

Laura E. Schulz PhD

Curriculum Vitae

Department of Brain and Cognitive Sciences
Massachusetts Institute of Technology
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Degrees

Ph.D., Developmental Psychology, University of California, Berkeley, 2004,
Thesis Advisor: Alison Gopnik
M.A., Developmental Psychology, University of California, Berkeley, 2002
B.A., Philosophy, University of Michigan, Ann Arbor, 1992

Academic employment

Associate Department Head for Diversity, Equity, Inclusion and Justice, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 2020 – present

Professor of Cognitive Science, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 2017 – present

Class of 1943 Career Development Associate Professor of Cognitive Science, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 2010 – 2017

Assistant Professor of Cognitive Science, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, 2005 – 2010

Awards and Honors

- American Psychological Association Distinguished Scientific Award for Early Career Contribution to Psychology, 2014
- MIT Macvicar Faculty Fellow, 2013
- National Academy of Sciences, Troland Award, 2012
- Society for Research in Child Development, Award for Early Career Research Contributions, 2011
- National Academy of Sciences, Kavli Fellow, 2011
- MIT Brain and Cognitive Science Angus MacDonald Award for Excellence in Undergraduate Teaching, 2011
- Marr Prize, Cognitive Science Society (student author: Hyowon Gweon), 2010
- NSF Presidential Early Career Award for Scientists and Engineers, 2009
- John Merck Scholars Foundation Award, 2009
- Class of 1943 MIT Career Development Professorship, 2009

- MIT Brain and Cognitive Science Award for Excellence in Undergraduate Advising, 2009
- NSF Faculty Early Career Development award, 2007
- MIT School of Science Prize for Excellence in Undergraduate Teaching, 2007
- Marr Prize, Cognitive Science Society (student author: Elizabeth Bonawitz), 2006

Research contracts, fellowships, and grants

Funded grants:

National Science Foundation, *Collaborative research: Loopholes into a window of the learning of meaning*. 9/1/2021-8/30/2024, co-PI, subaward: \$290,454.

National Science Foundation, *Innovating developmental science with an online, scalable, meta-science platform for investigating cognitive development during early childhood*, 9/1/2021-8/30/2024, subaward: \$295,685.

Woodrow Wilson Foundation, *Informal science education for learners, parents, and educators*, 4/1/16 - 7/31/17, Total project funding: \$85,000.

Simons Center for the Social Brain Targeted Project Funding, *A computational and behavioral investigation of our reasoning about others' utility functions in development and mature individuals with ASD and control participants*, 1/1/15-12/31/15, Total project funding; \$138,959

National Science Foundation, *Lookit online interface for large-scale developmental studies*, 8/1/2014-7/31/2017, Total project funding \$369,999.

Simons Foundation Seed Grant, September, *Costs, Competence, and Morality: A computational and developmental perspective on social cognition impairments in autistic individual*, 8/1/2012-8/1/2013, Total project funding: \$99,612.

John Merck Scholars Award, *Learning by doing: Exploratory behaviors in at-risk infants*, 5/1/2009-4/31/2012, Total project funding; \$300,000.

MIT Class of 1943, Career Development Professorship, 5/1/2009-4/31/2012, Total project funding: \$60,000.

National Science Foundation Faculty Early Career Development Award (NSF CAREER), *Curiosity, Exploratory Play, and the foundations of scientific inquiry*. 6/1/2008-5/31/2013, Total project funding: \$750,000.

John Templeton Foundation, *Curiouser and curiouser: Children's causal knowledge and exploratory play*, 8/1/2007-8/31/2011, Total project funding: \$293,342.

National Science Foundation, Informal Science Education grant, (sub-contractor), A

participatory model for integrating research into science museums, 8/15/2007-7/31/2009, Total project funding: \$40,000.

Liberty Mutual Foundation, *Boston Children's Museum PlayLab*, 10/1/2007, Total project funding, \$35,000.

James H. Ferry Jr. Fund for Innovation in Research Education Award, *Children's play project: Evidence, action, and causal inference*, 7/1/2005, Total project funding: \$50,000.

James S. McDonnell Foundation, *Collaborative interdisciplinary grant on causal reasoning*, 5/1/2005-4/30/2013, Total project funding: \$240,000.

Publications

Journal articles

Wu, Y., Schulz, L.E., Frank, M., & Gweon, H., (in press). Emotions as information in early social learning, *Current Directions in Psychological Science*.

Chu, J., & Schulz, L.E., (in press). Children selectively endorse speculative conjectures. *Child Development*.

Siegel, M., Pelz, M., Magid, M., Tenenbaum, J.B., & Schulz, L.E., (in press). Intuitive psychophysics: Children's exploratory play tracks the discriminability of hypotheses. *Nature Communications*.

Leonard, J. A., Duckworth, A., Schulz, L.E., & Mackey, A., (in press). Leveraging cognitive science to foster children's persistence. *Trends in Cognitive Sciences*

Chu & Schulz (2020). Play, curiosity, and cognition. *Annual Review of Developmental Psychology*, 2(1) 317-343.

Jara-Ettinger, J. Floyd, S. Huey, Tenenbaum, J.B., & Schulz, L.E., (2020). Social pragmatics: Preschoolers rely on commonsense psychology to resolve referential underspecification. *Child Development*, 91(4) 1135-1149.

Kominsky, J., Gerstenberg, T., Pelz, M., Sheskin, M. Singmann, F., Schulz, L.E., & Keil, F. (in press). The trajectory of counterfactual simulation in development. *Developmental Psychology*.

Sheskin, M., Scott, K., Mills, C.M, Bergelson, E., Bonawitz, E., Spelke, El., Li, F., Keil, F., Gweon, H. Tenenbaum, J.B., Jara-Ettinger, J., Adolph, K., Rhodes, M., Frank, M.C., Mehr, S., & Schulz L.E., (2020). Online developmental science to foster innovation, access, and impact, *Trends in Cognitive Sciences*, 24(9) 675-678.

Levine, S., Kleiman-Weiner, M. Schulz, L.E. Tenenbaum. J.B. & Cushman, F., (2020) The

logic of universalization guides moral judgment. *Proceedings of the National Academy of Sciences*, 117(42), 26158-26169.

Wu, Y. & Schulz, L.E. (2020). Understanding social display rules: Using one person's emotional expressions to infer the desires of another. *Child Development*, 91(5), 1786-1799.

Leonard, J. & Schulz, L.E. (2019). How adults' actions, outcomes and testimony affect preschoolers' persistence. *Child Development*. doi.10.1111/cdev.13305

Gweon, H. & Schulz, L.E. (2019). From exploration to instruction: Children learn from exploration and tailor their demonstrations to observers. *Child Development*, 90(1) 148-164.

Gweon, H., Shafto, P., & Schulz, L.E. (2018). Development of children's sensitivity to over-informativeness in learning and teaching. *Developmental Psychology*, 54(11), 2113-2125.

Jara-Ettinger, J., Sun, F., & Schulz, L.E., & Tenenbaum, J. (2018). Sensitivity to the sampling process emerges from the principle of efficiency. *Cognitive Science*, 42(S1), 270-286.

Muentener, P., Herrig, E., & Schulz, L.E. (2018). The efficiency of infants' exploratory play is related to longer-term cognitive development. *Frontiers in Psychology*, 31 doi: 10.3389/fpsyg.2018.00635

Magid, R., de Pascale, M., & Schulz, L.E. (2018). Four and five-year-olds infer differences in relative ability and appropriately allocate roles to achieve cooperative, competitive and prosocial goals. *Open Mind*, 1(4), 194-207.

Leonard, J. A., Lee, Y., & Schulz, L.E. (2017). Infants make more attempts to achieve a goal when they see adults persist. *Science*, 357(6357), 1290-1294.

Wu, Y., Muentener, P., & Schulz, L.E. (2017). One-to-four-year-olds connect diverse positive non-linguistic emotional vocalizations to their probable causes. *Proceeding of the National Academy of Sciences*, 114(45), 11896-11901.

Magid, R., Yan, P., Siegel, M., Tenenbaum, J., & Schulz, L.E., (2017). Changing minds: Children's inferences about third party belief revision, *Developmental Science*. 10.1111/desc.12553

Wu, Y. & Schulz, L.E., (2017). Inferring beliefs and desires from emotional reactions to anticipated and observed events. *Child Development*. 10.1111/cdev. 12759

Kline, M., Schulz, L.E., & Gibson, T., (2017). Partial truths: Adults choose to mention agents and patients in proportion to informativity, even if it doesn't fully disambiguate the message. *Open Mind*. 10.1162/OPMI_a_00013

Wu, Y., Baker, L. C., Tenenbaum, J*. & Schulz, L.E.* (2017) Rational inference of beliefs and desires from emotional expressions. *Cognitive Science*, 10.1111/cogs.12548

*joint senior authorship

Jara-Ettinger, J., Floyd, S., Tenenbaum, J.B., & Schulz, L.E., (2017). Children understand that agents maximize expected utilities. *Journal of Experimental Psychology, General*, 146(11), 1574-1585.

Magid R. & Schulz, L.E., (2017). Moral alchemy: How love changes norms. *Cognition*, 167, 135-150.

Scott, K., Chu, J., & Schulz, L.E., (2017) Lookit (Part One): A new online platform for developmental research. *Open Mind*, 1(1), 4-14.

Scott, K., & Schulz, L.E., (2017), Lookit (Part Two): Assessing the viability of online developmental research: Results from three case studies. *Open Mind*, 1(1), 15-29.

Jara-Ettinger, J., Gweon, H., Schulz, L.E., & Tenenbaum, J. (2016). The naïve utility calculus: Computational principles underlying commonsense psychology. *Trends in Cognitive Science*, DOI: <http://dx.doi.org/10.1016/j.tics.2016.05.011>

Kline, M., Snedeker, J., & Schulz, L. (2016). Linking Language and Events: Spatiotemporal Cues Drive Children's Expectations About the Meanings of Novel Transitive Verbs. *Language Learning and Development*, 13(1), 1–23.

Shnediman, L., Gweon, H., Schulz, L.E., & Woodward, A. (2016). Learning from others and spontaneous exploration: A cross-cultural investigation. *Child Development*, 87(3), 723-735.

Wu, Y., Muentener, P., & Schulz, L.E. (2015). The invisible hand: Toddlers connect probabilistic events with agentive causes. *Cognitive Science*.

Schulz, L.E. (2015). Infants explore the unexpected (invited perspective on Stahl and Feigenson, 2015), *Science*, 348(6709), 42-43

Jara-Ettinger, J., Gweon, H., Tenenbaum, J., & Schulz, L.E. (2015). Children's understanding of the costs and rewards underlying rational action. *Cognition*, 140, p. 14-23.

Jara-Ettinger, J., Tenenbaum, J., & Schulz, L.E. (2015). Not so innocent: Toddlers' inferences about costs and culpability. *Psychological Science*, 26(5), 633-640.

Magid, R., Sheskin, M., & Schulz, L.E. (2015). Imagination and the generation of new ideas. *Cognitive Development*, 34, 99-110.

Gweon, H., Pelton, H. Konopka, J., & Schulz, L.E. (2014). Sins of omission: Children selectively explore when agents fail to tell the whole truth. *Cognition*, 132(3), p. 335-341.

Muentener, P. & Schulz, L.E. (2014). Toddlers infer unobserved causes for spontaneous events. *Frontiers Psychology*, 5:1496. doi: 10.3389/fpsyq.2014.01496

Muentener, P., Friel, D., & Schulz, L. E. (2012). Giving the giggles: Prediction and intervention in young children's representation of psychological events. *PLoS ONE*, 7(8):e42495

Schulz, L.E. (2012). The Origins of inquiry: Inductive inference and exploration in early childhood. *Trends in Cognitive Sciences*, 16(7), p. 382-389.

Muentener, P., Bonawitz, E.B., Horowitz, A., & Schulz, L.E. (2012). Mind the gap: Investigating toddlers' sensitivity to contact relations in predictive events. *PLoS ONE*, 7(4): e34061. doi:10.1371/journal.pone.0034061.

Bonawitz, E. B., Fischer, A., & Schulz, L.E. (2012). Teaching the Bayesian child: Three-and-a-half-year-olds' reasoning about ambiguous evidence. *Journal of Cognition and Development*, 13(2), p. 266-280.

Bonawitz, E. B., Van Schijndel, T., Friel, D., & Schulz, L. E. (2012). Children balance theories and evidence in exploration, explanation, and learning. *Cognitive Psychology*, 64(4), p. 215-134.

Muentener & Schulz (2012). What doesn't go without saying: Communication, induction, and exploration. *Language, Learning, and Development*. 8(1), p. 61-85.

Gweon, H. & Schulz, L.E. (2011). 16-month-olds rationally infer causes of failed actions. *Science*, 332(6037), p. 1524.

Cook, C., Goodman, N., & Schulz, L.E. (2011). Where science starts: Spontaneous experiments in preschoolers' exploratory play. *Cognition*, 120(3), p. 341-349.

Bonawitz, E. B., Shafto, P., Gweon, H., Goodman, N., Spelke, E. & Schulz, L. E. (2011). The double-edged sword of pedagogy: Teaching limits children's spontaneous exploration and discovery. *Cognition*, 120(3), 322-330.

Gweon, H., Tenenbaum, J., & Schulz, L.E. (2010). Infants consider both the sample and the sampling process in inductive generalization. *Proceedings of the National Academy of Sciences* 107(20), 9066-9071.

Bonawitz, E.B., Ferranti, D., Gopnik, A., Meltzoff, A. Woodward, J., & Schulz, L.E. (2010). Just do it? Toddlers' ability to integrate prediction and action in causal inference. *Cognition*, 115, 104-117.

Kushnir, T., Gopnik, A., Lucas C., & Schulz, L. E. (2009). Inferring hidden causal structure. *Cognitive Science* 34(2010), 148-160.

- Schulz, L. E., Goodman, N., Tenenbaum, J., & Jenkins, A. (2008). Going beyond the evidence: Preschoolers' inferences about abstract laws and anomalous data. *Cognition*, *109*(2), 211-223.
- Schulz, L.E., Standing, H., & Bonawitz, E. B. (2008). Word, thought, and deed: The role of object labels in children's inductive inferences and exploratory play. *Developmental Psychology*, *44*(5), 1266-1276.
- Shtulman, A. & Schulz, L.E. (2008). The relationship between essentialist beliefs and evolutionary reasoning. *Cognitive Science*, *32*(6),1049-1062.
- Schulz, L.E., Hooppell, K., & Jenkins, A., (2008). Judicious imitation: Young children imitate deterministic actions exactly, stochastic actions more variably. *Child Development*, *79*(2), 395-410.
- Schulz, L.E. & Bonawitz, E. B. (2007). Serious fun: Preschoolers play more when evidence is confounded. *Developmental Psychology*, *43*(4), 1045-1050.
- Schulz, L.E., Bonawitz, E. B. Griffiths, T. (2007). Can being scared cause tummyaches? Naïve theories, ambiguous evidence, and preschoolers' causal inferences. *Developmental Psychology*, *43*(5), 1124-1139.
- Saxe, R., Schulz, L. E., & Jiang, V. Y. (2007). Reading minds versus following rules: Dissociating theory of mind and executive control in the brain. *Social Cognitive Neuroscience*, *1*(3), 284-298.
- Schulz, L. E., Gopnik, A., & Glymour, C. (2007). Preschoolers learn causal structure from conditional interventions. *Developmental Science*, *10*(3), 322-332.
- Schulz, L. E. & Sommerville, J. (2006). God does not play dice: Causal determinism and preschoolers' causal inferences, *Child Development*.*77*(2), 427-442.
- Schulz, L. E. & Gopnik, A. (2004). Causal learning across domains, *Developmental Psychology*, *40*(2), 162-176.
- Gopnik, A. & Schulz, L. E. (2004). Mechanisms of theory-formation in young children. *Trends in Cognitive Science*, *8*(8), 371-377.
- Gopnik, A., Glymour, C., Sobel, D., Schulz, L. E., Kushnir, T., & Danks, D. (2004). A theory of causal learning in children: Causal maps and Bayes nets. *Psychological Review*, *111*, 1-31.
- Leigland, L., Schulz, L. E. & Janowsky, J. (2004). Age-related changes in emotional memory. *Neurobiology of Aging*, *25*(8), 1117-1124.

Gopnik, A., Sobel, D. M., Schulz, L. E., & Glymour, C. (2001). Causal learning mechanisms in very young children: Two-, three-, and four-year-olds infer causal relations from patterns of variation and covariation. *Developmental Psychology*, 37(5), 620-629.

Under review

Pelz, M., Allen, K., Tenenbaum, J.B., & Schulz, L.E., (in review). Intuitive power analyses in children and adults, *Nature Human Behavior*.

Chu, J., & Schulz, L.E., (in review). Exploratory play, rational action, and efficient search. *Cognition*.

In prep

Chu, J., & Schulz, L.E. (in prep). In Praise of Folly: Goals, play, and cognitive pragmatism. *Trends in Cognitive Sciences*

Pelz, M., Schulz, L.E., & Jara-Ettinger, J., (in prep). The signature of all things: Children infer knowledge states from static images.

Lookit Physics project (Chu, Schulz, Scott)

Pelz, M., Tsividis, P., Tenenbaum, J.B., & Schulz, L.E., Type signatures

Chu, J., & Schulz, L.E., (in prep) Goal hierarchies and decision making

Bridgers, Schulz & Ullman, loopholes

Bridgers & Schulz, helping versus being helped and persistence

Bridgers & Schulz, attributions and helping

Refereed conference proceedings

Chu, J. & Schulz, L.E., (2020) Exploratory play, rational action, and efficient search. *42nd Annual Proceedings of the Cognitive Science Society, virtual*

Leonard, J., Sandler, J., Nerenberg, A., Rubio, A., Schulz, L.E., & Mackey, A., (2020) Preschoolers are sensitive to their performance over time. *42nd Annual Proceedings of the Cognitive Science Society, virtual*

Pelz, M., Schulz, L.E., & Jara-Ettinger, J., (2020) The signature of all things: Children infer knowledge states from static images. *42nd Annual Proceedings of the Cognitive Science Society, virtual*

Levine, S., Kleiman-Weiner, M. Schulz, L.E. Tenenbaum. J.B. & Cushman, F., (2019) What if everybody did that? Universalization as a mechanism of moral decision making. *41st Annual Proceedings of the Cognitive Science Society, Montreal, CA*

Chu, J., Gauthier, J., Levy, R., Tenenbaum, J.B., & Schulz, L.E. (2019) Query-guided visual search. *41st Annual Proceedings of the Cognitive Science Society, Montreal, CA*

Ebo, R. & Schulz, L.E. (2019) How can I help? Developmental change in the selectivity of two to four-year-olds' attempt to alleviate others' distress. *41st Annual Proceedings of the Cognitive Science Society, Montreal, CA*

Ch, J., & Schulz, L.E. (2018). Cognitive pragmatism: Children flexibly choose between facts and conjectures. *40th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Pelz, M. & Schulz, L.E. (2018). Intuitive statistics and metacognition in children and adults. *40th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Wu, Y., Haque, J., & Schulz, L.E. (2018). Children can use others' emotional expressions to infer their knowledge and predict their behaviors in classic false belief tasks. *40th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Siegel, M. Magid, R., & Schulz, L.E. (2017). Intuitive Psychophysics: Children's exploratory play quantitatively tracks the discriminability of alternative hypotheses. *39th Annual Proceedings of the Cognitive Science Society, London, England.*

Magid, R., De Pascale, M., & Schulz, L.E. (2017). Preschoolers appropriately allocate roles based on relative ability in a cooperative interaction. *39th Annual Proceedings of the Cognitive Science Society, London, England.*

Jara-Ettinger, J., Sun, F., Schulz, L.E., & Tenenbaum, J., (2016). The naïve utility calculus unifies spatial and statistical routes to preference. *38th Annual Proceedings of the Cognitive Science Society, Philadelphia, PA.*

Jara-Ettinger, J., Lydic, E, Tenenbaum, J., & Schulz, L.E. (2015). Beliefs about desires: Children's understanding of how knowledge and preference influence choice. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Jara-Ettinger, Schulz, L.E., & Tenenbaum, J., (2015). The naïve utility calculus: Joint inferences about the costs and rewards of actions. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Leonard, J. & Schulz, L.E. (2015). If at first you don't succeed: The role of evidence in preschoolers' and infants' persistence. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Magid, R. & Schulz, L.E. (2015) Quit while you're ahead: Preschoolers' persistence and

willingness to accept challenges are affected by social comparison. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Tsivids, P., Tenenbaum, J., & Schulz, L.E. (2015) Hypothesis-space constraints in causal learning. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Wu, Y., Muentener, P., & Schulz, L.E. (2015) A fine-grained understanding of emotions: Young children match within-valence emotional expressions to their causes. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Wu, Y., Baker, C., Tenenbaum, J. & Schulz, L.E. (2015) Learners' ability to infer beliefs and desires from emotional reactions. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Gweon, H., Shafto, P., & Schulz, L.E. (2014). Children consider prior knowledge and the cost of information both in learning from and teaching others. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Gweon, H., Chu, V., & Schulz, L.E. (2014). To give a fish or to teach how to fish? Children weigh costs and benefits in considering what information to transmit. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Jara-Ettinger, J., Gweon, H., Tenenbaum, J., & Schulz, L.E. (2014). I'd do anything for a cookie but I won't do that: Children's understanding of the costs and rewards underlying rational action. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Jara-Ettinger, J., Kim, N. Muentener, P., & Schulz, L.E. (2014). Running to do evil: Costs incurred by perpetrators affect moral judgment. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Scott, K., & Schulz, L.E. (2014). Interhemispheric integration of visual concepts in infancy. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Siegel, M., Magid, R., Tenenbaum, J., & Schulz, L.E. (2014). Black boxes: Hypothesis testing via indirect perceptual evidence. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Stave, E., Muentener, P., & Schulz, L.E. (2014). The unintended consequences of checklists. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Tsividis, P., Gershman, S., Tenenbaum, J., & Schulz, L.E. (2014). Information selection in noisy environments with large action spaces. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Yan, P., Magid, R., & Schulz, L.E. (2014). Preschoolers expect others to learn rationally

from evidence. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Wu., Y., Baker, C. Tenenbaum, J., & Schulz, L.E. (2014) Joint inference of belief and desire from facial expressions. *36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.*

Jara-Ettinger, J., Tenenbaum, J. & Schulz, L.E. (2013). Not so innocent. Costs, competence, and culpability in very early childhood. *35th Annual Proceedings of the Cognitive Science Society, Berlin, Germany.*

Kline, M., Muentener, P., & Schulz, L.E. (2013) Transitive and periphrastic sentences affect memory for causal scenes. *35th Annual Proceedings of the Cognitive Science Society, Berlin, Germany.*

Shafto, P., Gweon, H., Fargen, C., & Schulz, L.E. (2012). Enough is enough: Inductive sufficiency guides learners' ratings of informant helpfulness. *34th Annual Proceedings of the Cognitive Science Society, Sapporo, Japan.*

Kline, M., Snedeker, J., & Schulz, L.E. (2011). Preschoolers prefer to map novel transitive verbs to events with spatiotemporal features that mark causation. *Boston University Annual Conference on Language Development. Boston, MA.*

Kline, M., Snedeker, J., & Schulz, L.E. (2011). Children's comprehension and production of transitive sentences is sensitive to the causal structure of events. *33rd Annual Proceedings of the Cognitive Science Society, Boston, MA.*

Muentener, P., Friel, D. & Schulz, L.E. (2011). Toddlers' understanding of prediction, intervention, and means of transmission: When psychological outcomes are easier than physical ones. *33rd Annual Proceedings of the Cognitive Science Society, Boston, MA.*

Gweon, H. Schulz, L.E. (2010). Is it me or the world? 16-month-olds distinguish competing hypotheses about the cause of failed interventions. *32nd Annual Proceedings of the Cognitive Science Society. 2010 Marr Prize for best student paper.*

Bonawitz, E. B., Shafto, P. Gweon, H., Katz, S., Chang, I. & Schulz, L.E. (2009). The Double-edged Sword of Pedagogy: Modeling the Effect of Pedagogical Contexts on Preschoolers' Exploratory Play. *31st Annual Proceedings of the Cognitive Science Society.*

Bonawitz, E.B., Ferranti, D., Horowitz, A., & Schulz, L.E. (2009). The Block Makes It Go: Causal Language Helps Toddlers Integrate Prediction, Action, and Expectations about Contact Relations. *31st Annual Proceedings of the Cognitive Science Society.*

Gweon, H., Tenenbaum, J. & Schulz, L.E. (2009). What are you trying to tell me? A Bayesian model of how toddlers can simultaneously infer property extension and sampling processes. *31st Annual Proceedings of the Cognitive Science Society.*

Bonawitz, E. B. & Schulz, L. E. (2008). Why learning is hard. *Proceedings of the Association for the Advancement of Artificial Intelligence: Naturally-Inspired Artificial Intelligence*.

Bonawitz, E. B., Fischer, A., & Schulz, L.E. (2008). Training a Bayesian: Three-and-a-half-year-olds' reasoning about ambiguous evidence. *30th Annual Proceedings of the Cognitive Science Society*.

Gweon, H. Schulz, L.E. (2008). Stretching to learn: Ambiguous evidence and variability in preschoolers' exploratory play. *30th Annual Proceedings of the Cognitive Science Society*.

Bonawitz, E. B. & Schulz, L. E. (2007). Children's Rational Exploration. *Proceedings of the Association for the Advancement of Artificial Intelligence: Computational Approaches to Representational Change During Learning and Development*.

Bonawitz, E. B., Lim, S., & Schulz, L.E. (2007). Weighing the evidence: children's naïve theories of balance affect their exploratory play. *29th Annual Proceedings of the Cognitive Science Society*.

Bonawitz, E. B., Griffiths, T., & Schulz, L.E. (2006). Modeling cross-domain causal learning in preschoolers as Bayesian inference. *28th Annual Proceedings of the Cognitive Science Society*. **2006 Marr Prize for best student paper**.

Goodman, N., Bonawitz, E. B., Baker, C. Mansinghka, V., Gopnik, A. Wellman, H., Schulz, L. E., and Tenenbaum, J. (2006). Intuitive theories of mind. A rational approach to false belief. *28th Annual Proceedings of the Cognitive Science Society*.

Kuhnsir, T., Gopnik, A., Schulz, L. E., Danks, D. (2003). Inferring hidden causes. *Proceedings of the 25th Annual Meeting of the Cognitive Science Society*, 699-703.

Non-refereed publications

Edited Books

Gopnik, A. & Schulz, L. E. (2007). *Causal Learning; Psychology, Philosophy and Computation*. New York: Oxford University Press.

Book Chapters

Schulz, L.E. (2012), Finding new facts; thinking new thoughts. In *Rational constructivism, Adv in Child Dev. And Beh.*, 42 (Xu, F. and Kushnir, T., eds), Elsevier, pgs. 269-294.

Schulz, L. E., Kushnir, T.. & Gopnik, A. (2007). Learning from doing: Interventions and causal inference. In A. Gopnik & L. E. Schulz (Eds.), *Causal Learning; Psychology, Philosophy and Computation*. New York: Oxford University Press.

Richardson, T., Schulz, L.E., & Gopnik, A. (2007). Causal inference and functional determinism. In A. Gopnik & L. E. Schulz (Eds.), *Causal Learning; Psychology, Philosophy and Computation*. New York: Oxford University Press.

Book reviews

Saxe, R. & Schulz, L. E. (2006) *Why we read literary criticism*, review of the book, Why We Read Fiction, by Liza Zunshine, Trends in Cognitive Science,

Schulz, L. E. (2001). Review of the book *Understanding Children with Language Problems*. *Studies in Language*, 25, 679-684.

Presentations and invited lectures

Invited symposia, workshops and colloquia

Budapest CEU Conference on Cognitive Development, Plenary	Jan, 2021
Bridging AI and Cognitive Science, Ethiopia, Invited symposium	May, 2020
Leverhulme Conference: Kinds of Intelligence, Cambridge, Invited symposium	June, 2019
Primary Science Teaching Conference, Keynote, Edinburgh	June, 2019
Understanding Machine and Human Intelligence, NY	May, 2019
Dubrovnik Conference on Cognitive Science, invited talk	May, 2019
Samberg Colloquium, MIT	May, 2019
Simons Center, SFARI workshop, New York	April, 2019
University of Toronto, Departmental colloquium	April, 2019
Jeeves Lecture, Saint Andrews, Scotland	June, 2018
Waisman Center Invited Symposium	March, 2018
University of Indiana, Departmental colloquium	January, 2018
University of Chicago, Workshop on Transformative Experience	May, 2017
Harvard University, Psychology Colloquium	April, 2017
Pontificia Accademia del Scienze, (Vatican, IT)	December, 2016
Technische University of Berlin	November, 2016
Roger N. Shepard Distinguished Visiting Scholar (University of AZ)	September, 2016
Budapest CEU Invited Talk	May, 2016
Universitat Pompeu Fabra (Barcelona, SP)	February, 2016
Yale University, Departmental Colloquium	December, 2015
Bayesian Brain workshop, NYU, Invited Symposium	December, 2015
Moral Reasoning Workshop (University of Michigan)	April, 2015
TED (Vancouver, BC, Canada)	Mar, 2015
Information, Curiosity, and Attention (Bordeaux, FR)	Nov, 2014
University of Maryland, Cognitive Science Colloquium	Oct, 2014
MGH, Psychiatric Genetics and Translational Research	April, 2014
Max Planck Institute, (Leipzig, Germany)	March, 2013

Cognitive Development Society, Invited Symposium	October, 2013
Harvard University Center for Brain Science	September, 2013
Weinberg Cognitive Science Symposium, University of MI	April, 2013
New York University, Departmental Colloquium	November, 2012
University of Chicago, Departmental Colloquium	May, 2012
LA School for Cognitive and Neural Sciences (Argentina)	March, 2012
Collège de France seminar, Paris, France	February, 2012
Budapest CEU Cognitive Development Conference	January, 2012
Yale University	November, 2011
National Science Foundation, Washington DC	October, 2011
Social Cognition Workshop, Philadelphia, PA	October, 2011
NICHD Conference on Math and Science Education, DC	September, 2011
Ernst Strungmann Forum (Frankfurt, Germany)	June, 2011
Sigma Xi Lecture, MIT	May, 2011
Martinos Center, Harvard MGH	April, 2011
Eastern Psychological Association, Cambridge, Ma	March, 2011
National Science Foundation, Washington DC	December, 2010
Ultimate Block Party, NYC	September, 2010
CogEvo Workshop (Roveto, Italy)	June, 2010
Eastern Psychological Association, Cambridge, MA	March, 2010
NICHD Conference on Early Childhood and Play	December, 2009
Boston University	December, 2009
Boston College	December, 2009
Society for Language Development Invited Symposium, Boston, MA	November, 2009
Goal-Directed Action Workshop, Princeton, NJ	October, 2009
University of Amsterdam	August, 2009
Statistical Learning Workshop, Banff, MT (Bonawitz presented)	May, 2009
Rutgers University	November, 2008
Stanford University	October, 2008
Harvard University	October, 2008
Wellesley College	August, 2008
Children's Hospital - Harvard Medical School	May, 2008
Wesleyan University	April, 2008
International Conference on Infant Studies, Invited Symposium Address, Vancouver, WA (Goodman presented)	March, 2008
Cognitive Development Society, Invited Presidential Symposium on Children's Learning, Santa Fe, NM	October, 2007
University of Michigan	October, 2007
Physics Education Research Conference, Plenary Address	August, 2007
Eastern Psychological Association, Philadelphia, PA	March, 2007
Yale University	October, 2006
La Pietra, Italy	June, 2006
New York University	May, 2005
California Institute of Technology	November, 2005
Brown University	April, 2005
Warwick University	March, 2005

Refereed Conference Presentations

Magid, R., Siegel, M., Tenenbaum, J., & Schulz, L.E. (2017). Intuitive psychophysics: Children's exploratory play quantitatively tracks the discriminability of alternative hypotheses. *38th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Magid, R., DePacale, M., & Schulz, L.E., (2017). Preschoolers appropriately allocate roles based on relative ability in a cooperative interaction. *38th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Wu, Y. & Schulz, L.E., (2017). What do you really think? Children's ability to infer others' desires when emotional expressions change between social and nonsocial contexts. *38th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Leonard, J., Kleiman-Winer, M., Lee, Y., Tenenbaum, J., & Schulz, L.E. (2017). Preschoolers and infants calibrate persistence from adult models. *38th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Wu, Y., Muentener, P., & Schulz, L.E. (2017). Woah! Aww ... Ohh .. Hee! And Mmm: Infants' nuanced distinctions about the probable cause of emotional expressions. *38th Annual Proceedings of the Cognitive Science Society, Madison, WI.*

Jara-Ettinger, J., Sun, F., Schulz, L.E., & Tenenbaum, J., (2016). The naïve utility calculus unifies spatial and statistical routes to preference. *37th Annual Proceedings of the Cognitive Science Society, Philadelphia, PA.*

Jara-Ettinger, J., Lydic, E, Tenenbaum, J., & Schulz, L.E. (Aug, 2015). Beliefs about desires: Children's understanding of how knowledge and preference influence choice. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Jara-Ettinger, Schulz, L.E., & Tenenbaum, J., (Aug, 2015). The naïve utility calculus: Joint inferences about the costs and rewards of actions. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Wu, Y., Muentener, P., & Schulz, L.E. (Aug, 2015) A fine-grained understanding of emotions: Young children match within-valence emotional expressions to their causes. *37th Annual Proceedings of the Cognitive Science Society, Pasadena, CA.*

Scott, K. & Schulz, L.E. (Mar, 2015). *Moving the lab home: Validation of a web-based system for developmental studies.* Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.

Leonard, J., & Schulz, L.E. (Mar, 2015). *The development of implicit theories of effort.*

Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.

Shenidman, L., Gweon, H., Schulz, L.E., & Woodward, A. (Mar, 2015). *Learning from instruction and exploration: A cross-cultural perspective*. Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.

Wu, Y., Muentener, P., & Schulz, L.E. (Mar, 2015). *The invisible hand: Toddlers represent hidden agents given unexplained probabilistic events*. Biennial Meeting of the Society for Research in Child Development, Philadelphia, PA.

Gweon, H., Shafto, P., & Schulz, L.E. (Aug, 2014). *Children consider prior knowledge and the cost of information both in learning from and teaching others*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Gweon, H., Chu, V., & Schulz, L.E. (Aug, 2014). *To give a fish or to teach how to fish? Children weigh costs and benefits in considering what information to transmit*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Jara-Ettinger, J., Gweon, H., Tenenbaum, J., & Schulz, L.E. (Aug, 2014). *I'd do anything for a cookie but I won't do that: Children's understanding of the costs and rewards underlying rational action*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Jara-Ettinger, J., Kim, N., Muentener, P., & Schulz, L.E. (Aug, 2014). *Running to do evil: Costs incurred by perpetrators affect moral judgment*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Scott, K., & Schulz, L.E. (Aug, 2014). *Interhemispheric integration of visual concepts in infancy*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Siegel, M., Magid, R., Tenenbaum, J., & Schulz, L.E. (Aug, 2014). *Black boxes: Hypothesis testing via indirect perceptual evidence*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Stave, E., Muentener, P., & Schulz, L.E. (Aug, 2014). *The unintended consequences of checklists*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Tsividis, P., Gershman, S., Tenenbaum, J., & Schulz, L.E. (Aug, 2014). *Information selection in noisy environments with large action spaces*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Yan, P., Magid, R., & Schulz, L.E. (Aug, 2014). *Preschoolers expect others to learn rationally from evidence*. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Wu, Y., Baker, C., Tenenbaum, J., & Schulz, L.E. (Aug, 2014) *Joint inference of belief and*

desire from facial expressions. 36th Annual Proceedings of the Cognitive Science Society, Quebec City, Canada.

Kline, M., Snedeker, J., & Schulz, L.E. (2013, March). *Representations of causality in verb learning*. Symposium talk. Biennial meeting of the Society for Research in Child Development, Seattle, WA.

Schulz, L.E. (2013, March). *Bridging moral and cognitive development. How cognitive and social understanding informs morality in early childhood*. Symposium discussant. Biennial meeting of the Society for Research in Child Development, Seattle, WA.

Jara-Ettinger, J., Tenenbaum, J. & Schulz, L.E. (2013, March) *Costs and benefits: How children evaluate the competence, motivation, and moral responsibility of agents*. Symposium talk. Biennial meeting of the Society for Research in Child Development, Seattle, WA.

Kline, M., Muentener, P., & Schulz L.E. (August, 2013) *Transitive and periphrastic sentences affect memory for simple causal scenes*. 34th Annual Proceedings of the Cognitive Science Society, Berlin, Germany.

Jara-Ettinger, J. Tenenbaum, J., & Schulz L.E. (August, 2013) *Not so innocent: Reasoning about costs, competence, and culpability in very early childhood*. 34th Annual Proceedings of the Cognitive Science Society, Berlin, Germany.

Shafto, P., Gweon, H., Fargan, C. & Schulz, L.E. (July, 2012). *Enough is enough: Inductive sufficiency guides learners' ratings of informant helpfulness*. 33rd Annual Proceedings of the Cognitive Science Society, Tokyo, Japan.

Schulz, L.E., (October, 2011). *An Interdisciplinary Approach to the Origins of Causal Inference: Integrating Developmental, Comparative, and Adult Studies*. Symposium discussant. Paper presented at the biennial meeting of the Cognitive Development Society, Philadelphia, PA.

Muentener, P., Friel, D., & Schulz, L.E., (October, 2011). *Investigating domain-specificity in toddlers' causal reasoning abilities*. Paper presented at the biennial meeting of the Cognitive Development Society, Philadelphia, PA.

Gweon, H., Pelton, H., & Schulz, L.E., (2011). *Adults and school-aged children accurately evaluate sins of omission in October, 2011 contexts*. Paper presented at the biennial meeting of the Cognitive Development Society, Philadelphia, PA.

Kline, M., Snedeker, J., & Schulz, L.E. (October, 2011). *Preschoolers prefer to map novel transitive verbs to events with spatiotemporal features that mark causation*. Paper presented at the Boston University Annual Conference on Language Development. Boston, MA.

Kline, M., Snedeker, J., & Schulz, L.E. (July, 2011). *Children's comprehension and production of transitive sentences is sensitive to the causal structure of events*. 32nd Annual

Proceedings of the Cognitive Science Society, Boston, MA.

Muentener, P., Friel, D. & Schulz, L.E. (July, 2011). *Toddlers' understanding of prediction, intervention, and means of transmission: When psychological outcomes are easier than physical ones.* 32nd Annual Proceedings of the Cognitive Science Society, Boston, MA.

Schulz, L.E. (2011, March). *Exploring the relationship between physical reasoning and statistical inference in infants.* Symposium discussant. Biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Schulz, L.E. (2011, March). *Exploratory behavior in children and chimpanzees: Factors affecting the quantity and quality of exploration.* Symposium discussant. Biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Schulz, L.E. (2011, March). *Exploratory play and learning in early childhood.* Poster symposium presenter and panelist. Biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Schulz, L.E. (2011, March). *Exploring the relationship between physical reasoning and statistical inference in infants.* Symposium discussant. Biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Gweon, H. & Schulz, L.E. (2011, March). *Is it me or the world? 16-month-olds distinguish competing hypotheses about the cause of failed interventions.* Paper presented at the biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Gweon, H. & Schulz, L.E. (2011, March). *Preschoolers evaluate the effectiveness of teaching by integrating self-generated evidence with information provided by others.* Paper presented at the biennial meeting of the Society for Research in Child Development, Montreal, Canada.

Gweon, H. Schulz, L.E. (2010, August). *Is it me or the world? 16-month-olds distinguish competing hypotheses about the cause of failed interventions.* Paper presented at the 31st Annual Proceedings of the Cognitive Science Society, Portland, Oregon.

Cook, C., Bonawitz, E. B., & Schulz, L.E. (2009, October). *Inference in a social context: What social and non-social reasoning have to teach each other.* Paper presented at the biennial meeting of the Cognitive Development Society, San Antonio, Texas.

Shtulman, A. & Schulz, L.E. (2009, October). *Creationism is not the (only) problem: Inductive constraints influence children's and adults' understanding of evolution.* Paper presented at the biennial meeting of the Cognitive Development Society, San Antonio, Texas.

Bonawitz, E. B., Shafto, P. Gweon, H., Katz, S., Chang, I. & Schulz, L.E. (2009, August). *The Double-edged Sword of Pedagogy: Modeling the Effect of Pedagogical Contexts on*

Preschoolers' Exploratory Play. Paper presented at the 30th Annual Proceedings of the Cognitive Science Society, Amsterdam, Netherlands.

Bonawitz, E.B., Ferranti, D., Horowitz, A., & Schulz, L.E. (2009, August). *The Block Makes It Go: Causal Language Helps Toddlers Integrate Prediction, Action, and Expectations about Contact Relations*. Paper presented at the 30th Annual Proceedings of the Cognitive Science Society, Amsterdam, Netherlands.

Gweon, H., Tenenbaum, J. & Schulz, L.E. (2009, August). *What are you trying to tell me? A Bayesian model of how toddlers can simultaneously infer property extension and sampling processes*. Paper presented at the 30th Annual Proceedings of the Cognitive Science Society, Amsterdam, Netherlands.

Bonawitz, E.B., Schulz, L. E. (2009, March) *Balancing theories and evidence in children's exploration, explanations, and learning*. Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO

Bonawitz, E.B., Schulz, L. E. (2009, March) *Language influences toddlers' causal reasoning: From correlation to intervention*. Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO

Schulz, L. E. & Gweon, H. (2009, March) *Checks and balances in inductive inference; How children know what they should (and should not) infer from sparse data. (Symposium Chair)* Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO

Schulz, L.E., Cook, C., & Gweon, H. (2009, March). *Preschoolers' exploration of ambiguous evidence. (Symposium Chair)* Paper presented at the biennial meeting of the Society for Research in Child Development, Denver, CO

Bonawitz, E. B. & Schulz, L. E. (2008, November). *Why learning is hard*. Paper presented at the annual meeting of the Association for the Advancement of Artificial Intelligence: *Naturally-Inspired Artificial Intelligence*, Washington DC.

Schulz, L.E. (2008, October). *Using the "Science of Kids" to engage adult visitors*. Paper presented at the annual meeting of the Association of Science-Technology Centers.

Schulz, L.E. (2008, August). *Cognitive Science and Education Research, Engaging issues of social context*. Paper presented at the annual meeting of the Cognitive Science Society, Washington DC.

Bonawitz, E. B., Fischer, A., & Schulz, L.E. (2008, August). *Training a Bayesian: Three-and-a-half-year-olds' reasoning about ambiguous evidence*. Paper presented at the annual meeting of the Cognitive Science Society, Washington DC.

Bonawitz, E.B., & Schulz, L. (2007, November) *Children's Rational Exploration*. Paper

presented at the Association for the Advancement of Artificial Intelligence Symposium Series, Arlington, VA.

Bonawitz, E. B., & Schulz, L. E., (2007, October) *Learning by Doing: The Role of Exploratory Play in Cognitive Development*. Paper presented at the annual meeting of the Cognitive Development Society, Santa Fe, New Mexico.

Schulz, L.E. (2007, May). *Causal learning and exploratory play*. Paper presented at the Origins of Causal Cognition conference, Brussels, Belgium.

Schulz, L. E. (2007, March) *Curiosity, causal knowledge, and science education*. Paper presented at the biennial meeting of the Society for Research in Child Development, Boston, MA

Sommerville, J. & Schulz, L. E. (2007, March). *The hands have it: Eleven-month-old infants recognize when human agency alters causal structure*. Paper presented at the biennial meeting of the Society for Research in Child Development, Boston, MA

Baraff Bonawitz, E. B. & Schulz, L. E. (2007, March) *Can being scared make your tummy ache? Naïve theories, ambiguous evidence, and preschoolers' causal reasoning*. Paper presented at the biennial meeting of the Society for Research in Child Development, Boston, MA

Schulz, L. E. & Baraff Bonawitz, E. B. (2007, March) *Serious Fun: Preschoolers play more when evidence is confounded*. Paper presented at the biennial meeting of the Society for Research in Child Development, Boston, MA

Schulz, L.E. (2007, March). *Twisting the lion's tail: Ambiguous evidence, exploratory play, and children's causal learning*. Invited symposium talk at the annual meeting of the Eastern Psychological Association, Philadelphia, PA.

Schulz, L. E. (2006, April). *Causal mechanisms and causal learning*. Paper presented at the Project for Causal Understanding, Warwick University

Schulz, L. E., Sommerville, J. & Gopnik, A. (2005, July) *Causal Determinism and Preschoolers' Causal Inferences*. Paper presented at the 26th annual meeting of the Cognitive Science Society, Stresa, Italy.

Schulz, L. E. (2005, April). *God Does Not Play Dice: Causal Determinism and Children's Inferences About Unobserved Causes*. Paper presented at the biennial meeting of the Society for Research in Child Development, Atlanta, GA.

Schulz, L. E. (2004, July). *Sight Unseen: Children's Inferences About Unobserved Causes*. Paper presented at the annual meeting of the Society for Philosophy and Psychology. Barcelona, Spain.

Gopnik, A. & Schulz, L.E. (2004, February). *Actions, Interventions and Casual Maps*. Paper presented at the annual meeting of the American Association for the Advancement of Science. Seattle, WA.

Gopnik, A. & Schulz, L.E. (2003, September). *Causal Learning and Theory of Mind*. Paper presented at Other Minds: An Interdisciplinary Conference, Eugene, OR.

Schulz, L. E., (2003, April). *The play's the thing: Interventions and causal inference*. Paper presented at the biennial meeting of the Society for Research in Child Development. Tampa, FL.

Schulz, L.E., (2003, April). *Understanding children's causal knowledge: Exploring the origins of causal inference. (Symposium chair)*. Biennial meeting of the Society for Research in Child Development, Tampa, FL.

Schulz, L. E., (2001, December). *Spinning wheels and bossy ones: Children, causal structure and the calculus of intervention*. Paper presented at the Causal Inference in Humans and Machines Workshop of the Neural Information Processing Systems annual meeting, Vancouver British Columbia.

Schulz, L. E. (2001, October). *"Do-calculus": Adults and preschoolers infer causal structure from patterns of outcomes following interventions*. Paper presented at the biennial meeting of the Cognitive Development Society, Virginia Beach, VA.

PhD students supervised

Junyi Chu, (PhD student, in progress), MIT, Department of Brain and Cognitive Sciences, Supervised 2018-present.

Madeline Pelz (PhD Student, in progress), MIT, Department of Brain and Cognitive Sciences, Supervised 2017-present.

Yang Wu, *Emotion as information: Inferring the unobserved causes of others' emotional expressions*. Supervised, 2014-2018. Current position: Postdoctoral student at Stanford University.

Leonard, Julia, *Social influences on children's learning*. Supervised 2014-2018. Current position: Postdoctoral student at University of Pennsylvania; starting as Assistant Professor, Yale University, 2021.

Scott, Kimberly, *Online data collection for developmental research*. Supervised 2011 – 2018. Current position: Research Scientist, MIT.

Magid, Rachel, *Young children's reasoning about their own and others' cognition*. Supervised 2014 – 2018. Current position: Consultant at Boston Consulting Group.

Jara-Ettinger, Julian, *The inner life of goals: Costs, rewards, and commonsense psychology*, MIT. Supervised 2011 – 2016. Current position: Assistant Professor, Yale University.

Gweon, Hyowon, *Learning in the social context: Inference, exploration and evaluation in early childhood*, MIT. Supervised 2007 – 2012. Current position: Associate Professor, Stanford University

Bonawitz, Elizabeth Baraff, *The rational child: Theories and evidence in prediction, exploration and explanation*, Supervised 2005 - 2009. Current position: Associate Professor, Rutgers University.

Postdoctoral Researchers Supervised

Sophie Bridgers, starting September, 2020

Winkler-Rhoades, Nathan, (PhD, Harvard University) 2012-2013. Current position: Founder/Chef Pitruco Pizza, Philadelphia PA

Muentener, Paul, (PhD, Harvard University), 2009-2012. Current position: Assistant Professor, Tufts University

Cikara, Mina, (PhD, Princeton University) 2011-2012. Current position: Assistant Professor, Harvard University.

Shtulman, Andrew, (PhD, Harvard University) 2006-2007. Current position: Professor, Occidental College.

Teaching Experience

9.85: Topics in early childhood cognition (undergraduate course)

Communication Intensive in the Major (CIM) as of Fall, 2009

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Fall, 2005-2007, Spring, 2009, Fall 2009- present

Role: sole instructor

Special Topics, 9.S912: GPS – Goals, Problems, and Stories

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2020

Role: co-taught with Josh Tenenbaum

Special Topics, 9.S912: Advanced writing workshop for graduate students

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2019

Role: sole instructor

Special Topics, 9.52: Graduate seminar on emotion

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2017

Role: co-instructor with Rebecca Saxe

Special Topics, 9.52: Project-based seminar in Infant and Early

Childhood Cognition (advanced undergraduate independent research course)

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2012, Spring 2013, Spring 2014

Role: sole instructor

MIT 9.916: Core knowledge and cognitive development (graduate course)

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2011

Role: co-instructor with Elizabeth Spelke

MIT 9.914: Explorations in exploration (graduate course)

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2010

Role: co-instructor with Rebecca Saxe

MIT 9.916: Perception, conception, and action (graduate course)

Department of Brain and Cognitive Sciences, MIT

Semesters taught: Spring, 2008

Role: co-instructor with Chris Moore and Noah Goodman

MIT 9.916: Conceptual development (graduate course)

Department of Brain and Cognitive Sciences, MIT; cross-listed Harvard University

Semesters taught: Spring, 2007

Role: co-instructor with Susan Carey (Harvard University)

MIT 9.94: The cognitive science of intuitive theories (IAP course)

Department of Brain and Cognitive Sciences, MIT

Semesters taught: IAP, 2006

Role: co-instructor with Tania Lombrozo, Josh Tenenbaum, Rebecca Saxe, and Kathryn Schulz

Human Development (undergraduate course)

Portland State University

Semesters taught: Summer: 2000, 2001, Winter: 2002; Spring: 2002

Role: sole instructor

Child Development (undergraduate course)

University of California, Berkeley

Semesters taught: Winter: 2001

Role: teaching assistant

Service

Internal service:

Associate Department Head for Diversity, Equity, Inclusion, and Justice, 2020-present
Undergraduate Officer, Department of Brain and Cognitive Sciences, 2012-present
Internal Advisory Group, MIT PK-12 Action Group, 2015-present
Co-chair, Required Medical Leave and Hospitalization Committee, 2016
Chair, BCS Cognitive Search Committee, 2015
Knight Fellow Search Committee, 2014
Head of Cognitive Area Search Committee, 2013/2014
Graduate Women at MIT (GWAMIT) Mentor, 2010-2012
Freshman advisor 2011-2012
MIT Committee on Undergraduate Programs (CUP), 2007-2010.
IAP 2011: 9.911: Responsible conduct in science
AMGEN scholar sponsor, 2010
School of Science Teaching Award Selection Committee, 2009.
Freshman Residence Based Advisor, 2007-2009.
Cognitive Area Faculty Search Committee, 2006, 2007, 2008, 2009, 2010
Freshman Orientation (Lab tour exploration) 2008, 2009, 2011
MIT Commencement, 2009
MIT Club, Alumni Talk, 2007
IAP, The Cognitive Science of Intuitive Theories (9.94), 2006
MIT Research Science Institute, Faculty Mentor, 2005.

External service:

Co-founder: Parents Researcher Collaborative (PaRC) – April, 2020: a field-wide online platform connecting researchers and families worldwide interested in participating research
Visiting Committee, Harvard Department of Psychology – May, 2019
PlayLab, Boston Children's Museum, Research/Education Partnership, July, 2006- present
Living Laboratory, Museum of Science, Boston, Research/Education Partnership, October, 2005–2010: University/museum partnerships involving over 20,000 Boston-area families in scientific research.
Reviewer for: Applied Developmental Psychology; British Journal of Child Psychology; Child Development; Cognitive Development; Cognition; Cognitive Science; Developmental Psychology; Journal of Experimental Psychology, General; Philosophical Quarterly; Philosophical Psychology; Psychological Review; Psychological Science; Science

Media coverage:

Scientific American (September, 2017)
The Atlantic, (September, 2017)
Discovery Magazine (September, 2017)
BBC (September, 2017)
TED talk > 1,800,000 views (March, 2015)

Time Magazine (June, 2014)
The Los Angeles Times (June, 2014)
Boston Magazine (June, 2014)
The Boston Globe (June, 2011)
Science, Podcast (June, 2011)
The Economist (May, 2011)
The Boston Globe (front page, March, 2011)
Slate Magazine (March, 2011)
The Science Network (November, 2011)
The Oregonian, (front page, August, 2010)
Scientific American (July, 2010)
Slate Magazine (October 29th, 2009)
New York Times (August 16th, 2009)
Mind in the Making (PBS) (July, 2008)
Scientific American Mind (February/March, 2007)
Scientific American Mind (June, 2006)
National Public Radio, KPW Utah (May, 2006)
Time Magazine (September, 2005)
New York Times (January 16th, 2005)