Stanford

Michael Frank

Benjamin Scott Crocker Professor of Human Biology and Professor, by courtesy, of Linguistics

Psychology

Bio

BIO

How do we learn to communicate using language? I study children's language learning and how it interacts with their developing understanding of the social world. I use behavioral experiments, computational tools, and novel measurement methods like large-scale web-based studies, eye-tracking, and head-mounted cameras.

ACADEMIC APPOINTMENTS

- Professor, Psychology
- Professor (By courtesy), Linguistics
- Member, Bio-X
- Faculty Affiliate, Institute for Human-Centered Artificial Intelligence (HAI)
- Director, Center for the Study of Language and Information (CSLI)
- Member, Maternal & Child Health Research Institute (MCHRI)
- Member, Wu Tsai Neurosciences Institute

ADMINISTRATIVE APPOINTMENTS

- Director, Symbolic Systems Program, (2020- present)
- Director, Center for the Study of Language and Information, (2020- present)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Governing board member, ManyBabies Consortium (2017 - present)
- Advisory Board, MacArthur-Bates Communicative Development Inventory (2014 - present)
- Governing board member, Cognitive Science Society (2015 - present)

PROGRAM AFFILIATIONS

- Symbolic Systems Program

LINKS

- Michael Frank - Department of Psychology: http://web.stanford.edu/~mcfrank/
- Language and Cognition Lab site: http://langcog.stanford.edu

Research & Scholarship

CURRENT RESEARCH AND SCHOLARLY INTERESTS

How do we learn to communicate using language? I study children's language learning and how it interacts with their developing understanding of the social world. I use behavioral experiments, computational tools, and novel measurement methods like large-scale web-based studies, eye-tracking, and head-mounted cameras.

Teaching

COURSES

2023-24

- Behavior, Health, and Development: HUMBIO 4B (Spr)
- Experimental Methods: PSYCH 251, SYMSYS 195E (Aut)
- Topics in Natural and Artificial Intelligence: PSYCH 247, SYMSYS 206 (Win)

2022-23

- Behavior, Health, and Development: HUMBIO 4B (Spr)
- Experimental Methods: PSYCH 251, SYMSYS 195E (Aut)

2021-22

- Behavior, Health, and Development: HUMBIO 4B (Spr)
- Experimental Methods: PSYCH 251, SYMSYS 195E (Aut)

2020-21

- Behavior, Health, and Development: HUMBIO 4B (Spr)
- Experimental Methods: PSYCH 251, SYMSYS 195E (Aut)

STANFORD ADVISEES

Doctoral Dissertation Reader (AC)

Aaron Chuey, Jiayi Lu

Postdoctoral Faculty Sponsor

Bria Long, Kat Shannon, Rebecca Zhu

Doctoral Dissertation Advisor (AC)

Veronica Boyce, Anjie Cao, Rondeline Williams

Master's Program Advisor

Yatharth Agarwal, James Brown, Ayush Chakravarthy, Marc Chappelle, Naomi Eigbe, Catherine Fergesen, Chuqi Hu, Fernanda Kramer, Puyin Li, Catherine Qing, Anjali Ragupathi, Kara Schechtman, Junyi Tao, Merve Tekgurler, Xi Jia Zhou

Doctoral Dissertation Co-Advisor (AC)

Julio Martinez

Undergraduate Major Advisor

Imogen Gardiner, Brooke Seay

Doctoral (Program)

Samah Abdelrahim, Steven Feng, Alvin Tan

Postdoctoral Research Mentor

Kat Shannon

Publications

PUBLICATIONS

- **Baby steps in evaluating the capacities of large language models** *NATURE REVIEWS PSYCHOLOGY*
  Frank, M. C.
  2023; 2 (8): 451-452
- **Toward a "Standard Model" of Early Language Learning** *CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE*
  Kachergis, G., Marchman, V. A., Frank, M. C.
  2021
- **How young children integrate information sources to infer the meaning of words.** *Nature human behaviour*
  Bohn, M., Tessler, M. H., Merrick, M., Frank, M. C.
  2021
- **Polite Speech Emerges From Competing Social Goals.** *Open mind : discoveries in cognitive science*
  Yoon, E. J., Tessler, M. H., Goodman, N. D., Frank, M. C.
  2020; 4: 71–87
- **Consistency and Variability in Children's Word Learning Across Languages.** *Open mind : discoveries in cognitive science*
  Braginsky, M., Yurovsky, D., Marchman, V. A., Frank, M. C.
  2019; 3: 52–67
- **Data availability, reusability, and analytic reproducibility: evaluating the impact of a mandatory open data policy at the journal Cognition** *ROYAL SOCIETY OPEN SCIENCE*
  Hardwicke, T. E., Mathur, M. B., MacDonald, K., Nilsonne, G., Banks, G. C., Kidwell, M. C., Mohr, A., Clayton, E., Yoon, E. J., Tessler, M., Lenne, R. L., Altman, S., Long, et al
  2018; 5 (8)
- **A Collaborative Approach to Infant Research: Promoting Reproducibility, Best Practices, and Theory-Building**
  Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., Hamlin, J., Hannon, E. E., Kline, M., Levelt, C., Lew-Williams, C., Nazzi, T., Panneton, et al
  WILEY.2017: 421–35
- **Wordbank: an open repository for developmental vocabulary data** *JOURNAL OF CHILD LANGUAGE*
  Frank, M. C., Braginsky, M., Yurovsky, D., Marchman, V. A.
  2017; 44 (3): 677-694
- **A Collaborative Approach to Infant Research: Promoting Reproducibility, Best Practices, and Theory-Building.** *Infancy : the official journal of the International Society on Infant Studies*
  Frank, M. C., Bergelson, E., Bergmann, C., Cristia, A., Floccia, C., Gervain, J., Hamlin, J. K., Hannon, E. E., Kline, M., Levelt, C., Lew-Williams, C., Nazzi, T., Panneton, et al
  2017; 22 (4): 421-435
- **Pragmatic Language Interpretation as Probabilistic Inference.** *Trends in cognitive sciences*
  Goodman, N. D., Frank, M. C.
  2016; 20 (11): 818-829
- **Inferring word meanings by assuming that speakers are informative.** *Cognitive psychology*
  Frank, M. C., Goodman, N. D.
  2014; 75: 80-96
- **Predicting Pragmatic Reasoning in Language Games** *SCIENCE*
  Frank, M. C., Goodman, N. D.
  2012; 336 (6084): 998-998

- **Modeling human performance in statistical word segmentation** *COGNITION*
  Frank, M. C., Goldwater, S., Griffiths, T. L., Tenenbaum, J. B.
  2010; 117 (2): 107-125
- **Parallel developmental changes in children's production and recognition of line drawings of visual concepts.** *Nature communications*
  Long, B., Fan, J. E., Huey, H., Chai, Z., Frank, M. C.
  2024; 15 (1): 1191
- **The role of translation equivalents in bilingual word learning.** *Developmental science*
  Tan, A. W., Marchman, V. A., Frank, M. C.
  2024: e13476
- **Comparing apples to manzanas and oranges to naranjas: A new measure of English-Spanish vocabulary for dual language learners.** *Infancy : the official journal of the International Society on Infant Studies*
  Tamis-LeMonda, C. S., Kachergis, G., Masek, L. R., Gonzalez, S. L., Soska, K. C., Herzberg, O., Xu, M., Adolph, K. E., Gilmore, R. O., Bornstein, M. H., Casasola, M., Fausey, C. M., Frank, et al
  2024
- **Openly accessible LLMs can help us to understand human cognition.** *Nature human behaviour*
  Frank, M. C.
  2023
- **Broadening Convenience Samples to Advance Theoretical Progress and Avoid Bias in Developmental Science** *JOURNAL OF COGNITION AND DEVELOPMENT*
  Doebel, S., Frank, M. C.
  2023
- **Eleven years of student replication projects provide evidence on the correlates of replicability in psychology.** *Royal Society open science*
  Boyce, V., Mathur, M., Frank, M. C.
  2023; 10 (11): 231240
- **A unified approach to demographic data collection for research with young children across diverse cultures.** *Developmental psychology*
  Singh, L., Barokova, M. D., Baumgartner, H. A., Lopera-Perez, D. C., Omane, P. O., Sheskin, M., Yuen, F. L., Wu, Y., Alcock, K. J., Altmann, E. C., Bazhydai, M., Carstensen, A., Chan, et al
  2023
- **Developmental changes in drawing production under different memory demands in a U.S. and Chinese sample.** *Developmental psychology*
  Long, B., Wang, Y., Christie, S., Frank, M. C., Fan, J. E.
  2023; 59 (10): 1784-1793
- **The BabyView camera: Designing a new head-mounted camera to capture children's early social and visual environments.** *Behavior research methods*
  Long, B., Goodin, S., Kachergis, G., Marchman, V. A., Radwan, S. F., Sparks, R. Z., Xiang, V., Zhuang, C., Hsu, O., Newman, B., Yamins, D. L., Frank, M. C.
  2023
- **Predicting Age of Acquisition for Children's Early Vocabulary in Five Languages Using Language Model Surprisal.** *Cognitive science*
  Portelance, E., Duan, Y., Frank, M. C., Lupyan, G.
  2023; 47 (9): e13334
- **Bridging the data gap between children and large language models.** *Trends in cognitive sciences*
  Frank, M. C.
  2023
- **Registered Reports in Child Development: Introduction to the Special Section.** *Child development*
  Syed, M., Frank, M. C., Roisman, G. I.
  2023
- **How to build up big team science: a practical guide for large-scale collaborations.** *Royal Society open science*
  Baumgartner, H. A., Alessandroni, N., Byers-Heinlein, K., Frank, M. C., Hamlin, J. K., Soderstrom, M., Voelkel, J. G., Willer, R., Yuen, F., Coles, N. A.
  2023; 10 (6): 230235

- **ACOUSTICALLY-DRIVEN PHONEME REMOVAL THAT PRESERVES VOCAL AFFECT CUES.** *Proceedings of the ... IEEE International Conference on Acoustics, Speech, and Signal Processing. ICASSP (Conference)*
  Noufi, C., Berger, J., Frank, M., Parker, K., Bowling, D. L.
  2023; 2023
- **An individual differences perspective on pragmatic abilities in the preschool years.** *Developmental science*
  Bohn, M., Tessler, M. H., Kordt, C., Hausmann, T., Frank, M. C.
  2023: e13401
- **'Big team' science challenges us to reconsider authorship.** *Nature human behaviour*
  Coles, N. A., DeBruine, L. M., Azevedo, F., Baumgartner, H. A., Frank, M. C.
  2023
- **Conceptual Hierarchy in Child-Directed Speech: Implicit Cues are More Reliable** *JOURNAL OF COGNITION AND DEVELOPMENT*
  Wilson, K., Frank, M. C., Fourtassi, A.
  2023
- **Pragmatic Felicity Facilitates the Production and Comprehension of Negation** *COLLABRA-PSYCHOLOGY*
  Nordmeyer, A. E., Frank, M. C.
  2023; 9 (1)
- **Modeling Individual Differences in Children's Information Integration During Pragmatic Word Learning.** *Open mind : discoveries in cognitive science*
  Bohn, M., Schmidt, L. S., Schulze, C., Frank, M. C., Tessler, M. H.
  2022; 6: 311-326
- **Estimating Demographic Bias on Tests of Children's Early Vocabulary.** *Topics in cognitive science*
  Kachergis, G., Francis, N., Frank, M. C.
  2022
- **Plurality Is a Good Start, but It's Time for Unification: A Commentary on "Computational Modeling of Bilingual Language Learning: Current Models and Future Directions"** *LANGUAGE LEARNING*
  Kachergis, G., Tan, A., Frank, M. C.
  2022
- **Context-Dependent Learning of Linguistic Disjunction.** *Journal of child language*
  Jasbi, M., Jaggi, A., Clark, E. V., Frank, M. C.
  2022: 1-36
- **Habituation Reflects Optimal Exploration Over Noisy Perceptual Samples.** *Topics in cognitive science*
  Cao, A., Raz, G., Saxe, R., Frank, M. C.
  2022
- **A longitudinal analysis of the social information in infants' naturalistic visual experience using automated detections.** *Developmental psychology*
  Long, B. L., Kachergis, G., Agrawal, K., Frank, M. C.
  2022
- **Peekbank: An open, large-scale repository for developmental eye-tracking data of children's word recognition.** *Behavior research methods*
  Zettersten, M., Yurovsky, D., Xu, T. L., Uner, S., Tsui, A. S., Schneider, R. M., Saleh, A. N., Meylan, S. C., Marchman, V. A., Mankewitz, J., MacDonald, K., Long, B., Lewis, et al
  2022
- **Relational Reasoning and Generalization Using Nonsymbolic Neural Networks** *PSYCHOLOGICAL REVIEW*
  Geiger, A., Carstensen, A., Frank, M. C., Potts, C.
  2022
- **Exploring Patterns of Stability and Change in Caregivers' Word Usage Across Early Childhood.** *Cognitive science*
  Jiang, H., Frank, M. C., Kulkarni, V., Fourtassi, A.
  2022; 46 (7): e13177
- **Simplicity and validity in infant research** *COGNITIVE DEVELOPMENT*

Kominsky, J. F., Lucca, K., Thomas, A. J., Frank, M. C., Hamlin, J.
2022; 63

- **Online Computerized Adaptive Tests of Children's Vocabulary Development in English and Mexican Spanish.** *Journal of speech, language, and hearing research : JSLHR*
  Kachergis, G., Marchman, V. A., Dale, P. S., Mankewitz, J., Frank, M. C.
  2022: 1-21
- **From partners to populations: A hierarchical Bayesian account of coordination and convention.** *Psychological review*
  Hawkins, R. D., Franke, M., Frank, M. C., Goldberg, A. E., Smith, K., Griffiths, T. L., Goodman, N. D.
  2022
- **Predicting Pragmatic Cue Integration in Adults' and Children's Inferences About Novel Word Meanings** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
  Bohn, M., Tessler, M., Merrick, M., Frank, M. C.
  2022
- **Improving the generalizability of infant psychological research: The ManyBabies model.** *The Behavioral and brain sciences*
  Visser, I., Bergmann, C., Byers-Heinlein, K., Dal Ben, R., Duch, W., Forbes, S., Franchin, L., Frank, M. C., Geraci, A., Hamlin, J. K., Kaldy, Z., Kulke, L., Laverty, et al
  2022; 45: e35
- **The puzzling relationship between multi-laboratory replications and meta-analyses of the published literature.** *Royal Society open science*
  Lewis, M., Mathur, M. B., VanderWeele, T. J., Frank, M. C.
  2022; 9 (2): 211499
- **Automated detections reveal the social information in the changing infant view.** *Child development*
  Long, B. L., Sanchez, A., Kraus, A. M., Agrawal, K., Frank, M. C.
  2021
- **Moderated Online Data-Collection for Developmental Research: Methods and Replications** *FRONTIERS IN PSYCHOLOGY*
  Chuey, A., Asaba, M., Bridgers, S., Carrillo, B., Dietz, G., Garcia, T., Leonard, J. A., Liu, S., Merrick, M., Radwan, S., Stegall, J., Velez, N., Woo, et al
  2021; 12: 734398
- **Emotion as Information in Early Social Learning** *CURRENT DIRECTIONS IN PSYCHOLOGICAL SCIENCE*
  Wu, Y., Schulz, L. E., Frank, M. C., Gweon, H.
  2021
- **Adults' and Children's Comprehension of Linguistic Disjunction** *COLLABRA-PSYCHOLOGY*
  Jasbi, M., Frank, M. C.
  2021; 7 (1)
- **A multi-lab study of bilingual infants: Exploring the preference for infant-directed speech.** *Advances in methods and practices in psychological science*
  Byers-Heinlein, K., Tsui, A. S., Bergmann, C., Black, A. K., Brown, A., Carbajal, M. J., Durrant, S., Fennell, C. T., Fiévet, A. C., Frank, M. C., Gampe, A., Gervain, J., Gonzalez-Gomez, et al
  2021; 4 (1)
- **The Development of Quantity Implicatures in Mandarin-Speaking Children** *LANGUAGE LEARNING AND DEVELOPMENT*
  Zhao, S., Ren, J., Frank, M. C., Zhou, P.
  2021
- **Do graded representations support abstract thought?** *CURRENT OPINION IN BEHAVIORAL SCIENCES*
  Carstensen, A., Frank, M. C.
  2021; 37: 90–97
- **Unsupervised neural network models of the ventral visual stream.** *Proceedings of the National Academy of Sciences of the United States of America*
  Zhuang, C., Yan, S., Nayebi, A., Schrimpf, M., Frank, M. C., DiCarlo, J. J., Yamins, D. L.
  2021; 118 (3)
- **Analytic reproducibility in articles receiving open data badges at the journal Psychological Science: an observational study** *ROYAL SOCIETY OPEN SCIENCE*

Hardwicke, T. E., Bohn, M., MacDonald, K., Hembacher, E., Nuijten, M. B., Peloquin, B. N., DeMayo, B. E., Long, B., Yoon, E. J., Frank, M. C.
2021; 8 (1)

- **Analytic reproducibility in articles receiving open data badges at the journal Psychological Science: an observational study.** *Royal Society open science*
  Hardwicke, T. E., Bohn, M., MacDonald, K., Hembacher, E., Nuijten, M. B., Peloquin, B. N., deMayo, B. E., Long, B., Yoon, E. J., Frank, M. C.
  2021; 8 (1): 201494
- **A Multilab Study of Bilingual Infants: Exploring the Preference for Infant-Directed Speech** *ADVANCES IN METHODS AND PRACTICES IN PSYCHOLOGICAL SCIENCE*
  Byers-Heinlein, K., Tsui, A., Bergmann, C., Black, A. K., Brown, A., Carbajal, M., Durrant, S., Fennell, C. T., Fievet, A., Frank, M. C., Gampe, A., Gervain, J., Gonzalez-Gomez, et al
  2021; 4 (1)
- **SAYCam: A Large, Longitudinal Audiovisual Dataset Recorded From the Infant's Perspective.** *Open mind : discoveries in cognitive science*
  Sullivan, J., Mei, M., Perfors, A., Wojcik, E., Frank, M. C.
  2021; 5: 20-29
- **Building theories of consistency and variability in children's language development: A large-scale data approach.** *Advances in child development and behavior*
  Tsui, A. S., Marchman, V. A., Frank, M. C.
  2021; 61: 199-221
- **Measurement of Cognition for the National Children's Study.** *Frontiers in pediatrics*
  Zelazo, P. D., Lourenco, S. F., Frank, M. C., Elison, J. T., Heaton, R. K., Wellman, H. M., Slotkin, J., Kharitonova, M., Reznick, J. S.
  2021; 9: 603126
- **Building a Collaborative Psychological Science: Lessons Learned From ManyBabies 1** *CANADIAN PSYCHOLOGY-PSYCHOLOGIE CANADIENNE*
  Byers-Heinlein, K., Bergmann, C., Davies, C., Frank, M. C., Hamlin, J., Kline, M., Kominsky, J. F., Kosie, J. E., Lew-Williams, C., Liu, L., Mastroberardino, M., Singh, L., Waddell, et al
  2020; 61 (4): 349–63
- **Building a collaborative Psychological Science: Lessons learned from ManyBabies 1.** *Canadian psychology = Psychologie canadienne*
  Byers-Heinlein, K., Bergmann, C., Davies, C., Frank, M. C., Hamlin, J. K., Kline, M., Kominsky, J. F., Kosie, J. E., Lew-Williams, C., Liu, L., Mastroberardino, M., Singh, L., Waddell, et al
  2020; 61 (4): 349-363
- **Children's interpretation of ambiguous pronouns based on prior discourse.** *Developmental science*
  Bohn, M., Le, K. N., Peloquin, B., Koymen, B., Frank, M. C.
  2020: e13049
- **Online Developmental Science to Foster Innovation, Access, and Impact.** *Trends in cognitive sciences*
  Sheskin, M., Scott, K., Mills, C. M., Bergelson, E., Bonawitz, E., Spelke, E. S., Fei-Fei, L., Keil, F. C., Gweon, H., Tenenbaum, J. B., Jara-Ettinger, J., Adolph, K. E., Rhodes, et al
  2020
- **The Growth of Children's Semantic and Phonological Networks: Insight From 10 Languages.** *Cognitive science*
  Fourtassi, A., Bian, Y., Frank, M. C.
  2020; 44 (7): e12847
- **Children Flexibly Seek Visual Information to Support Signed and Spoken Language Comprehension** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
  MacDonald, K., Marchman, V. A., Fernald, A., Frank, M. C.
  2020; 149 (6): 1078–96
- **The Early Parenting Attitudes Questionnaire: Measuring Intuitive Theories of Parenting and Child Development** *COLLABRA-PSYCHOLOGY*
  Hembacher, E., Frank, M. C.
  2020; 6 (1)
- **Advancing Transparency and Openness in Child Development Research: Opportunities** *CHILD DEVELOPMENT PERSPECTIVES*
  Gennetian, L. A., Tamis-LeMonda, C. S., Frank, M. C.
  2020; 14 (1): 3–8

- **Advancing Transparency and Openness in Child Development Research: Opportunities.** *Child development perspectives*
  Gennetian, L. A., Tamis-LeMonda, C. S., Frank, M. C.
  2020; 14 (1): 3-8
- **Addressing Publication Bias in Meta-Analysis Empirical Findings From Community-Augmented Meta-Analyses of Infant Language Development** *ZEITSCHRIFT FUR PSYCHOLOGIE-JOURNAL OF PSYCHOLOGY*
  Tsuji, S., Cristia, A., Frank, M. C., Bergmann, C.
  2020; 228 (1): 50–61
- **What counts as an exemplar model, anyway? A commentary on Ambridge (2020)** *FIRST LANGUAGE*
  Mahowald, K., Kachergis, G., Frank, M. C.
  2020
- **The Interactions of Rational, Pragmatic Agents Lead to Efficient Language Structure and Use.** *Topics in cognitive science*
  Peloquin, B. N., Goodman, N. D., Frank, M. C.
  2020; 12 (1): 433–45
- **Children's Social Information Seeking is Sensitive to Referential Ambiguity.** *Child development*
  Hembacher, E. n., deMayo, B. n., Frank, M. C.
  2020
- **Continuous developmental change explains discontinuities in word learning.** *Developmental science*
  Fourtassi, A. n., Regan, S. n., Frank, M. C.
  2020: e13018
- **Characterizing the Dynamics of Learning in Repeated Reference Games.** *Cognitive science*
  Hawkins, R. D., Frank, M. C., Goodman, N. D.
  2020; 44 (6): e12845
- **How optimal is word recognition under multimodal uncertainty?** *Cognition*
  Fourtassi, A. n., Frank, M. C.
  2020; 199: 104092
- **The role of developmental change and linguistic experience in the mutual exclusivity effect.** *Cognition*
  Lewis, M. n., Cristiano, V. n., Lake, B. M., Kwan, T. n., Frank, M. C.
  2020; 198: 104191
- **N-Best Evaluation for Academic Hiring and Promotion.** *Trends in cognitive sciences*
  Frank, M. C.
  2019
- **Towards a more robust and replicable science of infant development.** *Infant behavior & development*
  Frank, M. C.
  2019; 57: 101349
- **childes-db: A flexible and reproducible interface to the child language data exchange system** *BEHAVIOR RESEARCH METHODS*
  Sanchez, A., Meylan, S. C., Braginsky, M., MacDonald, K. E., Yurovsky, D., Frank, M. C.
  2019; 51 (4): 1928–41
- **childes-db: A flexible and reproducible interface to the child language data exchange system.** *Behavior research methods*
  Sanchez, A., Meylan, S. C., Braginsky, M., MacDonald, K. E., Yurovsky, D., Frank, M. C.
  2019
- **The role of salience in young children's processing of ad hoc implicatures.** *Journal of experimental child psychology*
  Yoon, E. J., Frank, M. C.
  2019; 186: 99–116
- **Still Suspicious: The Suspicious-Coincidence Effect Revisited** *PSYCHOLOGICAL SCIENCE*
  Lewis, M. L., Frank, M. C.
  2018; 29 (12): 2039-2047

- **Promoting Replicability in Developmental Research Through Meta-analyses: Insights From Language Acquisition Research** *CHILD DEVELOPMENT*
  Bergmann, C., Tsuji, S., Piccinini, P. E., Lewis, M. L., Braginsky, M., Frank, M. C., Cristia, A.
  2018; 89 (6): 1996–2009
- **The Trouble With Quantifiers: Exploring Children's Deficits in Scalar Implicature** *CHILD DEVELOPMENT*
  Horowitz, A. C., Schneider, R. M., Frank, M. C.
  2018; 89 (6): E572-E593
- **Still Suspicious: The Suspicious-Coincidence Effect Revisited.** *Psychological science*
  Lewis, M. L., Frank, M. C.
  2018: 956797618794931
- **Data availability, reusability, and analytic reproducibility: evaluating the impact of a mandatory open data policy at the journal Cognition.** *Royal Society open science*
  Hardwicke, T. E., Mathur, M. B., MacDonald, K., Nilsonne, G., Banks, G. C., Kidwell, M. C., Hofelich Mohr, A., Clayton, E., Yoon, E. J., Henry Tessler, M., Lenne, R. L., Altman, S., Long, et al
  2018; 5 (8): 180448
- **With Great Data Comes Great (Theoretical) Opportunity** *TRENDS IN COGNITIVE SCIENCES*
  Frank, M. C.
  2018; 22 (8): 669-671
- **A Practical Guide for Transparency in Psychological Science** *COLLABRA-PSYCHOLOGY*
  Klein, O., Hardwicket, T. E., Aust, F., Breuer, J., Danielsson, H., Mohr, A., IJzerman, H., Nilsonne, G., Vanpaemel, W., Frank, M. C.
  2018; 4 (1)
- **With Great Data Comes Great (Theoretical) Opportunity.** *Trends in cognitive sciences*
  Frank, M. C.
  2018
- **The Role of Design and Training in Artifact Expertise: The Case of the Abacus and Visual Attention** *COGNITIVE SCIENCE*
  Srinivasan, M., Wagner, K., Frank, M. C., Barner, D.
  2018; 42: 757–82
- **The Role of Gesture in Supporting Mental Representations: The Case of Mental Abacus Arithmetic** *COGNITIVE SCIENCE*
  Brooks, N. B., Barner, D., Frank, M., Goldin-Meadow, S.
  2018; 42 (2): 554–75
- **Pre-linguistic segmentation of speech into syllable-like units** *COGNITION*
  Rasanen, O., Doyle, G., Frank, M. C.
  2018; 171: 130–50
- **Early Understanding of Pragmatic Principles in Children's Judgments of Negative Sentences** *LANGUAGE LEARNING AND DEVELOPMENT*
  Nordmeyera, A. E., Frank, M. C.
  2018; 14 (4): 262–78
- **A Bayesian decision-making framework for replication.** *The Behavioral and brain sciences*
  Hardwicke, T. E., Tessler, M. H., Peloquin, B. N., Frank, M. C.
  2018; 41: e132
- **A Bayesian decision-making framework for replication** *BEHAVIORAL AND BRAIN SCIENCES*
  Hardwicke, T. E., Tessler, M., Peloquin, B. N., Frank, M. C.
  2018; 41
- **The Trouble With Quantifiers: Exploring Children's Deficits in Scalar Implicature.** *Child development*
  Horowitz, A. C., Schneider, R. M., Frank, M. C.
  2017
- **Social cues modulate the representations underlying cross situational learning** *COGNITIVE PSYCHOLOGY*
  MacDonald, K., Yurovsky, D., Frank, M. C.

2017; 94: 67-84

- **Semantic Coherence Facilitates Distributional Learning** *COGNITIVE SCIENCE*
  Ouyang, L., Boroditsky, L., Frank, M. C.
  2017; 41: 855-884
- **Semantic Coherence Facilitates Distributional Learning.** *Cognitive science*
  Ouyang, L., Boroditsky, L., Frank, M. C.
  2017; 41 Suppl 4: 855-884
- **Beyond naive cue combination: salience and social cues in early word learning** *DEVELOPMENTAL SCIENCE*
  Yurovsky, D., Frank, M. C.
  2017; 20 (2)
- **Beyond naïve cue combination: salience and social cues in early word learning.** *Developmental science*
  Yurovsky, D., Frank, M. C.
  2017; 20 (2)
- **The development of children's ability to track and predict turn structure in conversation** *JOURNAL OF MEMORY AND LANGUAGE*
  Casillas, M., Frank, M. C.
  2017; 92: 234-253
- **Adaptive Engagement of Cognitive Control in Context-Dependent Decision Making** *CEREBRAL CORTEX*
  Waskom, M. L., Frank, M. C., Wagner, A. D.
  2017; 27 (2): 1270-1284
- **The Emergence of an Abstract Grammatical Category in Children's Early Speech** *PSYCHOLOGICAL SCIENCE*
  Meylan, S. C., Frank, M. C., Roy, B. C., Levy, R.
  2017; 28 (2): 181-192
- **Preschoolers Flexibly Adapt to Linguistic Input in a Noisy Channel** *PSYCHOLOGICAL SCIENCE*
  Yurovsky, D., Case, S., Frank, M. C.
  2017; 28 (1): 132-140
- **Alignment at Work: Using Language to Distinguish the Internalization and Self-Regulation Components of Cultural Fit in Organizations**
  Doyle, G., Goldberg, A., Srivastava, S. B., Frank, M. C., Barzilay, R., Kan, M. Y.
  ASSOC COMPUTATIONAL LINGUISTICS-ACL.2017: 603-612
- **MetaLab: A repository for meta-analyses on language development, and more**
  Tsuji, S., Bergmann, C., Lewis, M., Braginsky, M., Piccinini, P., Frank, M. C., Cristia, A., Int Speech Commun Assoc
  ISCA-INT SPEECH COMMUNICATION ASSOC.2017: 2038–39
- **Avoiding frostbite: It helps to learn from others** *BEHAVIORAL AND BRAIN SCIENCES*
  Tessler, M., Goodman, N. D., Frank, M. C.
  2017; 40: e279
- **Embedded Implicatures as Pragmatic Inferences under Compositional Lexical Uncertainty** *JOURNAL OF SEMANTICS*
  Potts, C., Lassiter, D., Levy, R., Frank, M. C.
  2016; 33 (4): 755-802
- **Understanding the effect of social context on learning: A replication of Xu and Tenenbaum (2007b).** *Journal of experimental psychology. General*
  Lewis, M. L., Frank, M. C.
  2016; 145 (9): e72-80
- **The length of words reflects their conceptual complexity** *COGNITION*
  Lewis, M. L., Frank, M. C.
  2016; 153: 182-195
- **Learning Mathematics in a Visuospatial Format: A Randomized, Controlled Trial of Mental Abacus Instruction** *CHILD DEVELOPMENT*
  Barner, D., Alvarez, G., Sullivan, J., Brooks, N., Srinivasan, M., Frank, M. C.

2016; 87 (4): 1146-1158

- **Children's Pragmatic Inferences as a Route for Learning About the World** *CHILD DEVELOPMENT*
  Horowitz, A. C., Frank, M. C.
  2016; 87 (3): 807-819
- **Comment on "Math at home adds up to achievement in school".** *Science*
  Frank, M. C.
  2016; 351 (6278): 1161-?
- **Response to Comment on "Estimating the reproducibility of psychological science"** *SCIENCE*
  Anderson, C. J., Bahnik, S., Barnett-Cowan, M., Bosco, F. A., Chandler, J., Chartier, C. R., Cheung, F., Christopherson, C. D., Cordes, A., Cremata, E. J., Della Penna, N., Estel, V., Fedor, et al
  2016; 351 (6277): 1037
- **Chaser: Unlocking the Genius of the Dog Who Knows a Thousand Words (Book Review)** *AMERICAN JOURNAL OF PSYCHOLOGY*
  Book Review Authored by: Frank, M. C.
  2016; 129 (1): 99–104
- **Adaptive Engagement of Cognitive Control in Context-Dependent Decision Making.** *Cerebral cortex*
  Waskom, M. L., Frank, M. C., Wagner, A. D.
  2016
- **Using Tablets to Collect Data From Young Children** *JOURNAL OF COGNITION AND DEVELOPMENT*
  Frank, M. C., Sugarman, E., Horowitz, A. C., Lewis, M. L., Yurovsky, D.
  2016; 17 (1): 1-17
- **A robust framework for estimating linguistic alignment in Twitter conversations**
  Doyle, G., Yurovsky, D., Frank, M. C., ACM
  ASSOC COMPUTING MACHINERY.2016: 637-648
- **Investigating the Sources of Linguistic Alignment in Conversation**
  Doyle, G., Frank, M. C., Erk, K., Smith, N. A.
  ASSOC COMPUTATIONAL LINGUISTICS-ACL.2016: 526-536
- **Linguistic structure emerges through the interaction of memory constraints and communicative pressures** *BEHAVIORAL AND BRAIN SCIENCES*
  Lewis, M. L., Frank, M. C.
  2016; 39: e82
- **An integrative account of constraints on cross-situational learning** *COGNITION*
  Yurovsky, D., Frank, M. C.
  2015; 145: 53-62
- **Predicting the birth of a spoken word** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Roy, B. C., Frank, M. C., DeCamp, P., Miller, M., Roy, D.
  2015; 112 (41): 12663-12668
- **Quantifying naturalistic social gaze in fragile X syndrome using a novel eye tracking paradigm.** *American journal of medical genetics. Part B, Neuropsychiatric genetics : the official publication of the International Society of Psychiatric Genetics*
  Hall, S. S., Frank, M. C., Pusiol, G. T., Farzin, F., Lightbody, A. A., Reiss, A. L.
  2015; 168 (7): 564-572
- **A Second Look at Automatic Theory of Mind: Reconsidering Kovács, Téglás, and Endress (2010).** *Psychological science*
  Phillips, J., Ong, D. C., Surtees, A. D., Xin, Y., Williams, S., Saxe, R., Frank, M. C.
  2015; 26 (9): 1353-1367
- **PSYCHOLOGY Estimating the reproducibility of psychological science** *SCIENCE*
  Aarts, A. A., Anderson, J. E., Anderson, C. J., Attridge, P. R., Attwood, A., Axt, J., Babel, M., Bahnik, S., Baranski, E., Barnett-Cowan, M., Bartmess, E., Beer, J., Bell, et al
  2015; 349 (6251)

- **Relevant and robust: a response to Marcus and Davis (2013).** *Psychological science*
  Goodman, N. D., Frank, M. C., Griffiths, T. L., Tenenbaum, J. B., Battaglia, P. W., Hamrick, J. B.
  2015; 26 (4): 539-541
- **Young children's developing sensitivity to discourse continuity as a cue for inferring reference.** *Journal of experimental child psychology*
  Horowitz, A. C., Frank, M. C.
  2015; 129: 84-97
- **Ad-hoc Implicature in Preschool Children** *LANGUAGE LEARNING AND DEVELOPMENT*
  Stiller, A. J., Goodman, N. D., Frank, M. C.
  2015; 11 (2): 176–90
- **Unsupervised word discovery from speech using automatic segmentation into syllable-like units**
  Rasanen, O., Doyle, G., Frank, M. C., ISCA-INT SPEECH COMMUN ASSOC
  ISCA-INT SPEECH COMMUNICATION ASSOC.2015: 3204–8
- **Cultural Differences in Perceptual Reorganization in US and Piraha Adults** *PLOS ONE*
  Yoon, J. M., Witthoft, N., Winawer, J., Frank, M. C., Everett, D. L., Gibson, E.
  2014; 9 (11)
- **Markers of Topical Discourse in Child-Directed Speech** *COGNITIVE SCIENCE*
  Rohde, H., Frank, M. C.
  2014; 38 (8): 1634-1661
- **The role of context in young children's comprehension of negation** *JOURNAL OF MEMORY AND LANGUAGE*
  Nordmeyer, A. E., Frank, M. C.
  2014; 77: 25-39
- **Three ideal observer models for rule learning in simple languages (vol 120, pg 360, 2011)** *COGNITION*
  Frank, M. C., Tenenbaum, J. B.
  2014; 132 (3): 501
- **Visual search and attention to faces during early infancy.** *Journal of experimental child psychology*
  Frank, M. C., Amso, D., Johnson, S. P.
  2014; 118: 13-26
- **Cultural differences in perceptual reorganization in US and Pirahã adults.** *PloS one*
  Yoon, J. M., Witthoft, N., Winawer, J., Frank, M. C., Everett, D. L., Gibson, E.
  2014; 9 (11)
- **SPEAKER-INDEPENDENT DETECTION OF CHILD-DIRECTED SPEECH**
  Schuster, S., Pancoast, S., Ganjoo, M., Frank, M. C., Jurafsky, D., IEEE
  IEEE.2014: 366–71
- **Throwing out the Bayesian baby with the optimal bathwater: Response to Endress (2013)** *COGNITION*
  Frank, M. C.
  2013; 128 (3): 417-423
- **Throwing out the Bayesian baby with the optimal bathwater: Response to.** *Cognition*
  Frank, M. C.
  2013; 128 (3): 417-23
- **Zipfian frequency distributions facilitate word segmentation in context.** *Cognition*
  Kurumada, C., Meylan, S. C., Frank, M. C.
  2013; 127 (3): 439-453
- **Learning and Long-Term Retention of Large-Scale Artificial Languages** *PLOS ONE*
  Frank, M. C., Tenenbaum, J. B., Gibson, E.
  2013; 8 (1)

- **Social and Discourse Contributions to the Determination of Reference in Cross-Situational Word Learning** *LANGUAGE LEARNING AND DEVELOPMENT*
  Frank, M. C., Tenenbaum, J. B., Fernald, A.
  2013; 9 (1): 1–24
- **An Open, Large-Scale, Collaborative Effort to Estimate the Reproducibility of Psychological Science** *PERSPECTIVES ON PSYCHOLOGICAL SCIENCE*
  Alexander, A., Barnett-Cowan, M., Bartmess, E., Bosco, F. A., Brandt, M., Carp, J., Chandler, J. J., Clay, R., Cleary, H., Cohn, M., Costantini, G., DeCoster, J., Dunn, et al
  2012; 7 (6): 657-660
- **Teaching Replication.** *Perspectives on psychological science : a journal of the Association for Psychological Science*
  Frank, M. C., Saxe, R.
  2012; 7 (6): 600-4
- **Teaching Replication** *PERSPECTIVES ON PSYCHOLOGICAL SCIENCE*
  Frank, M. C., Saxe, R.
  2012; 7 (6): 600-604
- **Learning From Others: The Consequences of Psychological Reasoning for Human Learning** *PERSPECTIVES ON PSYCHOLOGICAL SCIENCE*
  Shafto, P., Goodman, N. D., Frank, M. C.
  2012; 7 (4): 341-351
- **Measuring the Development of Social Attention Using Free-Viewing.** *Infancy : the official journal of the International Society on Infant Studies*
  Frank, M. C., Vul, E., Saxe, R.
  2012; 17 (4): 355-375
- **Learning From Others: The Consequences of Psychological Reasoning for Human Learning.** *Perspectives on psychological science : a journal of the Association for Psychological Science*
  Shafto, P., Goodman, N. D., Frank, M. C.
  2012; 7 (4): 341-51
- **Representing Exact Number Visually Using Mental Abacus** *JOURNAL OF EXPERIMENTAL PSYCHOLOGY-GENERAL*
  Frank, M. C., Barner, D.
  2012; 141 (1): 134-149
- **Verbal interference suppresses exact numerical representation** *COGNITIVE PSYCHOLOGY*
  Frank, M. C., Fedorenko, E., Lai, P., Saxe, R., Gibson, E.
  2012; 64 (1-2): 74-92
- **Measuring the Development of Social Attention Using Free-Viewing** *INFANCY*
  Frank, M. C., Vul, E., Saxe, R.
  2012; 17 (4): 355-375
- **Three ideal observer models for rule learning in simple languages** *COGNITION*
  Frank, M. C., Tenenbaum, J. B.
  2011; 120 (3): 360-371
- **Overcoming Memory Limitations in Rule Learning** *LANGUAGE LEARNING AND DEVELOPMENT*
  Frank, M. C., Gibson, E.
  2011; 7 (2): 130–48
- **Beyond Transitional Probabilities: Human Learners Impose a Parsimony Bias in Statistical Word Segmentation**
  Frank, M. C., Arnon, I., Tily, H., Goldwater, S., Ohlsson, S., Catrambone, R.
  COGNITIVE SCIENCE SOCIETY, INC.2010: 760–65
- **Russian blues reveal effects of language on color discrimination** *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*
  Winawer, J., Witthoft, N., Frank, M. C., Wu, L., Wade, A. R., Boroditsky, L.
  2007; 104 (19): 7780-7785