

## Charles J. Fitzsimmons

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### Education:

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- 2017 - 2022    Ph.D, Psychological Sciences, Kent State University: Kent, OH  
Dissertation: *The role of cue diagnosticity on children's and adults' monitoring accuracy and control during whole number and fraction magnitude estimation*  
Advisor: Clarissa A. Thompson
- 2017 - 2019    M.A., Psychology, Kent State University: Kent OH  
Thesis: *Do adults treat equivalent fractions equally? Adults' strategies and errors during fraction reasoning*  
Advisor: Clarissa. A. Thompson
- 2013 - 2016:    B.S., Psychology, University of North Florida: Jacksonville, FL  
*Summa cum laude*, Honors in the Major  
Honors Thesis: *Does expressive writing improve exam performance?*

### Positions Held:

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- 2017 - present    Graduate Research Assistant: Cognitive Development Lab  
Kent State University: Kent, OH  
Advisor: Dr. Clarissa A. Thompson
- 2015 - 2017    Research Assistant: Behavioral Neuroscience Lab  
University of North Florida: Jacksonville, FL  
Advisor: Dr. Katherine C. Hooper
- 2016 - 2017    Research Assistant: Social Psychology Lab  
University of North Florida: Jacksonville, FL  
Supervisor: Dr. Sarah Ainsworth
- 2016 - 2017    Research Assistant: False Memory Lab  
University of North Florida, Jacksonville, FL  
Supervisor: Dr. Michael P. Toglia

### Peer-Reviewed Publications:

\*Undergraduate Student; ^ Authors contributed equally

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Yu, S., Kim, D., **Fitzsimmons, C.**, Mielicki, M., Thompson, C., & Opfer, J. (*in press*). From integers to fractions: The role of analogy in developing a coherent understanding of proportional magnitude. *Developmental Psychology*.

Scheibe, D., **Fitzsimmons, C. J.**, Mielicki, M. K., Taber, J. M., Sidney, P. G., Coifman, K., & Thompson, C. A. (*in press*). Confidence in COVID problem solving: What factors predict adults' item-level metacognitive judgments on health-related math problems before and after an educational intervention? *Metacognition and Learning*.

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- Thompson, C. A., Mielicki, M., Rivera, F., **Fitzsimmons, C. J.**, Scheibe, D., Sidney, P. G., Taber, J., & Waters, E. (*in press*). Leveraging math cognition to combat health innumeracy. *Perspectives on Psychological Science*.
- Fitzsimmons, C. J.**, & Thompson, C. A. (*in press*). Developmental differences in monitoring accuracy and cue use when estimating whole-number and fraction magnitudes. *Cognitive Development*.
- Thompson, C. A., Sidney, P. G., **Fitzsimmons, C. J.**, Mielicki, M., Schiller, L. K., Scheibe, D. A., Opfer, J. E., & Siegler, R. S. (*in press*). Comments regarding Numerical estimation strategies are correlated with math ability in school-age children. *Cognitive Development*.
- Thompson, C. A., Taber, J. Sidney, P. G., **Fitzsimmons, C. J.**, Mielicki, M., Matthews, P., Schemmel, E., Simonovic, N., Foust, J., Aurora, P., Stanley Seah, T.H., Disabato, D., Coifman, K. (2022). Math matters: A novel, brief educational intervention decreases whole number bias when reasoning about COVID-19. *The Journal of Experimental Psychology: Applied*.
- Mielicki, M. K., Schiller, L., **Fitzsimmons, C. J.**, Scheibe, D., Thompson, C. A. (2022). Perceptions of ease and difficulty, but not growth mindset, predict specific math attitudes. *British Journal of Educational Psychology*.
- Thompson, C. A., Taber, J. M., **Fitzsimmons, C. J.**, & Sidney, P. G. (2021). Math Predictors of Numeric Health and Non-Health Decision-Making Problems. *Journal of Numerical Cognition*.
- Thompson, C. A., **Fitzsimmons, C. J.**, & Scheibe, D. (2021). Students' ability to calculate their final course grade may not be as easy as you think: Insights from mathematical cognition. *Scholarship of Teaching and Learning in Psychology*.
- Mielicki, M. K., **Fitzsimmons, C. J.**, Woodbury, L. H. \*, Zhang, D., Rivera, F. D., & Thompson, C. A. (2021). Effects of Figural and Numerical Presentation Formats on Growing Pattern Performance. *Journal of Numerical Cognition*. <https://doi.org/10.5964/jnc.6945>
- Fitzsimmons, C. J.**, Morehead, K., Thompson, C. A., Buerke, M. \*, & Dunlosky, J. (2021). Can feedback, correct, and incorrect worked examples improve numerical magnitude estimation precision? *The Journal of Experimental Education*.
- Rivers, M. L., **Fitzsimmons, C. J.**, Fisk, S. R., Dunlosky, J., & Thompson, C. A. (2020). Gender differences in confidence during number-line estimation. *Metacognition and Learning*.
- Fitzsimmons, C. J.**, Thompson, C. A., & Sidney, P. G. (2020). Do adults treat equivalent fractions equally? Adults' strategies and errors during fraction reasoning. *The Journal of Experimental Psychology: Learning, Memory, and Cognition*.
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**Fitzsimmons, C. J.**, Thompson, C. A., & Sidney, P. G. (2020). Confident or familiar? The role of familiarity ratings in adults' confidence judgments when estimating fraction magnitudes. *Metacognition and Learning*.

Sidney, P. G., Thompson, C. A., **Fitzsimmons, C. J.**, Taber, J. (2019). Children's and Adults' Math Attitudes are Differentiated by Number Type. *The Journal of Experimental Education*.

### Peer-reviewed conference proceedings:

Kaur, F., **Fitzsimmons, C. J.**, Iwai, Y. \*, Taber, J. M., **Thompson, C. A.**, & Godwin, K. E. (2022). Inhibition and fraction arithmetic: Insights from heat-map strategy reports. *Proceedings of the Cognitive Science Society*.

Yu, S., Kim, D., Mielicki, M., **Fitzsimmons, C.**, Thompson, C. A., & Opfer, J. E. (2020). From integers to fractions: Developing a coherent understanding of proportional magnitude. *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*.

**Fitzsimmons, C. J.**, Thompson, C. A., & Sidney, P. (2019). Confident or familiar? The role of familiarity ratings in adults' confidence judgements when estimating fraction magnitudes. *Proceedings of the 41st Annual psychology of Mathematics Education-North America Conference. St. Louis, MO*.

### Manuscripts under review:

**Fitzsimmons, C. J.**, Sidney, P. G., Mielicki, M., Schiller, L. K., Scheibe, D. A., Taber, J. M., Matthews, P. G., Waters, E. A., Coifman, K. G., Thompson, C. A. (submitted for publication, 06/2022). Worked Examples and Number Lines Improve Adults' Understanding of Health Risks as Ratios.

Scheibe, D., **Fitzsimmons, C. J.**, & Thompson, C. A. (under review). The points matter: Students' comprehension and preferences in hypothetical courses with different grading schemes.

Mielicki, M., **Fitzsimmons, C. J.**, Schiller, L., Scheibe, D., Taber, J., Sidney, P. G., Matthews, P., Waters, E., Coifman, K., & Thompson, C. A. (*invited revision under review*). Adults' health-related problem solving is facilitated by number lines, but not risk ladders and icon arrays.

Mielicki, M., Wilkey, E., Scheibe, D., **Fitzsimmons, C. J.**, Sidney, P. G., Soltanlou, M., Alves, I., Coolen, I.\*, Ansari, D., & Thompson, C. A. (under review). Task features change the relation between math anxiety and number line estimation performance with rational numbers: a large-scale online study.

**Fitzsimmons, C. J.** ^, Woodbury, L. \*^, Taber, J. M., Schiller, L., Mielicki, M. K., & Thompson C. A. (*invited revision under review*). Impact of Visual Displays on Health-Risk Estimates: Icon Arrays Can Lead to Less Precise Estimates of Hypothetical Side Effects.

**Manuscripts in prep:** Only manuscripts in a draft stage or beyond are included in this list

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**Fitzsimmons, C. J.,** Was, C., Sidney, P. G., Taber, J. M., & Thompson, C. A. (*in prep*). A confirmatory factor analysis of the math attitudes questionnaire in U.S. adults Number-specific math attitudes.

### Invited talks:

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Thompson, C. A. & **Fitzsimmons, C. J.** (2021). Full circle with TopHat's Research Methods in Psychology Textbook: Writing it, teaching with it, and researching its potential for student learning. *2021 Education Elevated Conference at Kent State University*.

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### Peer-reviewed presentations:

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**Fitzsimmons, C. J.** & Thompson, C. A. (2022, April). *Developmental differences in monitoring accuracy and cue use when estimating whole-number and fraction magnitudes*. Poster presented at the Biennial meeting of the Cognitive Development Society, Madison WI.

**Fitzsimmons C. J.,** Scheibe, D., Joynes, R., Freberg, L., Beers, M., Thompson, C. A. (2022, February). *How metacognitive feedback boosts student learning*. Talk to be given at the 2022 Top Hat Engage conference in Braselton, GA. (Conference canceled)

Mielicki, M. K., **Fitzsimmons, C. J.,** Schiller, L. K., Scheibe, D., Taber, J. M., Sidney, P. G., Matthews, P. G., Coifman, K. G., Waters, E. A., & Thompson, C. A. (2022, April). *The picture of health: Visuals and health-related math problem solving*. Paper to be presented at the 94th Annual Meeting of the Midwestern Psychological Association, Chicago, IL

Mielicki, M. K., **Fitzsimmons, C. J.,** Scheibe, D., & Thompson, C. A. (2021, November). *Misplaced underconfidence: Gender, math anxiety, and metacognitive monitoring accuracy*. Poster presented at the 62nd Annual Meeting of the Psychonomic Society, New Orleans, LA.

Scheibe, D., **Fitzsimmons, C. J.,** & Thompson, C. A. (2021, November). *I Prefer the One with the Most Points': Number Lines Facilitate Understanding of Final Course Grades*. Poster presented at the 62nd Annual Meeting of the Psychonomic Society, New Orleans, LA.

Yu, S., Mielicki, M., **Fitzsimmons, C. J.,** Thompson, C. A., & Opfer, J. (2020). *Analogy facilitates fraction learning*. Symposium talk given at the 2021 Society for Research in Child Development virtual Biennial Meeting.

**Fitzsimmons, C. J.,** Mielicki, M. K., Sidney, P. G., & Thompson, C. A., (2020). *Even when children are confident, they don't like fractions*. Talk to be given at the 2020 Graduate Research Symposium, Kent State University. (Conference canceled)

Thompson, C. A., Taber, J. M., **Fitzsimmons, C. J.,** & Sidney, P. G. (2020, April). *Strategy reports are associated with health decision-making accuracy*. Talk to be given at the annual meeting of the Midwestern Psychological Association in Chicago, IL. (Conference canceled)

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- Fitzsimmons, C. J.,** Rivers, M. R., Sidney, P. G., Dunlosky, J., & Thompson, C. A. (2019, October). *What cues do children use when judging their confidence in fraction estimation performance? Confidence judgements relate more strongly to familiarity than performance.* Poster presented at the biennial meeting of the Cognitive Development Society, Louisville, KY.
- Fitzsimmons, C. J.,** Thompson, C. A., Morris, B. A. (2019, October). *How can books improve number knowledge? Aligning spatial features of number lines with a table of contents.* Poster presented at the biennial meeting of the Cognitive Development Society, Louisville, KY.
- Sidney, P. G., Thompson, C. A., **Fitzsimmons, C.,** & Taber, J. M. (2019, October). *Children's and adults' math attitudes are differentiated by number type.* Poster presented at the biennial meeting of the Cognitive Development Society, Louisville, KY.
- Mielicki, M. K., **Fitzsimmons, C. J.,** Woodbury, L., Zhang, D., Rivera, F. D., Thompson, C. A., (2019, October). *Go figure: Effects of figural and numerical presentation on growing pattern generalization.* Poster presented at the biennial meeting of the Cognitive Development Society, Louisville, KY.
- Fitzsimmons, C. J.,** & Thompson, C. A. (2019, April). *Do adults treat equivalent fractions equally? Strategie and errors in understanding fractions.* Paper presented at the 91st Annual Midwestern Psychological Association Conference. Chicago, IL.
- Opfer, J., Kim, D., Sidney, P. G., **Fitzsimmons, C. J.,** & Thompson, C. A. (2018). *Taking Whorf to school: Does language reform improve student learning?* Poster presented at the Annual Meeting of the Cognitive Science Society, Madison, WI.
- Fitzsimmons, C.** & Hooper, K.C. (2017). *Evaluating techniques to reduce test anxiety and improve exam scores.* Poster presented at 2017 Showcase of Advancements in Research and Scholarship, The University of North Florida, Jacksonville, FL
- Fitzsimmons, C.** & Hooper, K.C. (2017). *Evaluating techniques to reduce test anxiety and improve exam scores.* Poster presented at 2017 South Eastern Psychological Association Conference (SEPA), Atlanta, GA.
- Fitzsimmons, C.,** & Hooper, K.C. (2016). *Does expressive writing improve exam scores?* Oral presentation at the Showcase of Advancements in Research and Scholarship, The University of North Florida, Jacksonville, FL.
- Fitzsimmons, C.,** & Hooper, K.C. (2016). *Does expressive writing improve exam scores?* Poster presented at the Florida Undergraduate Research Conference, University of Tampa, Tampa, FL.

## Teaching Experience:

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Spring 2021	<i>Instructor.</i> Research Methods in Psychology Kent State University Class size: 73 94% Reported teaching was <i>always</i> or <i>often</i> excellent. <sup>1a</sup> <i>Note:</i> I also led an in-class, semester-long experiment in this course funded by TopHat.
Fall 2020	<i>Instructor.</i> Research Methods in Psychology Kent State University Class size: 57 100% Reported instructor was <i>always</i> or <i>often</i> committed to helping students learn <sup>a</sup> <i>Note:</i> I also led an in-class, semester-long experiment in this course funded by TopHat.
Spring 2020	<i>Instructor.</i> Child Psychology. Kent State University Class size: 180 95% Reported teaching was <i>always</i> or <i>often</i> excellent
Fall 2019	<i>Instructor.</i> Child Psychology. Kent State University Class size: 100 97% Reported teaching was <i>always</i> or <i>often</i> excellent
2015 - 2016	<i>Teaching Assistant.</i> Behavioral Neuroscience, Human Sensory Perception, Introduction to Psychology Supervisor: Dr. Katherine Hooper Supervisor: Dr. Sarah Ainsworth
2016	<i>Distance Learning Coach.</i> Behavioral Neuroscience. Supervisor: Dr. Katherine Hooper

## Funding

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2021	<b>Graduate Student (COVID) Award.</b> <i>Impulsive Calculation: Calculating at All Costs.</i> Role: Co-PI; other Co-PIs: Daniel Scheibe, Clarissa Thompson; PI: Lauren Schiller Award: \$500 each to Fitzsimmons & Scheibe (\$1,000 total)
2021	<b>Jeanette and Louis Reuter Fellowship in Developmental Sciences.</b> <i>A competitive fellowship providing an academic year non-service appointment that allows full-time dissertation work. The fellowship includes a yearly stipend, two course releases, and covers dissertation fees. Normally, one fellowship is awarded each year.</i> Kent State University

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<sup>1</sup> In Spring 2021 and Fall 2020, teaching evaluations did not ask students about overall teaching quality. I added a custom question to teaching evaluations in Spring 2021 about teaching quality.

- 2020 **U.S. Department of Education, Institute of Education Sciences (IES).** *An Educational Intervention to Combat Whole Number Bias in Risk Perceptions in an Ambiguous Health Context: COVID-19.*  
Role: Key personnel; Responsibilities: Survey and experimental design; data collection and analysis; dissemination  
\$200,000
- 2020 **Graduate Research Award.** *Attitudes and decision making: A confirmatory factor analysis of the math attitudes questionnaire.*  
Kent State University Graduate Student Senate  
Role: PI; Co-PI: Clarissa A. Thompson  
Responsibilities: experimental design and implementation; data collection and management; data analysis; dissemination.  
\$1,633.80
- 2020 **Graduate Student Fall Research Fellowship.** *Attitudes and decision making: A confirmatory factor analysis of the math attitudes questionnaire.*  
Role: PI; Co-PI: Clarissa A. Thompson  
Responsibilities: experimental design and implementation; data collection and management; data analysis; dissemination.  
Kent State University; Psychological Sciences Applied Psychology Center  
\$1,000
- 2020 **Top Hat Efficacy Grant.** *Evaluating Top Hat research methods textbooks and student metacognitive monitoring in a semester long research methods course.*  
PI: Clarissa Thompson; Co-PIs: Laura Freberg, Robin Joynes, and Melissa Beers.  
Role: Co-PI; Responsibilities: experimental design and implementation; one of two lead instructors of course experiment will be implemented in (Fall 2020 & Spring 2021); data collection and analysis; dissemination  
\$8,000
- 2018 **Judie Falls Lasser Graduate Psychology Research award**  
Kent State University  
\$750

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### Honors and Awards:

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- 2022 **Outstanding presenter award.** *A competitive award for best presenter in one's area at the 36<sup>th</sup> Annual Graduate Research Symposium.*  
Kent State University  
\$200

- 2022      **Predocctoral Grant Submission Award.** *A competitive award for graduate students who seek substantial funding (>\$10,000) from an external agency (e.g., NSF, NIH).*  
Kent State University  
\$500
- 2021      **David B. Smith Scholarship.** *A competitive scholarship reviewed by faculty across ranks and disciplines awarded to applicants who demonstrate outstanding scholarship, teaching, and academics. Normally, one award is issued each year.*  
Kent State University  
\$500
- 2020, 2021      **Graduate Student Paper Award.** *A departmental award for recognition of achievement of the publication of research in high impact journals.*  
Kent State University  
Department of Psychological Sciences, Applied Psychology Center  
\$100
- 2022 (Spring)  
2019 (Spring  
& Fall)      Domestic Travel Award  
Kent State University  
\$500 per award
- 2016      Undergraduate Researcher of the Year Award, *A faculty nominated and committee voted award for undergraduates with a history of research involvement, academic and professional conference presentations, and high quality research production.*  
University of North Florida
- 2016      Osprey Student Scholar Award, *A faculty and student voted award given to best poster presentations at the Showcase of Osprey Advancements in Research and Scholarship,* University of North Florida
- 2012 - 2013      Persuasive Speech Scholarship, *A competitive \$1,000 scholarship funded each semester to compete in state-wide forensic speech and debate tournaments.*
- 2014 - 2016      Dean's List, University of North Florida

### **Professional Affiliations:**

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American Psychological Association, Cognitive Development Society, Psi Chi National Honor Society, Phi Kappa Phi National Honor Society, Psychology of Mathematics Education North-America (PME-NA), Society for Research in Child Development, Midwestern Psychological Association (MPA)

### **Reviews:**

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*Journal of Educational Psychology*



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**Ad Hoc Reviews:** *Developmental Psychology, Society for Research in Child Development (SRCD), Psychology of Mathematics Education North-America, Cognitive Research: Principles and Implications*

## Advanced Quantitative Training

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**Statistical software knowledge:** Proficient in: SPSS and R Programming Language. Familiar with MPlus.

Fall 2019 Structural Equation Modeling (SEM). *A semester long course taught by Dr. Judith Gere focusing on applying path models, latent factor models, and structural equation models in research. The course was taught using MPlus.*

Spring 2019 Psychometric Theory. *A semester-long course taught by Dr. Christopher Was focusing on issues of measurement and psychometrics.*

Fall 2018 Hierarchical Linear Modeling (HLM). *A semester-long course taught by Dr. Jeffery Ciesla focusing on methods for implementing HLM analyses in research. Extended this training to mixed-model analyses in R through self-instruction.*

Spring 2018 Structural Equation Modeling (SEM) workshop. *A two-day weekend workshop led by Dr. Todd Little focusing on conceptual applications of SEM, Kent State University.*

## Service

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2021 Served as a reviewer on the Kent State University Research Award review committee.

2021 & 2022 Served as a graduate student job search committee representative for a new departmental hire on two different searches.

2018 - present Graduate student senate representative for Psychological Sciences, Kent State University. An elected position through departmental graduate-student voting.

2018 – present Writer for CogBites.org, a blog dedicated to disseminating ‘bite-sized’ information about research in cognitive science.

## References:

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*Additional references available upon request.*