

Michael W. Asher

Carnegie Mellon University | Human-Computer Interaction Institute
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Education

- Ph.D. **University of Wisconsin-Madison**, Psychology, 2023
Advisor: Judith Harackiewicz
- M.S. **University of Wisconsin-Madison**, Psychology, 2019
- M.S. **Hunter College**, Education (Certified for Grades 7-12 in New York State), 2015
- B.A. **Duke University**, Psychology, 2013

Academic Appointments

- 2025 - Present **Project Scientist**, Human-Computer Interaction Institute, Carnegie Mellon University
- 2023 - 2025 **Postdoctoral Fellow**, Human-Computer Interaction Institute, Carnegie Mellon University

Research Funding

- 2025 - 2027 **GenAI for Education - Tools R&D Seed Grant**. Carnegie Mellon University.
"Supporting Mastery-Based Testing with GenAI Feedback" (\$150,000); Co-PI

Awards and Fellowships

- 2023 UW-Psychology Award for Outstanding Teaching Service to the Department (\$1,500)
- 2017 - 2020 Research Fellowship, Institute for Education Sciences Interdisciplinary Training Program, UW-Madison (\$178,000)
- 2013 - 2015 AmeriCorps Education Award (\$10,000)
- 2009 - 2013 Angier B. Duke Merit Scholarship, Duke University (\$200,000)

Publications

Journal Articles

- Asher, M. W.**, Hartman, J. D., Blaser, M., Eichler, J., Carvalho, P. F. (2025). The promise of mastery-based testing for promoting student engagement, self-regulated learning, and

performance in gateway STEM courses. *Computers & Education*.
<https://doi.org/10.1016/j.compedu.2025.105387>

Asher, M. W., Hecht, C. A., Harackiewicz, J. M., Curtin, J. J., Parrisius, C., & Nagengast, B. (2025). Why elusive expectancy × value interactions may be critical for theory and intervention: A simulated power analysis. *Motivation Science*.
<https://doi.org/10.1037/mot0000394>

Asher, M. W., Sana, F., Koedinger, K. R., Carvalho, P. F. (2025). Practice with feedback vs. lecture: Consequences for learning, efficiency, and motivation. *Journal of Applied Research in Memory and Cognition*. <https://doi.org/10.1037/mac0000205>

Asher, M. W., & Harackiewicz, J. M. (2024). Using utility value and choice to promote interest in statistics: Effects on initial and deeper phases of interest development. *Journal of Educational Psychology*. <https://doi.org/10.1037/edu0000921>

Huang, Y., Dang, S., Elizabeth Richey, J., Chhabra, P., Thomas, D. R., **Asher, M. W.**, Lobczowski, N. G., McLaughlin, E. A., Harackiewicz, J. M., Aleven, V., & Koedinger, K. R. (2023). Using latent variable models to make gaming-the-system detection robust to context variations. *User Modeling and User-Adapted Interaction*, 33(5), 1211–1257.
<https://doi.org/10.1007/s11257-023-09362-1>

Harackiewicz, J. M., Hecht, C. A., **Asher, M. W.**, Beymer, P. N., Lamont, L. B., Else-Quest, N. M., Priniski, S. J., Smith, J. L., Hyde, J. S., & Thoman, D. B. (2023). A prosocial value intervention in gateway STEM courses. *Journal of Personality and Social Psychology*. <https://doi.org/10.1037/pspa0000356>

Asher, M. W., Harackiewicz, J. M., Beymer, P. N., Hecht, C. A., Lamont, L. B., Else-Quest, N. M., Priniski, S. J., Thoman, D. B., Hyde, J. S., & Smith, J. L. (2023). Utility-value intervention promotes persistence and diversity in STEM. *Proceedings of the National Academy of Sciences*. <https://doi.org/10.1073/pnas.2300463120>

French, A. M., Else-Quest, N. M., **Asher, M. W.**, Thoman, D. B., Smith, J. L., Hyde, J. S., & Harackiewicz, J. M. (2023). An intersectional application of expectancy-value theory in an undergraduate chemistry course. *Psychology of Women Quarterly*.
<https://doi.org/10.1177/03616843231153390>

Harackiewicz, J. M., & **Asher, M. W.** (2023). The utility value of a broad, comprehensive theory of motivation. *Motivation Science*, 9(1), 13–14.
<https://psycnet.apa.org/doi/10.1037/mot0000279>

Rosenzweig, E. Q., Hecht, C. A., Priniski, S. J., Canning, E. A., **Asher, M. W.**, Tibbetts, Y., Hyde, J. S., & Harackiewicz, J. M. (2021). Inside the STEM pipeline: Changes in students' biomedical career plans across the college years. *Science Advances*, 7(18).
<https://doi.org/10.1126/sciadv.abe0985>

Rosenzweig, E. Q., Harackiewicz, J. M., Hecht, C. A., Priniski, S. J., Canning, E. A., Tibbetts, Y., **Asher, M. W.**, & Hyde, J. S. (2021). College students' reasons for leaving

biomedical fields: Disenchantment with biomedicine or attraction to other fields? *Journal of Educational Psychology*, 113, 351–369. <https://doi.org/10.1037/edu0000456>

Toner, K., Leary, M. R., **Asher, M. W.**, & Jongman-Sereno, K. P. (2013). Feeling superior is a bipartisan issue: Extremity (not direction) of political views predicts perceived belief superiority. *Psychological Science*, 24, 2454–2462.
<https://doi.org/10.1177/0956797613494848>

Preprints/Under Review

Asher, M. W., Carvalho, P. F. (under review). Conditions for effective learning without upfront instruction: How practice with feedback supports memory, generalization, motivation, and metacognition.

Asher, M. W., Kwon, C., Carvalho, P. F., Ogan, A. (under review). Student retention strategies in distance education: Evaluating a paywall and scholarships in a Ugandan mobile learning course.

Carvalho, P., F., **Asher, M. W.**, Sana, F., Koedinger, K. R. (under review). Skip the reading assignment: Effective and efficient learning with only practice and feedback.

Peer-Reviewed Conference Proceedings

Asher, M. W., Kwon, C., Stamper, J., Ogan, A., & Carvalho, P. F. (2025). Validating a new approach for measuring student engagement in remote, low-infrastructure learning environments. *Proceedings of the 2025 ACM Conference on Learning at Scale*.
<https://doi.org/10.1145/3698205.3729556> *Best Paper Award*

Gold, G., **Asher, M. W.**, To Honor or Dishonor Student Choices? The Impact of Self-Regulation on Instructional Methods and Learning Outcomes. *Proceedings of the Annual Meeting of the Cognitive Society*, 47.
<https://escholarship.org/uc/item/0p70c7mn>

Asher, M. W., Sana, F., Koedinger K. R., Carvalho, P. F. (2024). Students Can Learn More Efficiently When Lectures Are Replaced with Practice Opportunities and Feedback. *Proceedings of the Annual Meeting of the Cognitive Science Society*, 46.
<https://escholarship.org/uc/item/7p16r9xk>

Huang, Y., Lobczowski, N. G., Richey, J. E., McLaughlin, E. A., **Asher, M. W.**, Harackiewicz, J. M., Aleven, V., & Koedinger, K. R. (2021). A general multi-method approach to data-driven redesign of tutoring systems. *LAK21: 11th International Learning Analytics and Knowledge Conference*, 161–172. <https://doi.org/10.1145/3448139.3448155>

Book Chapters

Asher, M. W., Harackiewicz, J.M. (in press). Personalizing to promote relevance. In M. L. Bernacki, & C. Walkington (Eds.), *Handbook of personalized learning (Part II)*. New York, NY: Routledge.

Lobczowski, N. G., **Asher, M. W.**, Richey, J. E., Huang, Y., Hecht, C., Bhardwaj, S., Aleven, V., Koedinger, K., & Harackiewicz, J. (2022). Designing a motivation intervention for students learning algebra online. In M. J. Spector, B.B. Lockee, B. B., & M. D. Childress (Eds.), *Learning, design, and technology* (pp. 1–34). Springer International Publishing. https://doi.org/10.1007/978-3-319-17727-4_185-1

Conference Presentations

Asher, M. W., Kwon, C., Stamper, J., Ogan, A., & Carvalho, P. F. (July, 2025). *Validating a new approach for measuring student engagement in remote, low-infrastructure learning environments*. Paper presented at the 2025 Learning @ Scale Conference, Palermo, Italy.

Asher, M. W., Carvalho, P. F., Murphy, A., Norberg, K., Fancsali, S. E., Koedinger, K. R., & Harackiewicz, J. M. (2025, April). *Causes of heterogeneity in a nationwide, online utility value intervention*. Paper presented at the 2025 Annual Meeting of the American Educational Research Association, Denver, CO.

Asher, M. W., Sana, F., Koedinger K. R., Carvalho, P. F. (2024, November). *Practice with Feedback vs. Lecture: Consequences for Learning, Efficiency, and Motivation*. Paper to be presented at the 2024 Annual Meeting of the Psychonomic Society, New York, NY.

Asher, M. W., Sana, F., Koedinger K. R., Carvalho, P. F. (2024, July). *Students can learn more efficiently when lectures are replaced with practice opportunities and feedback*. Poster presented at the 2024 Annual Meeting of the Cognitive Science Society, Rotterdam, Netherlands.

Asher, M. W., Murphy, A., Ritter, S., Fancsali, S. E., Koedinger K. R., Harackiewicz J. M. (2024, April). *Effects of a utility value intervention in an online math tutor*. Paper presented at the 2024 Annual Meeting of the American Educational Research Association, Philadelphia, PA.

Asher, M. W., & Harackiewicz, J. M. (2023, April). *Using utility value information and choice to promote interest in STEM: Effects and mechanisms*. Poster Presented at the 2023 Annual Meeting of the American Educational Research Association, Chicago, IL.

Asher, M. W., Harackiewicz, J. M. (2022, July). *Long term effects of utility value interventions in introductory chemistry*. Paper presented at the 2022 Gender & STEM conference. Munich, Germany.

Asher, M. W., Murphy, A., Ritter, S., Fancsali, S., Pavelko, M., McLaughlin, E. A., Chine, D. R., Chhabra, P., Lobczowski, N. G., Aleven, V., Koedinger, K. R., Harackiewicz, J. M. (2022, July). *Designing and evaluating a utility value intervention for an online algebra tutor*. Poster presented at the 2022 Gender & STEM conference. Munich, Germany.

Lobczowski, N. G., Richey, J. E., **Asher, M. W.**, Harackiewicz, J. M, & Koedinger, K. (2021, May). *Students' use of math in different contexts: An exploration of responses to a*

utility-value intervention. Paper presented at the 2021 Annual Meeting of the American Education Research Association. Virtual.

Asher, M. W., Lobczowski, N. G., Richey, J. E., Hecht, C. A., Huang, Y., Aleven, V., Koedinger, K., & Harackiewicz, J. M. (2020, August). *Designing a Utility-value Intervention for Students Learning Algebra Online*. Paper was to be presented at 2020 EARLI Sig 8 and Sig 16 Joint Conference on Motivation/Emotion and Metacognition. Dresden, Germany (Conference cancelled due to COVID-19).

Asher, M. W., Rosenzweig, E.Q., & Harackiewicz, J.M. (2020, May). *Success is subjective: Progress reflection may increase students' perceived competence as they learn math*. Poster was to be presented at the 2020 Association for Psychological Science Annual Meeting. Chicago, IL (Conference Canceled due to COVID-19).

Rosenzweig, E. Q., Harackiewicz, J.M., Hecht, C., Priniski, S. J. & **Asher, M. W.** (2020, April). *Pushed out or pulled away: College students' reasons for leaving biomedical fields*. Paper was to be presented at the 2020 Annual Meeting of the American Education Research Association. San Francisco, CA (Conference Canceled due to COVID-19).

Asher, M. W., Rosenzweig, E.Q. & Harackiewicz, J.M. (2020, April). *Using self-persuasion to increase perceived competence*. Paper was to be presented at the 2020 Annual Meeting of the American Education Research Association. San Francisco, CA (Conference Canceled due to COVID-19).

Asher, M. W., Rosenzweig, E. Q., & Harackiewicz, J. M. (2020, February). *Using self-persuasion to increase perceived competence*. Poster presented at the 2020 Annual Meeting of the Society for Personality and Social Psychology. New Orleans, LA.

Asher. M. W., Hecht, C. A., & Harackeiwicz, J.M. (2019, April). *Can a utility value intervention improve outcomes for women in math?* Poster presented at the 2019 Annual Meeting of the American Education Research Association. Toronto, ON.

Asher. M. W., Hecht, C.A., & Harackeiwicz, J.M. (2019, February). *Can a utility value intervention improve outcomes for women in math?* Data Blitz presented at the 2019 Annual Meeting of the Society for Personality and Social Psychology. Portland, OR.

Hecht, C. A., Priniski, S. J., Hall, G. J., **Asher, M. W.**, Tibbetts, Y., Harackiewicz, J. M. (2019, April). *Customizing a social-belonging intervention for two-year college students*. Poster presented at the 2019 Annual Meeting for the American Educational Research Association. Toronto, Canada.

Rosenzweig, E. Q., Harackiewicz, J. M., Priniski, S. J., Hecht, C. A., & **Asher, M. W.** (2019, February). *Using choices to enhance the effectiveness of utility-value interventions*. Poster presented at the 2019 Annual Meeting of the Society of Personality and Social Psychology. Portland, OR.

Asher, M. W., Lattanner, M.R., & Richman, L.S. (2013, April). *The effects of power on the comprehension of medical instructions*. Poster presented at Duke University's Graduation with Distinction Symposium. Durham, NC.

Lattanner, M.R., **Asher, M. W.**, & Richman, L.S. (2013, January). *Effect of low power on reading comprehension*. Poster presented at the 2013 Annual Meeting of the Society for Personality and Social Psychology. New Orleans, LA.

Horvath, S., & **Asher, M.W.** (2012, January). *Waiting for revenge, power, excitement, and admiration: The influence of narcissism, gender, and relevance on delay discounting*. Poster presented at the 2012 Annual Meeting of the Society for Personality and Social Psychology. San Diego, CA.

Teaching

University of Wisconsin-Madison

- 2023 **Instructor of Record: Statistics for the Behavioral Sciences II, Psychology 710.** A graduate level statistics course, required for second-semester psychology Ph.D. students and for students enrolled in a “Data Science in Human Behavior” master’s degree program. Topics included power analysis, analysis of non-independent data, by-subject and by-item random effects structures, contrast coding and analysis, and generalized linear models.
- 2021 **Graduate Teaching Assistant: Statistics for the Behavioral Sciences II, Psychology 710.** See above for course description.
- 2020 **Graduate Teaching Assistant: Statistics for the Behavioral Sciences I, Psychology 610.** A graduate level statistics course, required for first-semester psychology Ph.D. students. Topics for the course included multiple regression, mediation, moderation, reliability, and validity.
- 2019, 2020 **Graduate Teaching Assistant: Social Psychology, Psychology 456.** An undergraduate survey course, introducing major theories and research in the field of social psychology.
- 2018 - 2023 **Lab Group Leader: Motivation Research, Psychology 621.** An undergraduate research course. Topics included developing and conducting randomized laboratory experiments.

Mott Hall V High School, Bronx, New York City Dept. of Education

- 2013 - 2017 **Teacher: High School Mathematics and Advanced Placement Psychology.** Tenured by the New York City Department of Education in 2016. Taught AP Psychology, Geometry, Algebra II/Trigonometry, Computer Science, and a problem-solving math class to students with and without learning disabilities. Taught Algebra to students in self-contained special education classrooms.

Teach for America

- 2013 - 2015 **Corps Member.** Participated in summer training program to develop teaching skills and knowledge; participated in ongoing professional development during first two years teaching at Mott Hall V High School.

Undergraduate Honors Thesis Mentoring

- 2022 - 2023 **Taiming Xue.** "The Role of Prosocial Values in Undergraduate Students' Academic and Career Choices in STEM"
- 2020 - 2021 **Ruofan Li.** "Re-examining Different Measures of Socioeconomic Status and Their Effects on College Students' Academic Experiences"
- 2020 - 2021 **Kierin Barnett.** "Promoting Perceived Usefulness in Statistics: An Online Laboratory Study"
- 2020 - 2021 **Luke Rutten.** "Measuring and Affecting Disengagement in a Virtual Tutor"
- 2019 - 2020 **Aaron Barenbaum.** "Investigating the Social Factors that Influence Office Hours Attendance"
- 2019 - 2020 **Craig Lundeen.** "Linguistic Analysis of a Prosocial Utility Value Intervention"

Service and Participation in Departmental and University Life

- 2024 - 2025 Mentor: LearnLab Summer School, Educational Data Mining Track, Carnegie Mellon University
- 2024 - 2025 Mentor: NSF Research Experiences for Undergraduates (REU) Program, Carnegie Mellon University
- 2019 - 2022 Graduate student representative: Board of Visitors, UW-Madison Psychology Department.

Ad Hoc Journal and Conference Reviewer: *Perspectives on Psychological Science; Learning and Instruction; Motivation Science; Educational Psychology Review; Journal of Educational Psychology; Contemporary Educational Psychology; Journal for STEM Education Research; Journal of Chemical Education; Cognitive Science Society (CogSci); Artificial Intelligence in Education (AIED); American Educational Research Association (AERA); npj Science of Learning*

Grant Reviewer: *National Science Foundation (ad hoc, 2024; panel, 2025)*

Invited On-Campus Presentations

"Evaluating Automated Feedback for Open-Ended Questions in Statistics" (2025, May). Presented for the LearnLab Corporate Partners Series, Carnegie Mellon University.

“Communicating the Usefulness of Algebra, at Scale, in an Online Math Tutor” (2023, December). Presented for the Learning Science and Engineering Seminar Series, Carnegie Mellon University.

“Effects of a Utility Value Intervention in Chemistry 103: An Update 4.5 Years Later?” (2023, March). Presented for “Teacher’s Tea” in the Chemistry Department, UW-Madison.

“Can utility value interventions in chemistry improve persistence and promote diversity in STEM fields?” (2023, March). Presented for the Interdisciplinary Training Program’s Seminar Series, UW-Madison.

“Can utility value interventions in chemistry improve persistence and promote diversity in STEM fields?” (2022, November). Presented for the Social Area Brown Bag Series, UW-Madison.

“Are elusive interactions important? Simulation studies of expectancy x value interactions, with implications for theory and intervention” (2022, April). Presented for the Social Area Brown Bag Series, UW-Madison.

“Creating an engaging conference poster” (2022, January; 2021, February). Presented for Psychology 686: Senior Thesis Seminar in Psychology, UW-Madison.

Technical Skills and Coursework in Research Methods and Statistics

Statistical Methods: regression, generalized linear models, and linear mixed effects models (with both frequentist and Bayesian frameworks); structural equation models, monte carlo simulation, machine learning techniques, fixed- and random-effects meta-analysis.

Software and Programming Proficiencies: R, RMarkdown, SPSS, MPLUS, JavaScript, Microsoft Office, Qualtrics, GitHub

Coursework in Research Methods and Statistics: Statistical Analysis of Psychological Experiments: Psych 610; Design and Analysis of Psychological Experiments: Psych 710; Introduction to Applied Machine Learning: Psych 711; Computing Tools for Data Analytics: Stat 679; Meta-Analysis: Ed Psych 711; Structural Equation Modeling: Ed Psych 960; Hierarchical Linear Modeling: Ed Psych 964; Bayesian Statistics for Education Research: Ed Psych 711; Randomized Trials to Inform Education Policy: ELPA 940.