

Michelle K. Francis

Center for the Advanced Study of Teaching & Learning
School of Education and Human Development
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Education

2017	M.A.	Wake Forest University, Experimental Psychology	Winston-Salem, NC
2015	B.S. Minor	University of Pittsburgh, Psychology University of Pittsburgh, Applied Statistics	Pittsburgh, PA

Employment & Research Experience

MOTIVATE LAB Data Science Consultant (Supervisors: Dr. Chris Hulleman & Dr. Yoi Tibbetts)	Harrisonburg, VA <i>May 2026 – present</i>
UNIVERSITY OF VIRGINIA: School of Education and Human Development Virginia Literacy Partnerships (VLP) Senior Data Manager (PI: Dr. Emily Solari)	Charlottesville, VA <i>January 2026 - present</i>
UNIVERSITY OF VIRGINIA: School of Education and Human Development Preventative Interventions Team: Collaborative Research on Engagement & Wellbeing (PIT-CREW) Senior Data Manager (PI: Dr. Catherine Bradshaw)	Charlottesville, VA <i>2022 – 2026</i>
UNIVERSITY OF VIRGINIA: School of Education and Human Development Motivate Lab Senior Data Manager (PIs: Dr. Chris Hulleman & Dr. Yoi Tibbetts) Data Manager (PIs: Dr. Chris Hulleman & Dr. Yoi Tibbetts)	Charlottesville, VA <i>2021 – present</i> <i>2017 – 2021</i>
WAKE FOREST UNIVERSITY: Department of Psychology Graduate Student Advisee (Advisor: Dr. Lara Kammrath)	Winston-Salem, NC <i>2015 – 2017</i>
WAKE FOREST UNIVERSITY: Masicampo Social Psychology Lab Graduate Research Assistant (PI: Dr. E.J. Masicampo)	Winston-Salem, NC <i>2015 – 2017</i>
UNIVERSITY OF PITTSBURGH: Learning Research & Development Center Undergraduate Research Assistant (PIs: Dr. Timothy Nokes-Malach & Dr. Tanner Wallace)	Pittsburgh, PA <i>2014 – 2015</i>
UNIVERSITY OF PITTSBURGH: Motivated Social Cognition Lab Undergraduate Research Assistant (PI: Dr. Edward Orehek)	Pittsburgh, PA <i>2012 – 2015</i>

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Publications

Published Journal Articles

- Bradshaw, C. P., Pandey, T., Chung, E., **Francis, M. K.**, Bottiani, J. H. (2026). Examining teacher factors related to disproportionate discipline for soft offenses: An analysis examining teacher perceptions. *Psychology in the Schools*. Advance online publication. <https://doi.org/10.1002/pits.70196>
- Budavari, A. C., Bradshaw, C. P., Somerville, K., **Francis, M. K.**, Jeffrey-Pearsall, J., Pas, E. T. (2026). A research-practice partnership to scale positive behavior support: Data-based decision-making to inform the assessment of implementation fidelity. *Prevention Science*, 1-13. <https://doi.org/10.1007/s11121-026-01952-w>
- DeCoster, J., **Francis, M. K.**, Lee, G., Rubinstein, E. (2026). Systematic data validation: Improving research by improving data quality. *Practical Assessment, Research, and Evaluation*, 31(1). <https://doi.org/10.7275/pare.3586>
- Bottiani, J. H., Franco, M. P., **Francis, M. K.**, Somerville, K., Kaihoi, C. A., Pas, E. T., & Bradshaw, C. P. (2026). The R-CITY youth violence preventive intervention: Primary outcomes from a school cluster randomized controlled trial. *Prevention Science*, 27, 843-858. <https://doi.org/10.1007/s11121-026-01907-1>
- Bottiani, J., **Francis, M. K.**, & Bradshaw, C. P. (2025). Associations between culturally responsive teaching practices and student-teacher connectedness: A multi-informant examination. *Psychology in the Schools*, 62(11), 4692-4701. <https://doi.org/10.1002/pits.70032>
- Totonchi, D. A., Sutter, C. C., DeCoster, J., **Francis, M. K.**, Tibbetts, Y., Huelskoetter, E., Davis, J., Barron, K., & Hulleman, C. S. (2024). Learning contexts matter: Having value-supportive instructors moderates the efficacy of a utility-value intervention in community college math. *Motivation Science*, 11(3), 366-378. <https://doi.org/10.1080/00220973.2023.2243610>
- Totonchi, D. A., **Francis, M. K.**, Tibbetts, Y., Huelskoetter, E., Davis, J., Smith, A., Barron, K. E. & Hulleman, C. S. (2023). Improving community college students' success in math: Findings from two utility-value studies. *Journal of Experimental Education*, 1-24. <https://doi.org/10.1080/00220973.2023.2243610>
- Totonchi, D. A., Tibbetts, Y., Williams, C. L., **Francis, M. K.**, DeCoster, J., Lee, G. A., ... & Hulleman, C. S. (2023). The cost of being first: Belonging uncertainty predicts math motivation and achievement for first-generation, but not continuing-generation, students. *Learning and Individual Differences*, 107, 102365. <https://doi.org/10.1016/j.lindif.2023.102365>
- Kammrath, L. K., Armstrong III, B. F., Lane, S. P., **Francis, M. K.**, Clifton, M., McNab, K. M., & Baumgarten, O. M. (2020). What predicts who we approach for social support? Tests of the attachment figure and strong ties hypotheses. *Journal of Personality and Social Psychology*, 118(3), 481-500. <http://dx.doi.org/10.1037/pspi0000189>
- Francis, M. K.**, Wormington, S.V., & Hulleman, C. S. (2019). The costs of online learning: Examining tradeoffs between motivation and academic performance in community college math. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.02054>

Published Research Briefs

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Jeffrey-Pearsall, J., Russo-Garcia, K., Somerville, K., **Francis, M. K.**, Pas, E., & Bradshaw, C. (2025). *PBIS in Maryland's catholic schools: An implementation story from the Archdiocese of Baltimore schools*. Center on PBIS, University of Oregon.

Hulleman, C.S., Tibbetts, Y., **Francis, M. K.**, Lubin, A., Totonchi, D. A., & Barron, K. E. (2022). *Finding relevance in college math: The impact of implementing classroom utility-value interventions on student learning outcomes*. Strong Start to Finish, Education Commission of the States.

Tibbetts, Y., DeCoster, J., **Francis, M. K.**, Williams, C. L., Totonchi, D. A., Lee, G. A., & Hulleman, C. S. (2022). *Learning mindsets matter for students in corequisite courses*. Strong Start to Finish, Education Commission of the States.

Manuscripts Under Review

Davis, J., **Francis, M. K.**, Totonchi, D. A., Tibbetts, Y., Huelskoetter, E., Smith, A., & Hulleman, C. S. (under review). Costs and benefits: A comparison of motivation and academic outcomes in accelerated community college math courses.

Manuscripts in Preparation

Hulleman, C. S., Murrah, W. H., **Francis, M. K.**, Silverman, D. M., Tibbetts, Y., Moran, M. J., Lee, M., Howard, D., Totonchi, D. A., Kosovich, J. J., Phelps, J., & Siler, K. (in preparation). Will I Ever Use This? Improving Success in Community College Math with Utility-Value Interventions.

Francis, M. K., Totonchi, D. A., Davis, J., James, D., Rolf, J., Hulleman, C. S., & Tibbetts, Y. (in preparation). Practice makes proficient: Randomized controlled trial of growth-based assessments in introductory calculus courses.

Raghunathan, R., Musci, R. J., Pas, E., Budavari, A., **Francis, M. K.**, & Bradshaw, C. P. (in preparation) Applying an integrative data analysis framework to longitudinal academic standardized testing data: Implications for measurement and evaluation.

Conference Presentations

Peer-reviewed Symposia, Conference Papers, and Other Presentations:

Francis, M. K., Hulleman, C. S., Murrah, W. H., Silverman, D. M., Tibbetts, Y., Moran, M. J., Lee, M., Howard, D., Totonchi, D. A., Kosovich, J. J., Phelps, J., & Siler, K. (2026, September). *Will I ever use this? Closing equity gaps in math with utility-value interventions*. Paper to be presented at the annual meeting for the Society for Research on Educational Effectiveness, Baltimore, MD.

Davis, J., **Francis, M. K.**, Totonchi, D. A., Tibbetts, Y., Huelskoetter, E., Smith, A., & Hulleman, C. S. (2026, April). *Costs and benefits: A comparison of motivation and academic outcomes in accelerated community college math courses*. Paper presented at the annual meeting for the American Educational Research Association, Los Angeles, CA.

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- Francis, M. K.**, Totonchi, D. A., Davis, J., James, D., Rolf, J., Hulleman, C. S., & Tibbetts, Y. (2026, April). *Practice makes proficient: Randomized controlled trial of growth-based assessments in introductory calculus courses*. Roundtable session presented at the annual meeting for the American Educational Research Association, Los Angeles, CA.
- Budavari, A., **Francis, M. K.**, Pas, E., Jeffrey-Pearsall, J. L., & Bradshaw, C. B. (2025, May). *Measurement of PBIS implementation using the tiered fidelity inventory: Associations with student academic and behavioral outcomes*. Presented at the annual meeting for the Society for Prevention Research, Seattle, WA.
- Rolf, J. S., James, D., **Francis, M. K.**, Totonchi, D. A., Davis, J., Tibbetts, Y., & Hulleman, C. S. (2025, January). *Growth based assessments in first semester calculus for STEM and non-STEM majors*. Presented at the Joint Mathematics Meeting, Seattle, WA.
- Totonchi, D. A., DeCoster, J., **Francis, M. K.**, Tibbetts, Y., Huelskoetter, E., Davis, J., & Hulleman, C. S. (2024, September). *Heterogeneous effects: In what contexts does a utility-value intervention improve students' learning outcomes?* Paper presented at the annual meeting for the Society for Research on Educational Effectiveness.
- Raghunathan, R., Musci, R. J., Pas, E., Budavari, A., **Francis, M. K.**, & Bradshaw, C. P. (2024, May). *Harmonizing academic achievement data across time: An application of moderated non-linear factor analysis to state-wide achievement test data in elementary schools*. Presented at the annual meeting for the Society for Prevention Research, Washington, DC.
- Totonchi, D. A., Sutter, C. C., DeCoster, J., **Francis, M. K.**, Tibbetts, Y., Huelskoetter, E., Davis, J., Barron, K., & Hulleman, C. S. (2024, April). Learning contexts matter: Heterogeneity in utility-value intervention effects. In D. A. Totonchi and C. C. Sutter (Chairs), *Context Matters: Learning Environments Impact When Motivational Interventions are (or aren't) Effective*. Symposium presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- Bottiani, J. H., Chung, E., **Francis, M. K.**, & Bradshaw, C. P. (2024, April). *Examining student perceptions and positionality in the association between culturally sustaining practices and discipline disparities*. Roundtable session presented at the annual meeting of the American Educational Research Association, Philadelphia, PA.
- Lee, G. A., Williams, C. L., **Francis, M. K.**, Totonchi, D. A., Hulleman, C. S., & Tibbetts, Y. (2023, April). *Belonging and belonging uncertainty predicting academic motivation and achievement among community college and university students*. Paper presented at the annual meeting of the American Educational Research Association, Chicago, IL.
- Hulleman, C. S., Murrah, W., Tibbetts, C. Y., & **Francis, M. K.** (2018, November). *Using utility-value interventions to remove barriers in math courses*. Presented at the annual meeting of the American Mathematical Association of Two-Year Colleges. Orlando, FL.
- Tibbetts, Y., Hulleman, C.S., Lee, M., Silverman, D., Foley, K., Moran, M., **Francis, M. K.**, Muthoka, H., Howard, D., Wormington, S. (2018, July). *Implementing utility-value interventions in the real world*. Symposium presented at the International Conference on Motivation. Aarhus, Denmark.
- Silverman, D., Tibbetts, Y., **Francis, M. K.**, Moran, M., & Hulleman, C. S. (2018, February). *Tailor-made: Designing interventions for your context*. Paper presented at the annual meeting for Understanding Interventions. Baltimore, MD.

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Peer-Reviewed Conference Posters:

- Totonchi, D. A., **Francis, M. K.**, James, D., Rolf, J., Davis, J., Tibbetts, Y., & Hulleman, C. S. (2026, September). *Experiment testing calculus course restructuring: Growth mindset practices improve motivation and math proficiency*. Poster to be presented at the annual meeting for the Society for Research on Educational Effectiveness, Baltimore, MD.
- Soong, C., Davis, J., **Francis, M. K.**, Tibbetts, Y., & Hulleman, C. S. (2025, March). *From growth mindset to membership: Predicting belonging in community college math*. Poster presented at the Hunter Student Research Conference, University of Virginia School of Education & Human Development, Charlottesville, VA.
- Hulleman, C. S., Totonchi, D. A., Tibbetts, Y., **Francis, M. K.**, Davis, J., Huelskoetter, E., & Smith, A. (2024, June). *Motivation loss in math: Contributing factors and consequences*. Poster presented at the annual meeting of the American Society for Engineering Education, Portland, OR.
- Himmelberger, Z., Tibbetts, Y., **Francis, M. K.**, Totonchi, D. A., Hulleman, C. S. (2024, February). *Growth mindset and disability: A longitudinal analysis of college students with and without disabilities*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.
- Francis, M. K.**, Tibbetts, Y., Totonchi, D. A., DeCoster, J., Williams, C. L., Lee, G. A., & Hulleman, C. S. (2023, August). *Do my instructors think I can learn & grow? Perceived Instructor Growth Mindset Predicts Performance*. Poster presented at the annual meeting for the American Psychological Association, Washington, DC.
- Hulleman, C. S., Totonchi, D. A., **Francis, M. K.**, Huelskoetter, E., Tibbetts, Y., Davis, J. (2023, June). *Educational contexts that support motivation lead to better academic outcomes in STEM: The role of mathematics instructors in student motivation*. Poster presented at the annual meeting for the American Society for Engineering Education, Baltimore, MD.
- Totonchi, D. A., **Francis, M. K.**, Lee, G. A., Williams, C. L., DeCoster, J., Hulleman, C. S., & Tibbetts, Y. (2022, April). *Belonging uncertainty undermines students' math motivation and achievement: Differential pathways for first-generation and continuing-generation students*. Poster presented at the annual meeting for American Educational Research Association, San Diego, CA.
- Francis, M. K.**, Totonchi, D. A., Moran, M. J., Davis, J., Tibbetts, Y., Barron, K. E., & Hulleman, C. S. (2022, April). *Improving motivation and achievement in community college math: The efficacy of a utility-value intervention*. Poster presented at the annual meeting American Educational Research Association, San Diego, CA.
- Silverman, D. M., Wormington, S. V., **Francis, M. K.**, Tibbetts, Y., & Hulleman, C. S. (2020, February). *Motivational payoff: Exploring how ethnicity influences motivation and its outcomes*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, New Orleans, LA.
- Lee, M., Silverman, D. M., **Francis, M. K.**, Tibbetts, Y., Moran, M., Wormington, S. V., & Hulleman, C. (2018, May). *The implementation of utility-value interventions with community college students*. Poster presented at the annual conference of Undergraduate Student Opportunities in Academic Research. Charlottesville, VA.
- Francis, M. K.**, Tibbetts, Y., Murrah, W., Phelps, J., Silverman, D., Moran, M., Kosovich, J., & Hulleman, C. S. (2018, February). *Using a utility-value intervention to remove barriers in gateway math courses*. Poster presented at the annual meeting for Understanding Interventions. Baltimore, MD.

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- Francis, M. K.,** Robinson, P. & Kammrath, L. K. (2017, January). *Social supporter selection across issue-type: Implications for formal supporters*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Antonio, TX.
- Francis, M. K.** & Kammrath, L. K. (2016, May). *Coping goals and social supporter selection: A matching hypothesis*. Poster presented at the annual meeting of the Association for Psychological Science, Chicago, IL.
- Francis, M. K.** & Kammrath, L. K. (2016, April). *Coping goals and social supporter selection: A matching hypothesis*. Poster presented at the annual First Year Graduate Students' Research Symposium, Wake Forest University, Winston-Salem, NC.
- Roussos, G., **Francis, M. K.**, & Orehek, E. (2014, February). *Critical thinking increases stereotyping: Assessment regulatory mode and comparisons of social groups*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, Austin, TX.
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Invited Talks and Workshops

- Francis, M. K.** (2025, September). *Improvement science in mathematics: Assessing growth-based assessments*. Invited professional development workshop delivered in-person for math faculty in their Talks About Teaching series, University of Virginia, Charlottesville, VA.
- Hulleman, C. S., **Francis, M. K.**, Tibbetts, Y., Totonchi, D. A., Davis, J., Huelskoetter, E., & Smith, A (2024, May). *Students who believe their instructors have a growth mindset about them also have higher math motivation and grades, especially so for racially minoritized students*. Invited lightning talk at NSF PI Meeting, Washington, DC.
- Hulleman, C. S., Barron, K. E., **Francis, M. K.**, Davis, J., & Cilali, B. (2020, November). *NSF RAPID: Role of Faculty Mindset Beliefs During the Transition to Online Education*. Invited presentation to the virtual NSF ECR Core PI Meeting.
- Francis, M. K.** (2016, January). *Dispositional coping orientation and social supporter selection: A workshop*. Presented at the Seminar in Self-Regulation, Wake Forest University, Winston-Salem, NC.
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Service & Other Work Experience

UNIVERSITY OF VIRGINIA: School of Education and Human Development	Charlottesville, VA
Staff Advisory Council – Ex-Officio Member	2024 – present
CASTL Data Work Group – Admin Member	2024 – 2025
Staff Advisory Council – Chair	2023 – 2024
Staff Advisory Council – Secretary	2022 – 2023
WAKE FOREST UNIVERSITY: Department of Psychology	Winston-Salem, NC
Graduate Student Liaison for Departmental Review Committee	2016 – 2017
WAKE FOREST UNIVERSITY: Department of Psychology	Winston-Salem, NC
Student Coordinator for Seminar in Self-Regulation/Analysis & Measurement	2016 – 2017

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WAKE FOREST UNIVERSITY: Student Athlete Services
Academic Tutor (Psychology)

Winston-Salem, NC
2015 – 2017

WAKE FOREST UNIVERSITY: Department of Psychology
Research Assistant Coordinator for Dr. EJ Masicampo

Winston-Salem, NC
2015 – 2017

UNIVERSITY OF PITTSBURGH: Department of Psychology
Research Assistant Coordinator for Dr. Ed Orehek

Pittsburgh, PA
2013 – 2015

Honors & Awards

2017	Gordon A. Melson Graduate Student Excellence Award by the Wake Forest University Graduate School of Arts & Sciences
2017	Travel Grant for Society for Social Psychology and Personality Conference 2017 in San Antonio, TX – Wake Forest University Department of Psychology
2017	Travel Grant for Society for Social Psychology and Personality Conference 2017 in San Antonio, TX – Wake Forest University Graduate School of Arts & Sciences
2016 – 2017	Graduate Research Assistantship full tuition and stipend –John Templeton Foundation Research Grant (PI: Dr. E.J. Masicampo)
2016	Summer Research Assistantship stipend – John Templeton Foundation Research Grant (PI: Dr. E.J. Masicampo)
2016	Summer Research Support – Wake Forest University Graduate School of Arts & Sciences
2016	Travel Grant for Association for Psychological Science 2016 in Chicago, IL – Wake Forest University Department of Psychology
2015 – 2016	Graduate Research Assistantship full tuition and stipend – John Templeton Foundation Research Grant (PI: Dr. E.J. Masicampo)
2014	Summer Undergraduate Research Award – Office of Undergraduate Research at the University of Pittsburgh

Skills & Certifications

- CITI certified for *Social & Behavioral Responsible Conduct of Research* and *Conflicts of Interest*
- Expertise in R & RMarkdown statistical and reporting packages
- Proficiency in SPSS, SAS, and Mplus statistical packages
- Proficiency in Google Workspace and Microsoft Office
- Proficiency in Qualtrics, Google Forms, MediaLab survey building applications
- Proficiency in Canva online graphic design tool

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- Basic knowledge of Microsoft PowerBI and Tableau interactive data visualization software
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Additional Trainings & Workshops

2026	Using Machine Learning to Analyze SLDS Datasets – AERA-ICPSR PEERS Data Hub (Tracy Sweet)
2026	Studying Math Pathways with Higher Education State Administrative Data: Opportunities and Challenges – AERA-ICPSR PEERS Data Hub (Yuxin Lin & Florence Ran)
2025	Data Science & Education Workshop: New Possibilities, Practices and Perspectives – UVA School of Education and UVA School of Data Science
2024	A Causal Investigation of Heterogeneity in Mediation Mechanisms: Methods and Software – American Educational Research Association (Xu Qin)
2024	Graphical Models for Causal Inference (Peter Steiner) – UVA School of Education and Human Development
2023	On the Design, Planning, and Presentation of Monte Carlo Simulations – Society for Research on Educational Effectiveness (Luke Miratrix & James Pustejovsky)
2022	Mixture Modeling and Latent Class Analysis – CenterStat (Dan Bauer)
2021	Designing Adequately Powered Cluster and Multisite Randomized Trials to Detect Main Effects, Moderation, and Mediation – American Educational Research Association
2021	Quantitative Critical Race Theory (“QuantCrit”) – Society for Research on Educational Effectiveness (Wendy Castillo)
2021	Structuring and Sustaining a More Inclusive Classroom Parts I and II – UVA Center for Teaching Excellence (Rose Buckelew & Cortney McEniry)
2019	Basics of Data Visualization and Intro to Tableau - UVA Library (Clay Ford)
2018	Bayesian Data Analysis in R – UVA Library (Clay Ford)
2018	Text Analysis with R Parts I and II – UVA Library (Michele Claiborn)
2018	Scaling Learning Mindsets in Higher Education – UVA School of Education & Human Development (Motivate Lab)
2018	Structural Equation Modeling – Curran-Bauer Analytics (Dan Bauer & Patrick Curran)
2018	Missing Data – UVA School of Education & Human Development (Craig Enders)
2017	Data Visualization in R with ggplot2 – UVA Library (Clay Ford)

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Professional Affiliations

- American Educational Research Association (AERA); Division C (Learning and Instruction) and Motivation and Learning Special Interest Group (Motivation SIG)
- Society for Research on Educational Effectiveness (SREE)
- American Psychological Association (APA); Division 15 (Educational Psychology)
- Society for Prevention Research (SPR)