

# Sophie Bridgers

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Massachusetts Institute of Technology  
Department of Brain & Cognitive Sciences  
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## Positions

### Massachusetts Institute of Technology

Simons Center for the Social Brain Postdoctoral Fellow, Department of Brain and Cognitive Sciences  
Early Childhood Cognition Lab (PI: Laura Schulz) 9/2020 – present

### Harvard University

Postdoctoral Affiliate, Department of Psychology  
Computation, Cognition, and Development Lab (PI: Tomer Ullman) 9/2020 – present

## Education and Training

### Stanford University

Ph.D. in Psychology 2014 – 2020  
– Dissertation: *Social reasoning in action: Social-cognitive mechanisms supporting prosocial decisions in early childhood*  
– Committee: Hyowon Gweon (primary thesis advisor), Michael C. Frank, Ellen Markman

### University of California, Berkeley

Laboratory Manager and Research Contractor, Department of Psychology 2011 – 2014  
– PIs: Alison Gopnik, Tania Lombrozo, Elizabeth Bonawitz  
B.A. in Cognitive Science (*summa cum laude* in Cognitive Science and general scholarship) 2006 – 2011  
– Honors thesis title: “Which block is better at making the machine go?: How children balance their trust in an informant vs. the data”  
– Advisors: Alison Gopnik and Thomas L. Griffiths

## Honors and Awards

Simons Center for the Social Brain Postdoctoral Fellowship 2020 - present  
National Science Foundation Graduate Research Fellowship 2015 - 2020  
Society for Research in Child Development Early Career Travel Award 2019  
Stanford Introduction to Psychology Teaching Fellow 2015 - 2016

### Undergraduate Scholarships

UC Berkeley Regents’ and Chancellor’s Scholar 2006 - 2010  
Leadership Award, California Alumni Scholarship Association 2006 - 2010

## Research Interests

My research combines methods from Developmental, Cognitive, and Computational Psychology to characterize the social-cognitive mechanisms that support human cooperative decision-making and its emergence in early childhood.

## Publications

\* signifies joint first-authorship

### *Manuscripts in Preparation*

1. **Bridgers, S.**, Schulz, L. E., & Ullman, T. (in preparation). Loopholes, a window into value alignment and the learning of meaning.
2. **Bridgers, S.**, Garcia, T., Vélez, N., & Gweon, H. (in preparation). Three-year-olds infer others' failures from their physical constraints and plan a cooperative response.

### *Manuscripts Submitted*

3. **Bridgers, S.**, Altman, S., Garcia, T., & Gweon, H. (submitted). Toddlers infer the cause of others' failures and provide help specific to what went wrong. *Proceedings of the National Academy of Sciences*.

### *Manuscripts in Revision*

4. **Bridgers, S.**, De Simone, C., Gweon, H., & Ruggeri, A. (in revision). Children consider how others learn to decide whom to ask for help. *Child Development*.

### *Journal Articles*

5. **Bridgers, S.**, Jara-Ettinger, J., & Gweon, H. (2020). Young children consider the expected utility of others' learning to decide what to teach. *Nature Human Behaviour*, 4(2), 144–152.
6. Bonawitz, E., Shafto, P., Yu, Y., Gonzalez, A., & **Bridgers, S.** (2020). Children change their answers in response to neutral follow-up questions by a knowledgeable asker. *Cognitive Science*, 44(1), e12811.
7. Vélez, N., **Bridgers, S.**, & Gweon, H. (2019). The rare preference effect: Statistical information influences social affiliation judgments. *Cognition*, 192, 103994.
8. Bonawitz, E., Ullman, T. D., **Bridgers, S.**, Gopnik, A., & Tenenbaum, J. B. (2019). Sticking to the evidence? a behavioral and computational case study of micro-theory change in the domain of magnetism. *Cognitive Science*, 43(8), e12765.
9. **Bridgers, S.**, & Gweon, H. (2018). Means-inference as a source of variability in early helping. *Frontiers in Psychology*, 9, 1735.
10. Gopnik, A., O'Grady, S., Lucas, C. G., Griffiths, T. L., Wente, A., **Bridgers, S.**, ... Dahl, R. E. (2017). Changes in cognitive flexibility and hypothesis search across human life history from childhood to adolescence to adulthood. *Proceedings of the National Academy of Sciences*, 114(30), 7892–7899.
11. **Bridgers, S.**, Buchsbaum, D., Seiver, E., Griffiths, T. L., & Gopnik, A. (2016). Children's causal inferences from conflicting testimony and observations. *Developmental Psychology*, 52(1), 9–18.
12. Walker, C., **Bridgers, S.**, & Gopnik, A. (2016). The early emergence and puzzling decline of relational reasoning: Effects of knowledge and search on inferring abstract concepts. *Cognition*, 156, 30–40.
13. Wente, A. O., **Bridgers, S.**, Zhao, X., Seiver, E., Zhu, L., & Gopnik, A. (2016). How universal are free will beliefs? Cultural differences in Chinese and U.S. 4- and 6-year-olds. *Child Development*, 87(3), 666–676.

14. Lucas, C. G., **Bridgers, S.**, Griffiths, T. L., & Gopnik, A. (2014). When children are better (or at least more open-minded) learners than adults: Developmental differences in learning the forms of causal relationships. *Cognition*, 131(2), 284–299.
15. Buchsbaum, D., **Bridgers, S.**, Skolnick Weisberg, D., & Gopnik, A. (2012). The power of possibility: causal learning, counterfactual reasoning, and pretend play. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 367(1599), 2202–2212.

### Book Chapters

16. Buchsbaum, D., Seiver, E., **Bridgers, S.**, & Gopnik, A. (2012). Learning about causes from people and about people as causes: probabilistic models and social causal reasoning. In J. B. Benson, F. Xu, & T. Kushnir (Eds.), *Advances in child development and behavior: Rational constructivism in cognitive development* (Vol. 43, pp. 125–160). Elsevier.

### Peer-Reviewed Conference Proceedings (6-page papers)

17. **Bridgers, S.**, Schulz, L. E., & Ullman, T. (2021). Loopholes, a window into value alignment and the learning of meaning. In *Proceedings of the 43rd annual meeting of the Cognitive Science Society*.
18. **Bridgers, S.**, Yang, C., Gerstenberg, T., & Gweon, H. (2020). Whom will Granny thank? Thinking about what could have been informs children's inferences about relative helpfulness. In *Proceedings of the 42nd annual meeting of the Cognitive Science Society*.
19. Tessler, M. H., **Bridgers, S.**, & Tenenbaum, J. B. (2020). How many observations is one generic worth? In *Proceedings of the 42nd annual meeting of the Cognitive Science Society*.
20. **Bridgers, S.**, Wang, Y., & Buchsbaum, D. (2019). Children's exploration as a window into their causal learning. In *Proceedings of the 41st annual meeting of the Cognitive Science Society*.
21. **Bridgers, S.**, Gweon, H., Bretzke, M., & Ruggeri, A. (2018). How you learned matters: The process by which others learn informs young children's decisions about whom to ask for help. In *Proceedings of the 40th annual meeting of the Cognitive Science Society*.
22. **Bridgers, S.**, Altman, S., & Gweon, H. (2017). How can I help? 24- to 48-month-olds provide help specific to the cause of others' failed actions. In *Proceedings of the 39th annual meeting of the Cognitive Science Society*.
23. **Bridgers, S.**, Jara-Ettinger, J., & Gweon, H. (2016). Children consider others' expected costs and rewards when deciding what to teach. In *Proceedings of the 38th annual meeting of the Cognitive Science Society*.
24. Velez, N., **Bridgers, S.**, & Gweon, H. (2016). Not all overlaps are equal: Social affiliation and rare overlaps of preferences. In *Proceedings of the 38th annual meeting of the Cognitive Science Society*.
25. Walker, C., **Bridgers, S.**, & Gopnik, A. (2015). The early emergence and puzzling decline of relational reasoning: Effects of prior knowledge and search on inferring "same" and "different. In *Proceedings of the 37th annual meeting of the Cognitive Science Society*.
26. \*Buchsbaum, D., \***Bridgers, S.**, Whalen, A., Seiver, E., Griffiths, T. L., & Gopnik, A. (2012). Do I know that you know what you know? Modeling testimony in causal inference. In *Proceedings of the 34th annual conference of the Cognitive Science Society*.

## Invited Talks

Social Reasoning in Action: Social-cognitive Mechanisms Supporting Prosocial Decisions in Early Childhood  
Developmental Brownbag Series, Brown University, 2021

Cooperative Decision-making in Early Childhood  
Cognition Brain & Behavior Research Seminar, Harvard University, 2021

Cooperative Decision-making in Early Childhood  
Laboratory of Developmental Studies Brownbag Lunch Speaker Series, Harvard University, 2021

Cooperative Decision-making in Early Childhood  
Cognitive Science Graduate Student Organization Talk Series, Rutgers University Newark, 2021

Young Children Consider the Expected Utility of Others' Learning to Decide what to Teach  
Guest Lecture in Computational Models of Learning and Development, Rutgers University Newark, 2021

## Conference Presentations

**Bridgers, S.** and Schulz, Laura E. and Ullman, Tomer. (2021). Loopholes, a window into value alignment and the learning of meaning. Oral presentation at the *43rd Annual Meeting of the Cognitive Science Society*: virtual conference.

**Bridgers, S.**, and Yang, Chuyi and Gerstenberg, Tobias and Gweon, Hyowon. (2020). Whom will Granny thank? Thinking about what could have been informs children's inferences about relative helpfulness. Poster presentation at the *42nd Annual Meeting of the Cognitive Science Society*: virtual conference.

**Bridgers, S.**, Garcia, T., & Gweon, H. (2020). Young children consider others' physical constraints to infer their unobserved actions. Oral presentation at the *Budapest CEU Conference on Cognitive Development 2020*: Budapest, Hungary.

Tessler, M. H., **Bridgers, S.** & Tenenbaum, J. B. (2020). How many observations is one generic worth? Poster presentation at the *Budapest CEU Conference on Cognitive Development 2020*: Budapest, Hungary.

**Bridgers, S.**, Garcia, T., & Gweon, H. (2020). Young children consider others' physical constraints to infer their unobserved actions. Poster presentation at the *Bi-annual Meeting of the Cognitive Development Society*: Louisville, KY.

Tessler, M. H., **Bridgers, S.** & Tenenbaum, J. B. (2019). How many observations is one generic worth? Poster presentation at the *Bi-annual Meeting of the Cognitive Development Society*: Louisville, KY.

**Bridgers, S.**, Wang, Y., and Buchsbaum, D. (2019). Children's exploration as a window into their causal learning. Poster presentation at the *41st Annual Meeting of the Cognitive Science Society*: Montreal, CA.

**Bridgers, S.**, Altman, S., & Gweon, H. (2019). Toddlers provide help specific to the cause of others' failed actions. Oral presentation at the *Biennial Meeting of the Society for Research in Child Development*: Baltimore, MD.

**Bridgers, S.**, Gweon, H., de Simone, C., & Ruggeri, A. (2019). The process by which others learn informs young children's decisions about whom to ask for help. Oral presentation at the *Biennial Meeting of the Society for Research in Child Development*: Baltimore, MD.

**Bridgers, S.**, Bhuiyan, N., Wang, Y., & Buchsbaum, D. (2019). Preschoolers' causal inferences from conflicting testimony and observations. Poster presentation at the *Biennial Meeting of the Society for Research in Child Development*: Baltimore, MD.

**Bridgers, S., Garcia, T., & Gweon, H. (2019).** Toddlers provide help specific to the cause of others' failed actions. Oral presentation at the *Budapest CEU Conference on Cognitive Development 2019*: Budapest, Hungary.

**Bridgers, S., Gweon, H., Bretzke, M., & Ruggeri, A. (2018).** How you learned matters: The process by which others learn informs young children's decisions about whom to ask for help. Poster presentation at the *40th Annual Meeting of the Cognitive Science Society*: Madison, WI.

**Bridgers, S., Gweon, H., & Ruggeri, A. (2018).** How you learned matters: The process by which others learn informs young children's decisions about whom to ask for help. Oral presentation at the *30th Annual Convention of the American Psychological Society*: San Francisco, CA.

**Bridgers, S., Altman, S., & Gweon, H. (2017).** How can I help? 24- to 48-month-olds provide help specific to the cause of others' failed actions. Oral presentation at the *Bi-annual Meeting of the Cognitive Development Society*: Portland, OR.

**Bridgers, S., Altman, S., & Gweon, H. (2017).** How can I help? 24- to 48-month-olds provide help specific to the cause of others' failed actions. Oral presentation at the *39th Annual Meeting of the Cognitive Science Society*: London, England.

**Bridgers, S., Jara-Ettinger, J., & Gweon, H. (2016).** Children consider others' expected costs and rewards when deciding what to teach. Oral presentation at the *42nd Annual Meeting of the Society for Philosophy and Psychology*: Austin, TX.

**Bridgers, S., Jara-Ettinger, J., & Gweon, H. (2016).** Children consider others' expected costs and rewards when deciding what to teach. Oral presentation at the *Biennial Meeting of the Society for Research in Child Development*: Austin, TX.

**Bridgers, S., Jara-Ettinger, J., & Gweon, H. (2016).** Children consider others' expected costs and rewards when deciding what to teach. Poster presentation at the *38th Annual Conference of the Cognitive Science Society*: Philadelphia, PA.

**Bridgers, S. & Gweon, H. (2015).** Children consider learners' costs and rewards when deciding what to teach. Poster presentation at the *9th Bi-annual Meeting of the Cognitive Development Society*: Columbus, OH.

Wente, A., **Bridgers, S.**, Zhao, X., Gopnik, A., Zhu, L., & Seiver, E. (2013). Do you have to eat the cookie or could you choose not to? The development of U.S. and Chinese children's beliefs about free will. Poster presentation at the *Bi-annual Meeting of the Cognitive Development Society*: Memphis, TN.

**Bridgers, S., Buchsbaum, D., Seiver, E., Gopnik, A., & Griffiths, T. L. (2013).** When what you hear and what you see don't always agree: Children's social and causal inferences from conflicting sources. Poster presentation at the *Biennial Meeting of the Society for Research in Child Development*: Seattle, WA.

**Bridgers, S., Buchsbaum, D., Seiver, E., Gopnik, A., & Griffiths, T. L. (2011).** How children balance their trust in the person vs. the data. Poster presentation at the *Bi-annual Meeting of the Cognitive Development Society*: Philadelphia, PA.

**Bridgers, S., & Regier, T. (2011).** Language and spatial frames of reference: The effect of verbal interference. Poster presentation at the *33rd Annual Conference of the Cognitive Science Society*: Boston, MA.

## Teaching

*Stanford University*

### Full Courses

Developmental Psychology. Taught by **Sophie Bridgers** and Mika Asaba, Summer 2019.

## Teaching Assistantships

Cognitive Development (PSYCH141). Taught by Hyowon Gweon, Fall 2018.

Social Cognitive Development (PSYCH175). Taught by Hyowon Gweon, Winter 2017.

Developmental Psychology (PSYCH60). Taught by Michael C. Frank, Fall 2016.

Introduction to Psychology (PSYCH1). Taught by Greg Walton, Winter 2016.

Introduction to Psychology (PSYCH1). Taught by James Gross, Fall 2015.

## Mentoring

### Master's Student

Sara Altman (Stanford, BS & MS in Symbolic Systems, 2018)

### Post baccalaureate Student

Teresa Garcia (UC Berkeley, Psychology) Winter 2018 – Spring 2020

### Honors Thesis Students

Isabelle Morris (Stanford, BA in Psychology, 2019)

Jimmy Daly (Stanford, BA in Psychology, 2017)

### Undergraduate Students

#### *Partial List*

Natalie Hampton (Stanford, Psychology) Summer 2019 - present

Lauren Kramer-Lowe (Stanford, Psychology): Winter 2020 – present

Chuyi Alexander Yang (Stanford, Psychology): Winter 2019 – Spring 2020

Avani Singh (Stanford, Psychology): Fall 2015 - Summer 2016; Fall 2017 – Spring 2019

Maria Marta Rey Malca De Habich Winter 2017 – Winter 2018

DivineAsia Miller (Amherst College): CSLI Summer Internship Program 2018

Fernanda Kramer (Stanford, Psychology): Summer 2016 – Summer 2018

Ayushi Chandaria (Stanford, undeclared): Fall 2017 – Spring 2018

Jenny Han (Stanford, Symbolic Systems): Winter 2018 – Spring 2018

Valentina Ruiz Jimenez (Stanford, Symbolic Systems): Winter 2017 – Fall 2017

Michelle Wang (Wellesley): CSLI Summer Internship Program 2016

Xin (Alice) Zhao (Tsinghua University, Psychology): Winter 2012 - Summer 2012

Kelly Cui (Tsinghua University, Psychology): Winter 2012 - Summer 2012

## Service

### *Outreach*

“How can I help? Reasoning about the causes of others’ failed actions” Research Talk for Staff at Bing Nursery School (May 2017)

Stanford SPLASH (High School outreach): “Learning to Mindread” (Nov 2016)

Stanford SPLASH (High School outreach): “Unfolding the Brain” (Nov 2014)

“Little Learning Machines: Child as Scientist & Supercomputer” Research Talk for the general public at Nerd Nite East Bay (June 2014)

### *Stanford University Committees*

Graduate Education Committee Fall 2018 – Spring 2019

*Redesigned the course content and requirements for the Stanford Psychology doctoral program*

Faculty Search Committee, Developmental Area Fall 2018 – Spring 2019

Diversity Committee Fall 2017 – Spring 2018

*Increased awareness and promoted a more diverse and inclusive climate.*

*Hosted “Paths to PhD” workshop for underrepresented students on how to apply to Psychology Ph.D. programs*

Admissions committee, Stanford CSLI Summer Research Internship Program 2018

Admissions committee, Stanford Psychology Ph.D. Program 2017 - 2018

### *Peer Reviewing*

*Child Development, Developmental Psychology, Cognitive Development, Journal of Experimental Child Psychology, Proceedings of the Cognitive Science Society*

## Media Coverage

2019: Stanford Report / Stanford News (Oct 14, featuring Bridgers, Jara-Ettinger, & Gweon, 2020)

2013: The New York Times: Science (April 23, featuring Lucas et al., 2014)