeCecco, L., Roache, C.L., Twiss-Garrity, L., Booth, J., & **Zosh, J. M.** (2012, April). *Malleability of eighth graders' numerical estimation ability: A training study*. Poster presented at 23rd Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Looby, T., Thomas, M., Twiss-Garrity, L., Booth, J., & **Zosh, J. M.** (2012, April). *Fifth grade mathematics ability relates to numerical estimation on small scales*. Poster presented at 23rd Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Zosh, J. M. (2011, April). *New and robust approaches to the study of object cognition: Integrating methods across age groups*. Chair of paper symposium at the Society for Research in Child Development Conference, Montreal CA.

Zosh, J. M. (2011, April). *Early evidence for a capacity-resolution tradeoff in working memory*. Paper presented at the Society for Research in Child Development Conference, Montreal CA.

Halberda, J. & **Zosh, J. M.** (2011, April). *Competition among referents in word learning*. Paper presented at the Society for Research in Child Development Conference, Montreal CA.

Twiss-Garrity, L., & **Zosh, J. M.** (2011, May). *The relative strengths of indirect and direct learning strategies in preschoolers*. Poster presented at 22nd Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Gallagher, A., Kim, T., & **Zosh, J. M.** (2011, May). *Gender differences in the relation of identity and aggression*. Poster presented at 22nd Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Dorsey, Q., Kim, T., & **Zosh, J. M.** (2011, May). *The masculine self: How does it relate to aggression?* Poster presented at 22nd Annual Sigma Xi (The Scientific Research Society) Conference, Saint Joseph's University, Philadelphia, PA.

Zosh, J. M. & Feigenson, L. (2010, May). *Developmental evidence for a capacity-resolution tradeoff in working memory*. Poster presented at the Vision Sciences Society Conference, Naples, FL.

Zosh, J. M. & Feigenson, L. (2010, March). *A capacity-resolution tradeoff in working memory in infancy*. Poster presented at the International Conference on Infant Studies, Baltimore, MD.

Zosh, J. M. & Feigenson, L. (2008, May). *Array heterogeneity prevents catastrophic working memory failure in infants*. Poster presented at the Vision Sciences Society, Naples, FL.

Zosh, J. M. & Feigenson, L. (2008, March). *Array heterogeneity affects infants' working memory capacity*. Poster presented at the International Conference on Infant Studies, Vancouver, CA.

Zosh, J. M., Feigenson, L., & Halberda, J.P. (2008, March). *Parallel enumeration of multiple spatially-overlapping sets in infancy*. Poster presented at the International Conference on Infant Studies, Vancouver, CA.

Spiegel, C., **Zosh, J. M.**, & Halberda, J.P. (2008, March). *Toddlers use disjunctive syllogism and fast-mapping to learn multiple novel labels in a single session*. Poster presented at the International Conference on Infant Studies, Vancouver, CA.

Zosh, J. M., Feigenson, L., & Halberda, J.P. (2007, May). *Infants' ability to enumerate multiple spatially-overlapping sets in parallel*. Poster presented at the Vision Sciences Society, Sarasota, FL.

Zosh, J. M., Brinster, M., & Halberda, J.P. (2007, April). *Inference is better than instruction*. Poster presented at The Society for Research in Child Development, Boston, MA.

Zosh, J. M. & Feigenson, L. (2007, April). *Infants' recruitment of long-term memory in a working memory task*. Poster presented at The Society for Research in Child Development, Boston, MA.

Zosh, J. M. & Feigenson, L. (2006, May). *Semantic knowledge increases short-term memory capacity in infants*. Poster presented at Association for Psychological Science, New York City, NY.

TEACHING

Courses taught at Penn State:

- Introduction to Human Development and Family Studies (HDFS 129)
- Infant and Child Development/Introduction to Developmental Psychology (HDFS 229/PSYCH 212)
- Intercultural Community Building (HDFS 287Y)
- Advanced Child Development Seminar (HDFS 429/PSYCH 410)
- Developmental Psychology, Infant Development Seminar (HDFS 428)
- Research Project Seminar (HDFS 494; PSYCH 496)

Certifications:

2017 Certificate of Proficiency with Distinction. *The Best Start in Life: Early Childhood Development for Sustainable Development* course The SDG (Sustainable Development Goals) Academy

2013 Certificate for Online Teaching, World Campus, Penn State University

Publications:

Zosh, J. M. (2020). *Taking child development outside of the textbook, the university, and the country: Utilizing the UN's Sustainable Development Goal Academy in an upper level developmental psychology seminar*. In M. Wong, L. Weiner, L. Yee, and J. Cerniak (Eds). *Incorporating diversity in classroom settings: Real and engaging examples for various Psychology courses*.

Presentations:

Corkery, S., **Zosh, J. M.**, Sturm, M., Yaure, R., Melnick, J., Cleveland, H. (2020, November). *Preparing students for a changing world: Modifying HDFS curricula to attract, support, and prepare undergraduate students*. Interactive discussion session accepted at the National Council on Family Relations Conference, St. Louis, MO (moved online).

Zosh, J. M. (2019, March). *More Connected, Less Aware: A Pilot Project using the UN's Sustainable Development Goal Academy in an Upper Level Seminar*. Roundtable presentation at the Developmental Science Teaching Institute of the Society for Research in Child Development, Baltimore, MD.

Zosh, J. M. & Sturm, M. (2017, March). *Teaching and learning about technology: An exploration for first-year students*. Presentation at the Penn State Symposium for Teaching and Learning with Technology Conference, State College, PA.

Zosh, J. M., Chiong, N., & Vollmer, M. (2014, March). *Using Grademark: Perspectives from professors and students*. Presentation at the Penn State Symposium for Teaching and Learning with Technology Conference, State College, PA.

PROFESSIONAL MEMBERSHIPS

Cognitive Development Society
 International Congress on Infant Studies
 Psi Chi National Honor Society
 Society for Research in Child Development
 Spatial Network of Spatial Intelligence and Learning Center (SILC)
 The Association for the Study of Play (TASP)

PROFESSIONAL ACTIVITIES

2019 -	Playful Learning Landscapes Action Network, Science Advisory Board
2018	Invited Roundtable Participant, Quality Early Learning Meeting, The World Bank. Billund, Denmark
2017 -	ReadyNation Brain Science Speaker Bureau, Council for a Strong America
2017-2018	Philadelphia Playful Learning City Initiative Committee Member
2015-2017	Urban Thinkscape Project Advisory Committee: Core (PAC-C)
2015	Invited Participant, Digital Media and Developing Minds Conference, National Academies of Sciences, Irvine, CA
2015	Invited Roundtable Participant, EarlyTech Strategy Roundtable, Hosted by the Department of Education Offices of Early Learning and Educational Technology, Washington, DC

2014	Founding Academic Partner, National Living Laboratory at the Delaware Children's Museum
2012	Facilitator & Invited Guest, Design, Make, Play – Growing the Next Generation of Science Innovators Conference, New York Hall of Science, NY
2011	Fellow, NICHD Summer Institute on Applied Research in Child and Adolescent Development, Potomac, MD
2011-2013	L-rn, the Learning Resource Network, Consultant
2010-2017	Advisory Board, Ultimate Block Party Organization
2010- 2017	Blogger & Social Media Representative, Ultimate Block Party Organization
2010	Co-Organizer, NSF Science of Learning Centers Workshop, New York, NY
2010	Co-Organizer, Science of Learning and Play Workshop for Museums, New York, NY

SERVICE TO THE CAMPUS, COLLEGE, UNIVERSITY, & PROFESSION

Service to the Campus

2018- Division Coordinator, Social Sciences (HDFS, Psychology) and Education
Penn State University, Brandywine Campus

This position involves substantial coordination across multiple academic programs involving faculty and curricular issues in multiple disciplines. Duties include: Coordinate activities in promotion of academic programs within Division; coordinate representation of academic programs at recruiting and admissions events; coordinate Town Hall meetings for academic programs within Division; develop and assist with academic program assessments and strategic planning; Assist other units in monitoring course enrollments in academic programs within Division; review and/or approve part-time faculty application materials; assist Office of Academic Affairs in identifying peer reviewers for part-time faculty; work with Advising and Career Services and program faculty to ensure faculty participation at New Student Orientation; assist Advising and Career Services in evaluating transfer students' course articulations; prepare course schedules in consultation with program faculty, Registrar, and Office of Academic Affairs; work with program faculty to develop annual budget proposals, including anticipated needs for faculty professional travel and development, laboratory and research equipment, adjunct faculty, student travel; work with Director of Academic Affairs to track faculty teaching loads, including course releases and overloads; attend and present appropriate division updates at scheduled Director of Academic Affairs Council meetings.

2016-2018 Program Liaison, Human Development and Family Studies
Penn State University, Brandywine Campus

The principal function of Program Liaisons is to promote the health of their program enrollments. Duties include: organizing Town Hall meetings; consulting with division coordinator regarding course scheduling; assisting with the review of part-time faculty applications; assisting with transfer student course articulations.

2015-2016 Brandywine Experience Committee Chair

This initiative was based on our campus' Strategic Plan in which we aim to foster and shape citizens who are socially aware, environmentally considerate, and civic-minded, while providing our diverse population of students with a high-quality education. I worked with faculty and staff to create a holistic curricular experience for our entire student body. I fully developed a plan from conceptualization to implementation that fostered this kind of whole student development. This program has continued its pilot as we seek internal and external funding. Both quantitative and qualitative assessment of the pilot stages of this program found that students in the program were more involved in campus activities and campus clubs, had higher GPAs, were more likely to participate in class, had zero attrition, and were more likely to support each other than the control group. This curricular plan was passed in our Faculty Senate and I ran a pilot course for two academic years. Our early retention and academic success markers suggest that this program has been an overwhelming success, and was a core feature of a recent proposal submitted by the campus to the Howard Hughes Medical Institute

Elected Campus Committees: Faculty Executive Committee (2019-2021; 2013-2015)

Campus Committee Chair: Undergraduate Research Committee (2017-2018); Faculty Forum Committee (2013-2014); Service Chair for Honors Committee (2010-2012); HDFS Faculty Search (2015)

Campus Committee Membership: Director of Academic Affairs Search Committee (2019-2020); Teaching Excellence Committee (2017-2018), Faculty Awards Committee (2017-2018; 2011-2014), Enrollment Management Committee (2014-2016; 2012), STEM Options Committee, Faculty Forum Committee (2011-2013); Undergraduate Research Committee (2014-2016); Penn State Day Committee (2010); Marketing Committee (2009-2010); multiple search committees

Service to the College & University

2019 Teaching Awards Committee

University-wide committee tasked with selecting winners for multiple teaching awards.

2019 - HDFS Task Force

University-wide task force charged with providing strategic leadership for re-envisioning HDFS undergraduate curriculum. Our goal is to help build upon the existing strengths of our program while purposefully infusing engaged learning experiences throughout the degree. We aim to become Penn State's "engaged social science" major. We also will scaffold career exploration and development more explicitly throughout the major so that students can build skills and experiences early, plan for future career goals, and be prepared for success after graduation.

2018- Discipline Coordinator, Health and Human Development
Penn State University, University College

Duties include: 1) Conduct annual meetings with 70+ faculty in the programs contained in the Health and Human Development Division (including Human Development and Family Studies, Occupational Therapy Assistant program, Physical Therapy Assistant program, Biobehavioral Health, Radiological Sciences, Kinesiology); 2) Participate as a disciplinary consultant in the annual performance reviews of tenure and non-tenure faculty to provide disciplinary input to campus administrators; provide disciplinary advice for post-tenure reviews; 3) Work with candidates to identify external reviewers, assist candidates by reviewing CVs, narrative statements and dossiers); 4) Oversee the development of courses and degree programs developed by the college faculty in consultation with other administrative units and provide disciplinary input on curriculum reviews; and 5) Advise all levels of teaching professors, associate teaching professors, assistant teaching professors and lecturers.

Service to the Profession

Committee Membership:

2019- Teaching Committee Member
Society for Research on Child Development

Journal Reviews and Editorial Boards

2018- Editorial Board, *Journal of Experimental Education*

2013- Review Editor, *Frontiers in Psychology (Developmental Psychology)*

Ad-hoc reviewer:

Acta Paediatrica
Acta Psychologica
Applied Developmental Science
British Journal of Educational Psychology
Child Development
Child Development Perspectives
Child and Youth Care Forum
Cognition
Cognitive Psychology
Computers and Education

Developmental Psychology
Developmental Science
Early Childhood Research Quarterly
Journal of Applied Developmental Psychology
Journal of Children and Media
Journal of Cognition and Development
Journal of Cognitive Psychology
Journal of Early Childhood Research
Journal of Experimental Child Psychology
Journal of Experimental Education
Infant and Child Development
Mind, Brain, and Education
npj Science of Learning
Psychonomic Bulletin & Review
Trends in Neuroscience and Education

Conference Reviews and Panel Chair

Reviewer: SRCD Conference (2010 - present); APA Mind, Technology, and Society Conference (2019); International Congress on Infant Studies (2015); SRCD Developmental Science Teaching Institute (2021)

Chair, Adult support panel, SRCD Special Topics Meeting (2020)

Conference Chair

Co-Chair, SRCD Developmental Sciences Teaching Institute (2021)

Grant Reviews

National Science Foundation Review, Panelist (2018, 2019)

National Science Foundation Review, ad hoc reviewer (2019, 2020)

Swiss National Science Foundation, ad hoc reviewer (2019)

Textbook & Materials Reviews:

Harvard University Press, Routledge, Sage Publications, University of California Press, Wadsworth Cengage Learning, Wiley, Zero to Three

TRANSLATIONAL WRITING, CONSULTING, AND OUTREACH

WRITING (WHITE PAPERS AND BLOGS)

Translational Writing

Jensen, H., Pyle, A., **Zosh, J. M.**, Ebrahim, H.B., Hamre, B.K., Reunamo, J., & Zaragoza Scherman, A. (2018). *Play facilitation: The science and art of engaging young children* [white paper]. The LEGO Foundation, DK.

Zosh, J. M., Hopkins, E. J., Jensen, H., Liu, C., Neale, D., Hirsh-Pasek, K., Solis, S. L., & Whitebread, D. (2017). *Learning through play: A review of the evidence* [white paper]. The LEGO Foundation, DK.

*Used as a foundation for UNICEF's ECCE global strategy (see:

<https://www.unicef.org/sites/default/files/2018-12/UNICEF-Lego-Foundation-Learning-through-Play.pdf>)

**Used to inform teacher professional development via partnerships across diverse geographies, being integrating in the training of thousands of teachers, and benefiting an estimated 5 million children across the globe (see:

<https://www.legofoundation.com/en/about-us/news/the-lego-foundation-launches-global-partnerships-to-support-primary-school-teachers-use-of-learning-through-play-across-five-countries/>)

*** In Denmark, this work has also informed the design of a [diploma module for in-service professionals](#) in daycare, the national development program, [Playful Learning](#), and the five characteristics have formed the blue print for the award-winning [LEGO House](#).

Liu, C., Solis, S. L., Jensen, H., Hopkins, E. J., Neale, D., **Zosh, J. M.**, Hirsh-Pasek, K., & Whitebread, D. (2017). *Neuroscience and learning through play: A review of the evidence* (research summary). The LEGO Foundation, DK.

Whitebread, D., Neale, D., Jensen, H., Liu, C., Solis, S.L., Hopkins, E., Hirsh-Pasek, K. **Zosh, J. M.** (2017). *The role of play in children's development: A review of the evidence* (research summary). The LEGO Foundation, DK.

Blogs

Hassinger-Das, B., **Zosh, J. M.**, Golinkoff, R. M., & Hirsh-Pasek, K. (2020, February 20). Playbrary: A new vision of the neighborhood library [Blog post]. *The Brookings Institution*. Retrieved from <https://www.brookings.edu/blog/education-plusdevelopment/2020/02/20/playbrary-a-new-vision-of-the-neighborhood-library/>

Hassinger-Das, B., **Zosh, J. M.**, Golinkoff, R., & Hirsh-Pasek, K. (2018, December 10). The science of toys: A guide for the perplexed shopper [Blog post]. *The Brookings Institution*.

Retrieved from <http://www.brookings.edu/blog/education-plus-development/2018/12/10/the-science-of-toys-a-guide-for-the-perplexed-shopper/>

Zosh, J. M. (2018, August 28). Minds On! Learning through play promotes STEM [Blog post]. *Global Family Research Project*. Retrieved from <https://globalfrp.org/Articles/Minds-On%21-Learning-Through-Play-Promotes-STEM>

Zosh, J. M. & Hirsh-Pasek, K. (2017, July 24). Toys are tools: Minds make the magic [Blog post]. *The Toy Association*. Retrieved from <http://www.thegeniusofplay.org/genius/expert-advice/articles/toys-are-tools-minds-make-the-magic.aspx>

Hassinger-Das, B., **Zosh, J. M.**, Hirsh-Pasek, K., & Golinkoff, R. (2017, March 21). Lessons from Ben Franklin: Using learning landscapes to rethink modern libraries [Blog post]. *The Brookings Institution*. Retrieved from <https://www.brookings.edu/blog/education-plus-development/2017/03/21/lessons-from-ben-franklin-using-learning-landscapes-to-rethink-modern-libraries/>

Lerner, C., & **Zosh, J. M.** (2015, December 8). Apps for sale: How to choose and use apps to maximize your young child's learning [Blog post]. *PBS Parents*. Retrieved from <http://www.pbs.org/parents/expert-tips-advice/2015/12/apps-for-sale-how-to-choose-and-use-apps-to-maximize-your-young-childs-learning/>

Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. (2015, November 16). Socially responsible advertising: A marriage proposal between science and marketing. *Campaign US*. Retrieved from <https://www.campaignlive.com/article/socially-responsible-advertising-marriage-proposal-science-marketing/1372392>

Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. (2015, September 8). Don't let the toys do the talking: The case of electronic and traditional shape sorters. *The Brookings Institution*. Retrieved from <http://www.brookings.edu/blogs/education-plus-development/posts/2015/09/08-electronic-traditional-shape-sorters-zosh-hirsh-pasek-golinkoff>

Zosh, J. M., Hirsh-Pasek, K., & Golinkoff, R. (2015, May 8). Research cautions many apps risk losing what's truly educational. *gamesandlearning.org*. Retrieved from <http://www.gamesandlearning.org/2015/05/08/research-cautions-many-apps-risk-losing-whats-truly-educational/>

CONSULTING

Professional Consulting

2020 Kaboom, Play Anywhere Philly! Grant competition, Technical Assistance Coach

Provided technical assistance to applicants and award winners for implementing playful learning in community contexts.

2019 Brilliant Experience, 0-3 Needs Assessment, Scientific Consultant

Provided scientific consultation to a 0-3 Needs Assessment in Washington, DC.

2018 - 2019 Smith Playground, Talk it up Project, Scientific Consultant

Provided scientific guidance for the design of playful learning opportunities in everyday spaces in Philadelphia, PA (e.g., barbershops, supermarkets, and bodegas).

2017 - 2018 Free Library of Philadelphia, Play-and-Learn Spaces, Scientific Consultant

Provided scientific guidance for the design of playful learning installations in three libraries in Philadelphia, PA.

2017 - 2019 LEGO Foundation, Playful Learning and Playfutures, Scientific Consultant

Provided scientific expertise in the creation of four white papers/research summaries ([1] *Learning through play: A review of the evidence*; [2] *Neuroscience and learning through play: A review of the evidence*; [3] *The role of play in children's development: A review of the evidence*; & [4] *Play facilitation: The science and art of engaging young children*) and as a consultant for the global Playfutures initiative.

COMMUNITY PRESENTATIONS AND OUTREACH

Presentations to Community Organizations

Zosh, J. M. (2020, July 22). ReadyNation BrainScience Speaker: *The Power of Early Brain Development*. Virtual presentation at Child Care Advocacy Meeting with Senator Corman. Centre County, PA.

Zosh, J. M. (2019, June 3). *Skype-with-a-Scientist*. Virtual Presentation to Garnet Valley Middle School students. Garnet Valley, PA.

Zosh, J. M. (2019, May 31). *Parent-Child Workshop*. Presentation to parents at Middletown Free Library. Media, PA.

Zosh, J. M. (2018, May 10). Psychology: Studying the mind. Presentation to 7th grade females at Penn State University STEM Options. Media PA.

- Zosh, J. M.** (2018, May 4). *Parenting in the Days of Apps, Talking Toys, and Hatching Eggs: What science tell us about raising kids today*. Presentation to parents at Middletown Free Library. Media, PA.
- Zosh, J. M.** (2018, March 2). ReadyNation BrainScience Speaker: *The Power of Early Brain Development*. Presentation to legislators at PA Early Childhood Education Legislative Caucus. Malvern, PA.
- Zosh, J. M.** (2017, May 6). *Parent University: Parenting education seminar*. Presentation to parents at The Goddard School. Exton, PA.
- Zosh, J. M.** (2015, April 17). *Ask the Experts: Child Development*. Presentation to parents at Middletown Free Library. Media, PA.
- Zosh, J. M.** (2014, October 17). *Ask the Experts: Child Development*. Presentation to parents at Middletown Free Library. Media, PA.
- Zosh, J. M.** (2014, September 8). Studying child development. Presentation to Martin's Run Retirement Community. Media, PA.
- Zosh, J. M.** (2014, April 4). *Ask the Experts: Child Development*. Presentation to parents at Middletown Free Library. Media, PA.
- Zosh, J. M.** (2014, March 13). *Memory Challenge at Brain Awareness Week*. Created presentation and oversaw undergraduate volunteers at The Franklin Institute. Philadelphia, PA.
- Zosh, J. M.** (2013, March 15). *Memory Challenge at Brain Awareness Week*. Created presentation and oversaw undergraduate volunteers at The Franklin Institute. Philadelphia, PA.