

Kylie Gorney

460 Erickson Hall
Michigan State University
East Lansing, MI 48824
Email: kgorney@msu.edu

Education

- Ph.D., Educational Psychology (Quantitative Methods) 2023
University of Wisconsin-Madison
- M.S., Educational Psychology (Quantitative Methods) 2021
University of Wisconsin-Madison
- B.S., Psychology 2018
University of Wisconsin-Stout

Academic Positions

- Assistant Professor, Measurement and Quantitative Methods 2023 – Present
Michigan State University

Honors and Awards

- Harold Gulliksen Psychometric Research Fellow 2022 – 2023
Educational Testing Service
- Outstanding Student Researcher of the Year 2017
College of Education, Hospitality, Health, and Human Sciences, University of Wisconsin-Stout

Publications

A. Peer-Reviewed Journal Articles

1. **Gorney, K.**, Sinharay, S., & Liu, X. (2023). Using item scores and response times in person-fit assessment. *British Journal of Mathematical and Statistical Psychology*. Advance online publication. <https://doi.org/10.1111/bmsp.12320>
2. **Gorney, K.**, Wollack, J. A., & Bolt, D. M. (2023). Using item scores and distractors to detect test speededness. *Applied Psychological Measurement*, 47(5–6), 386–401. <https://doi.org/10.1177/01466216231182149>
3. **Gorney, K.**, Wollack, J. A., Sinharay, S., & Eckerly, C. (2023). Using item scores and distractors to detect item compromise and preknowledge. *Journal of Educational and Behavioral Statistics*, 48(5), 636–660. <https://doi.org/10.3102/10769986231159923>
4. **Gorney, K.**, & Wollack, J. A. (2023). Using item scores and distractors in person-fit assessment. *Journal of Educational Measurement*, 60(1), 3–27. <https://doi.org/10.1111/jedm.12345>

5. **Gorney, K.**, & Wollack, J. A. (2022). Does item format affect test security? *Practical Assessment, Research, and Evaluation*, 27, Article 15. <https://doi.org/10.7275/73vr-rc69>
6. **Gorney, K.**, & Wollack, J. A. (2022). Two new models for item preknowledge. *Applied Psychological Measurement*, 46(6), 447–461. <https://doi.org/10.1177/01466216221108130>
7. **Gorney, K.**, & Wollack, J. A. (2022). Generating models for item preknowledge. *Journal of Educational Measurement*, 59(1), 22–42. <https://doi.org/10.1111/jedm.12309>

B. Conference Proceedings

1. Whitaker, D., & **Gorney, K.** (2017). Surveys of attitudes about statistics: An analysis of items. In E. Galindo & J. Newton (Eds.), *Proceedings of the 39th annual meeting of the North American Chapter of the International Group for the Psychology of Mathematics Education* (p. 1075). Hoosier Association of Mathematics Teacher Educators.

C. Technical Reports

1. **Gorney, K.**, & Raymond, M. (2020). *An investigation of gender differences in the 2019 Practice Analysis Survey*. National Conference of Bar Examiners Testing Task Force.
2. Raymond, M., & **Gorney, K.** (2020). *Investigation of differences in minority and majority group responses to the 2019 Practice Analysis Survey*. National Conference of Bar Examiners Testing Task Force.

D. Working Papers

1. **Gorney, K.**, Lee, C., & Chen, J. (in prep). A score-based method for detecting item compromise and preknowledge in computerized adaptive testing.
2. **Gorney, K.**, & Sinharay, S. (in prep). Added value of subscores for tests with polytomous items.
3. Chen, J., **Gorney, K.**, & Bay, L. (under review). The impact of generating model on preknowledge detection in CAT.
4. Eckerly, C., Babcock, B., & **Gorney, K.** (under review). Efficient answer similarity analysis with dichotomous scores using lookup tables.
5. **Gorney, K.** (under review). Three new corrections for standardized person-fit statistics for tests with polytomous items.
6. **Gorney, K.**, Sinharay, S., & Eckerly, C. (under review). Efficient corrections for standardized person-fit statistics.
7. **Gorney, K.**, & Wollack, J. A. (under review). Using response times in answer similarity analysis.

Presentations

A. Invited Presentations

1. Wollack, J. A., **Gorney, K.**, & Sarac, M. (2023, March). *Preventing, detecting, and mitigating cheating on tests* [Invited presentation]. Department of Educational Psychology, University of Wisconsin-Madison, Madison, WI, United States.

2. **Gorney, K.** (2023, February). *Using item scores and distractors to detect aberrant behavior* [Invited presentation]. CanAm Online Symposium, Virtual.

B. Conference Presentations

1. **Gorney, K.**, Sinharay, S., & Eckerly, C. (2023, December). *Efficient corrections for standardized person-fit statistics* [Paper presentation]. Computational and Methodological Statistics, Berlin, Germany.
2. **Gorney, K.**, & Deng, J. (2023, November). *aberrance: An R package for detecting aberrance in test data* [Paper presentation]. Conference on Test Security, Virtual.
3. **Gorney, K.**, Lee, C., & Chen, J. (2023, November). *A score-based method for detecting item compromise and preknowledge in computerized adaptive testing* [Paper presentation]. Conference on Test Security, Virtual.
4. Chen, J., **Gorney, K.**, & Bay, L. (2023, July). *The impact of generating model on preknowledge detection in CAT* [Poster presentation]. International Meeting of the Psychometric Society, College Park, MD, United States.
5. **Gorney, K.**, Sinharay, S., & Liu, X. (2023, July). *Using item scores and response times in person-fit assessment* [Paper presentation]. International Meeting of the Psychometric Society, College Park, MD, United States.
6. Eckerly, C., Babcock, B., & **Gorney, K.** (2023, April). *Efficient answer similarity analysis using dichotomous scores* [Paper presentation]. National Council on Measurement in Education Annual Meeting, Chicago, IL, United States.
7. **Gorney, K.**, Wollack, J. A., Sinharay, S., & Eckerly, C. (2023, April). *Using item scores and distractors to detect item compromise and preknowledge* [Paper presentation]. National Council on Measurement in Education Annual Meeting, Chicago, IL, United States.
8. **Gorney, K.**, Liu, X., & Sinharay, S. (2022, November). *Using item scores and response times in person-fit assessment* [Paper presentation]. Ideas in Testing Research Seminar, Chicago, IL, United States.
9. Chen, J., **Gorney, K.**, & Bay, L. (2022, October). *Item preknowledge detection in CAT with the impact of preknowledge varying across persons and/or items* [Poster presentation]. Conference on Test Security, Princeton, NJ, United States.
10. Eckerly, C., Babcock, B., **Gorney, K.**, & Aanjaneya, M. (2022, October). *Efficient answer similarity analysis with dichotomous scores using lookup tables and bitwise operations* [Paper presentation]. Conference on Test Security, Princeton, NJ, United States.
11. **Gorney, K.**, Wollack, J. A., Sinharay, S., & Eckerly, C. (2022, October). *Using item scores and distractors to detect item compromise and preknowledge* [Paper presentation]. Conference on Test Security, Princeton, NJ, United States.
12. **Gorney, K.**, & Wollack, J. A. (2022, July). *Using item scores and distractors to detect test speededness* [Paper presentation]. International Meeting of the Psychometric Society, Bologna, Italy.
13. **Gorney, K.**, & Wollack, J. A. (2022, April). *Two new models for item preknowledge* [Paper presentation]. National Council on Measurement in Education Annual Meeting, San Diego, CA, United States.

14. Zhang, M., & **Gorney, K.** (2022, April). *Computer-based testing in pandemic mode: What response times may tell us* [Paper presentation]. National Council on Measurement in Education Annual Meeting, San Diego, CA, United States.
15. **Gorney, K.**, & Mroch, A. A. (2021, July). *Rasch model sample size requirements under an IRT pre-equating design* [Poster presentation]. International Meeting of the Psychometric Society, Virtual.
16. **Gorney, K.** (2021, June). *A comparison of anchor lengths and item selection methods in small-sample equating* [Paper presentation]. National Council on Measurement in Education Annual Meeting, Virtual.
17. **Gorney, K.** (2021, June). *When to use synthetic linking functions in small-sample equating* [Paper presentation]. National Council on Measurement in Education Annual Meeting, Virtual.
18. **Gorney, K.**, & Wollack, J. A. (2021, June). *Does item format affect test security?* [Paper presentation]. National Council on Measurement in Education Annual Meeting, Virtual.
19. **Gorney, K.**, & Wollack, J. A. (2020, July). *A Bayesian analysis of item format and test security* [Poster presentation]. International Meeting of the Psychometric Society, Virtual.
20. **Gorney, K.**, & Wollack, J. A. (2019, November). *The impact of item format on test security* [Paper presentation]. Ideas in Testing Research Seminar, Chicago, IL, United States.
21. Mensink, M. C., **Gorney, K.**, Fiorillo, M., Winter, C., Achtemeier, J. D., & Lysne, P. (2018, July). *Emotional responses during online and offline reading tasks for seductive scientific texts* [Poster presentation]. Society for Text & Discourse Annual Meeting, Brighton, United Kingdom.
22. Whitaker, D., & **Gorney, K.** (2017, October). *Surveys of attitudes about statistics: An analysis of items* [Poster presentation]. North American Chapter of the International Group for the Psychology of Mathematics Education Annual Meeting, Indianapolis, IN, United States.
23. **Gorney, K.**, & Mensink, M. C. (2017, April). *Uninformed & overconfident: Neuromyth endorsement by undergraduate psychology & education majors* [Poster presentation]. National Conference on Undergraduate Research, Memphis, TN, United States.

Funding

A. External Funding

1. Title: Using Item Scores and Distractors to Detect Aberrant Behavior
Source: Educational Testing Service (Harold Gulliksen Psychometric Research Fellowship)
Role: Graduate Student
Amount: \$28,000
Period: 09/01/2022 – 06/30/2023
2. Title: Using Item Scores and Distractors to Detect Test Speededness
Source: Psychometric Society (Psychometric Society Travel Award)
Role: Graduate Student
Amount: \$1,250
Period: 07/11/2022 – 07/15/2022
3. Title: Surveys of Attitudes About Statistics: An Analysis of Items
Source: North American Chapter of the International Group for the Psychology of Mathematics Education (PME-NA Registration Scholarship)

Role: Undergraduate Student
Amount: \$250
Period: 10/05/2017 – 10/08/2017

B. Internal Funding

1. Title: Using Item Scores and Distractors to Detect Item Compromise and Preknowledge
Source: Department of Educational Psychology, University of Wisconsin-Madison (Busk Travel Scholarship)
Role: Graduate Student
Amount: \$500
Period: 10/26/2022 – 10/28/2022
2. Title: Using Item Scores and Distractors to Detect Test Speededness
Source: School of Education, University of Wisconsin-Madison (Hartzman International Travel Award)
Role: Graduate Student
Amount: \$2,000
Period: 07/11/2022 – 07/15/2022
3. Title: Surveys of Attitudes About Statistics: An Analysis of Items
Source: University of Wisconsin-Stout (Professional Development Grant)
Role: Undergraduate Student (Faculty Supervisor: Douglas Whitaker)
Amount: \$1,500
Period: 10/05/2017 – 10/08/2017

Teaching

A. Michigan State University

- CEP 982: Data Analysis Support

B. University of Wisconsin-Madison (Teaching Assistant)

- ED PSYCH 760: Statistical Methods Applied to Education I
- ED PSYCH 761: Statistical Methods Applied to Education II

C. University of Wisconsin-Stout (Teaching Assistant)

- MATH 010: Fundamentals of Algebra
- MATH 090: Intermediate Algebra
- MATH 118: Concepts of Mathematics
- STAT 130: Elementary Statistics

Consulting

- Software Consultant
National Board of Examiners in Optometry

2023 – Present

Service

- Ad Hoc Reviewer
 - *British Journal of Mathematical and Statistical Psychology*
 - *Journal of Educational and Behavioral Statistics*
 - *Journal of Educational Measurement*
- Conference Proposal Reviewer
 - American Educational Research Association
 - Conference on Test Security
 - National Council on Measurement in Education
- Member, Social Media Committee 2023 – Present
National Council on Measurement in Education
- Conference Session Chair 2023
National Council on Measurement in Education
- Graduate Student Liaison, Division D Early Career Award Committee 2022 – 2023
American Educational Research Association

Professional Affiliations

- American Educational Research Association (AERA)
- National Council on Measurement in Education (NCME)
- Psychometric Society