

JING TIAN

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EDUCATION

CARNEGIE MELLON UNIVERSITY
Ph.D. in Psychology
Committee: Robert S. Siegler (chair), John Anderson, & Sharon Carver
Dissertation: *Understanding Percentages*
Pittsburgh, PA
2013-2018

PEKING UNIVERSITY
B.S. in Chemistry & Psychology
Beijing, China
2009-2013

POSITIONS

FORDHAM UNIVERSITY
Assistant Professor, Department of Psychology
Bronx, NY
2023 - Present

TEMPLE UNIVERSITY
Post-Doctoral Researcher, Department of Psychology and Neuroscience
Advisor: Elizabeth A. Gunderson
Philadelphia, PA
2019-2023

BRYN MAWR COLLEGE
Visiting Assistant Professor, Department of Psychology
Bryn Mawr, PA
2022 Fall

TEACHERS COLLEGE, COLUMBIA UNIVERSITY
Post-Doctoral Researcher
Advisor: Robert S. Siegler
New York, NY
2018-2019

FELLOWSHIPS

Fordham-Columbia Research Fellow
2024

GRANTS

2024 - 2025. Fordham Faculty Research Grant. *Unveiling the Impact of Spatial Skills on STEM Success*. Total Amount: \$7,500.

2023 - 2026. NSF ECR DRL - 2347386. Role: PI (Co-PI: Gunderson). *Pathways to Conceptual Knowledge of Decimals*. Total Amount: \$815,385.

PUBLICATIONS

1. **Tian, J.**, Bennet-Pierre, G., Tavassolie, N., Newcombe, N., Weinraub, M., Hindman, H. A., Newton, K. J., & Gunderson, E. A. (2023). A growth mindset message leads parents to choose more challenging informal learning activities. *Journal of Intelligence. Special Issue: Spatial Intelligence and Learning*.
2. **Tian, J.**, Ren, K., & Gunderson, E. A. (2023). Verbal labels influence children's processing of decimal magnitudes. *Journal of Applied Developmental Psychology*.
3. **Tian, J.**, Ren, K., Newcombe, N., Weinraub, M., Vandell, D., & Gunderson, E. A. (2022). Tracing the origins of the STEM gender gap: Childhood spatial skills contribute to women's under-representation in STEM majors. *Developmental Science*, e13302.
4. Siegler, R. S. & **Tian, J.** (2022). Why do we need three rational number notations? The importance of percentages. *Advances in Child Development and Behavior*.
5. **Tian, J.**, Leib, E. R., Griger, C., Oppenzato, C. O., & Siegler R. S. (2022). Biased problem distributions in assignments parallel those in textbooks: Evidence from fraction and decimal arithmetic. *Journal of Numerical Cognition*, 8(1), 73- 88.
6. **Tian, J.**, Dam, S., & Gunderson, E. A. (2022). Spatial skills, but not spatial anxiety, mediate gender differences in number line estimation. *Developmental Psychology*, 58(1), 138-151.
7. **Tian, J.**, Bartek, V., Rahman, M. Z., & Gunderson, E. A. (2021). Learning improper fractions with the number lines and the area models. *Journal of Cognition and Development*, 22(2), 305-327.
8. **Tian, J.**, Braithwaite, D. W., & Siegler R. S. (2021). Distributions of textbook problems predict student learning: Data from decimal arithmetic. *Journal of Educational Psychology*, 113(3), 516-529.
9. Siegler, R. S. , Im, S., Schiller, L., **Tian, J.**, & Braithwaite, D. W. (2020). The sleep of reason produces monsters: How and when biased input shapes mathematics learning. *Annual Review of Developmental Psychology*, 2, 413-435.
10. **Tian, J.**, Gunderson, E. A. (2020). Teaching fractions to young children. *Young Children*, 75(4), 62 - 67.
11. **Tian, J.**, Braithwaite, D. W., & Siegler R. S. (2020). How do people choose among rational number notations? *Cognitive Psychology*, 123, 101333.
12. Wang, C. & **Tian, J.** (2018). Reminders of mortality alter pain-evoked potentials in a Chinese sample. *Frontiers in Psychology*, 9, 1667.
13. **Tian, J.**, & Siegler, R. S. (2017). Which type of rational numbers should students learn first? *Educational Psychology Review*, 30, 351-372.
14. Braithwaite, D. W., **Tian, J.**, & Siegler, R. S. (2017). Do children understand fraction addition? *Developmental Science*, 21(4), e12601.
15. **Tian, J.**, & Siegler, R. S. (2017). Fractions learning in children with mathematics difficulties. *Journal of Learning Disabilities*, 50(6), 614-620.
16. **Tian, J.** (2017). Difficulty in understanding rational numbers and potential solutions. In P. Lemaire (Eds.), *Cognitive Development from a Strategy Perspective: A Festschrift for Robert Siegler* (pp. 233 - 262). London, UK: Routledge.
17. Zhou, Y., Qin, S., & **Tian, J.** (2016). Risk perception of air pollution: An exploration of self-relevancy. *Human and Ecological Risk Assessment: An International Journal*, 22(7), 1506-1518.
18. Lortie-Forgues, H., **Tian, J.**, & Siegler, R. S. (2015). Why is learning fraction and decimal arithmetic so difficult? *Developmental Review*, 38, 201-221.

TALKS AND PRESENTATIONS

1. **Tian, J.**, Camarote, J., & Gunderson, E. A. (2024, March). *Children's motivational beliefs in math, verbal and spatial domains: Relations to gender, grade level, and achievement*. Poster presented at the 2024 Biennial Meeting of the Cognitive Development Society, Pasadena, CA.
2. **Tian, J.** (2023, June). *Towards success in STEM: An integrated analysis of environmental and cognitive factors*. Invited talk at East China Normal University, Shanghai, China.
3. **Tian, J.** (2023, June). *Towards success in STEM: An integrated analysis of environmental and cognitive factors*. Invited talk at Zhejiang University, Hangzhou, China.
4. **Tian, J.**, Bennett-Pierre, G., Tavassolie, N., Zhang, X., D'Antonio, E., Sylverne, L., Newcombe, N.S., Weinraub, M., Hindman, A., Newton, K., & Gunderson, E. A. (2023, June). *A month-long parent-led spatial intervention*. Poster presented at the Mathematical Cognition and Learning Society Conference 2023, UK.
5. **Tian, J.** (2022, August). *Towards success in STEM: The importance of spatial skills*. Invited talk at the Cognitive Development Lab, University of Chicago.
6. **Tian, J.**, Tavassolie, N., Bennett-Pierre, G., Newcombe, N.S., Weinraub, M., Hindman, A., Newton, K., & Gunderson, E. A. (2022, June). *Growth mindset message influences parents' choices of games*. Poster presented at the Mathematical Cognition and Learning Society Conference 2022, Belgium.
7. Tavassolie, N., **Tian, J.**, Bennett-Pierre, G., Newcombe, N.S., Weinraub, M., Hindman, A., Newton, K., & Gunderson, E. A. (2022, June). *Measuring the spatial home learning environment: Initial test of the Spatial Toys and Activities Checklist (STAC)*. Poster presented at the Mathematical Cognition and Learning Society Conference 2022, Belgium.
8. **Tian, J.**, Ren, K., Newcombe, N.S., Weinraub, M., Vandell, D. L., & Gunderson, E. A. (2022, April). *Tracing the origins of the STEM gender gap: Childhood spatial skills contribute to women's underrepresentation in STEM college majors*. Poster presented at the 2022 Biennial Meeting of the Cognitive Development Society, Madison, WI.
9. **Tian, J.**, Rahman, M. Z., & Gunderson, E. A. (2021, April). *Children's inconsistent use of fraction magnitude knowledge*. Talk at the 2021 Biennial Meeting of the Society for Research in Child Development.
10. **Tian, J.**, Ren, K., Newcombe, N., Weinraub, M., Vandell, D., & Gunderson, E. A. (2021, February). *Early predictors of STEM major choice*. Invited talk at the STEM Teaching and Learning Lab, University of California, Riverside.
11. **Tian, J.**, Rahman, M., Bartek, V., & Gunderson, E. A. (2020, June). *Intervention on improper fractions with number lines versus area models*. Talk at the Third Conference of the Mathematical Cognition and Learning Society, Dublin, Ireland.
12. **Tian, J.** (2019, March). Linguistic facilitation of understanding of percentages. Talk at the 2019 Biennial Meeting of the Society for Research in Child Development, Baltimore, Maryland.
13. **Tian, J.**, & Siegler, R. S. (2019, March). An analysis of textbook problems on percentages. Poster presented at the 2019 Biennial Meeting of the Society for Research in Child Development, Baltimore, Maryland.
14. **Tian, J.**, & Siegler, R. S. (2019, January). Predicting students' knowledge by textbook input: The case of percentages. Poster presented at the 2019 IES-PI Meeting, Washington, DC.
15. **Tian, J.**, Braithwaite, D.W., & Siegler, R.S. (2018, April). Do children understand fraction addition? Talk presented at the First Conference of the Mathematical Cognition and Learning Society, Oxford, UK.

16. **Tian, J., & Siegler, R. S.** (2017, October). Better conceptual understanding of rational number multiplication with "of" expression. Poster presented at the 2017 Biennial Meeting of the Cognitive Development Society, Portland, Oregon.
17. **Tian, J., & Siegler, R. S.** (2017, April). Influence of number of digits on rational number magnitude understanding. Poster presented at the 2017 Biennial Meeting of the Society for Research in Child Development, Austin, Texas.
18. **Tian, J.** (2016, June). Understanding of rational numbers: Difficulties and prospective solutions. Talk presented at Cognitive Development: Hommage to Robert S. Siegler, Aix-en-Provence, France.
19. **Tian, J., & Siegler, R. S.** (2015, October). Use of magnitude in addition estimation. Poster presented at the 2015 Biennial Meeting of the Cognitive Development Society, Columbus, Ohio.
20. **Tian, J., & Siegler, R. S.** (2015, March). Spontaneous Focusing on Numerosity (SFON) in early math development. Poster presented at the 2015 Biennial Meeting of the Society for Research in Child Development, Philadelphia, Pennsylvania.

TEACHING

GRADUATE LEVEL

Instructor PSYC 6330 Cognitive Development 2024 Spring	<i>Fordham University</i>
Instructor PSYC 6300 Developmental Foundations 2024 Fall	<i>Fordham University</i>

UNDERGRADUATE LEVEL

Instructor PSYC 2010 Research Methods Lab 2023 Fall	<i>Fordham University</i>
Instructor PSYC 205 Research Methods 2022 Fall	<i>Bryn Mawr College</i>

MENTORING

UNDERGRADUATE MENTORING, FORDHAM UNIVERSITY

Magdalena Gianaris	2024 Fall - present
Katie Krasnoff	2023 Fall - present
Shreya Patel	2023 Fall - present
Evelyn (Nhi) Pham	2023 Fall - present

UNDERGRADUATE HONOR THESIS

Joel Camarote	Completed Spring 2023
Khushi Sibal	Completed Spring 2022

DOCTORAL STUDENT

Alison De Leon Escobar (master thesis reader)	Completed Spring 2024
Alireza Zareian (comprehensive exam committee)	Fall 2024

MENTEE AWARDS AND GRANTS

Fordham University Rose Hill Summer Research Program Undergraduate Mentee: Evelyn (Nhi) Pham total amount: \$4500 <i>Unpacking STEM stereotypes and sense of belonging among female college students</i>	2024
Fordham University Lincoln Center Dean's Research and Creative Practice Grant Undergraduate Mentee: Katie Krasnoff total amount: \$3160 <i>Toy type of stereotype: Examining gender bias in parental support</i>	2024
Fordham University Fordham-Columbia Research Intern Undergraduate Mentee: Shreya Patel	2024
Temple University Diamond Award Undergraduate Mentee: Joei Camarote	2022

SERVICE

DEPARTMENT COMMITTEE, FORDHAM UNIVERSITY

ADP Executive Council	2024 - Present
Merit Committee	2024 - Present
Colloquium Series Committee	2023 - Present
Teacher Training Committee	2023 - 2024

JOURNAL EDITING AND REVIEWING

Guest Editor, <i>Journal of Experimental Psychology: Learning, Memory, and Cognition</i>	2024
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Ad Hoc Reviewer:

<i>British Journal of Educational Psychology</i>	<i>Infant and Child Development</i>
<i>Child Development</i>	<i>Journal of Cognition and Development</i>
<i>Child Development Perspectives</i>	<i>Journal of Educational Psychology</i>
<i>Cognitive Development</i>	<i>Journal of Experimental Child Psychology</i>
<i>Cognitive Science</i>	<i>Journal of Experimental Psychology: LMC</i>
<i>Developmental Psychology</i>	<i>Journal of Learning Disabilities</i>
<i>Developmental Science</i>	<i>Mind, Brain, and Education</i>
<i>Early Education and Development</i>	<i>Quarterly Journal of Experimental Psychology</i>
<i>Frontiers in Psychology</i>	

GRANT REVIEWING

Ad hoc reviewer, National Science Foundation (NSF) Developmental Sciences Program, Division of Behavioral and Cognitive Sciences	2023
Ad hoc reviewer, National Science Foundation (NSF) EDU Core Research Program, Division of research on Learning in Formal and Informal Settings	2023