

Qi (Helen) Huang

Educational Measurement and Research Methodology
Department of Educational Studies, College of Education
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Contact Information

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EMPLOYMENT

2025- **Assistant Professor, Department of Educational Studies**
College of Education, Purdue University

EDUCATION

2019 – 2024 ***Ph.D. in Quantitative Methods, Educational Psychology***
University of Wisconsin, Madison
Dissertation: Investigating Model and Metric Misspecification in
Latent Variable Models and Evaluating Practical Implications
Committee:
Daniel Bolt (Chair, UW-Madison Education)
Jee-Seon Kim (UW-Madison Education)
James Wollack (UW-Madison Education)
Amy Cochran (UW-Madison Medicine and Public Health)

2016 – 2018 ***MSc in Applied Statistics, Teachers College***
Columbia University

2012 – 2016 ***B.A. in English Literature***
Peking University

FIELDS OF INTEREST

Measurement of psychological and educational constructs, Data science, Intersection of latent variable models and machine learning techniques, Item response models for psychological cognitive and noncognitive response process, Cognitive diagnosis models (CDMs), International large-scale assessments, measurement of growth.

SCHOLARSHIPS & GRANTS

2024	<i>Busk Travel Scholarship</i> (for NCME 2024 annual meeting) University of Wisconsin, Madison
2019 – 2023	<i>Graduate Fellow, PIE Scholar Program</i> (\$269,368) University of Wisconsin, Madison

PUBLICATIONS

- Garbacz, A., Flack, C., **Huang, Q.**, Bowen, A., Stormshak, E. A., & McIntyre, L. L. (accepted)
Examining a short form of the Positive Family Support Strengths and Needs Assessment.
Assessment for Effective Intervention.
- Huang, Q.**, Bolt, D. M., Jonaitis, E. M., Hermann, B., Studer, R., Du, L., Ryther, B., Sparks, L., Galvin, J. E., Johnson, S. C., & Langhough, R. (2024). Performance of study partner reports in a non-demented at-risk sample. *Alzheimer's & Dementia*.
<https://doi.org/10.1002/alz.14470>
- Huang, Q.**, Bolt, D. M., & Lyu, W. (2024). Investigating item complexity as a source of cross-national DIF in TIMSS Math and Science. *Large-scale Assessments in Education*.
<https://doi.org/10.1186/s40536-024-00200-3>
- Zuo, S., **Huang, Q.**, & Qi, C. (2024). The relationship between cognitive activation and Mathematics achievement: Mediating roles of self-efficacy and mathematics anxiety. *Current Psychology*, 43, 30794-30805
- Huang, Q.**, & Bolt, D. M. (2024). Unipolar IRT and the author recognition test (ART). *Behavior Research Methods*, 56, 5406-5423.
<https://doi.org/10.3758/s13428-023-02275-2>
- Huang, Q.**, & Bolt, D. M. (2023). Relative robustness of CDMs and (M)IRT in measuring

- growth in latent skills. *Educational and Psychological Measurement*, 83(4), 808-830.
- Huang, Q.**, & Bolt, D. M. (2022). The potential for interpretational confounding in cognitive diagnosis models. *Applied Psychological Measurement*, 46(4), 203-220.
- Qi, C., Liu, X., Wang, R., Zhang, J., Fu, Y., & **Huang, Q.** (2022). Contradiction and its solutions in the mathematics teacher-research partnership: An activity theory perspective. *ZDM-Mathematics Education*, 54, 639-652.

WORKING PAPERS

- Huang, Q.**, Bolt, D. M., & Liao, X. (under revision). Theory-driven IRT modeling of vocabulary development: Matthew effects and the case for Unipolar IRT.
- Starling-Alves, I., Liao, X., **Huang, Q.**, Bolt, D. M., Hubbard, E. M., & Matthews, P. G. (submitted). Fraction Knowledge Assessment: A free tool for investigating fraction knowledge development.
- Huang, Q.**, Jonaitis, E.M., Studer, R., Du, L., Hermann, B., Johnson, S.C., & Langhough, R. (in progress). Characterizing the longitudinal Quick Dementia Rating System (QDRS) and examining its relationship to baseline plasma phosphorylated tau 217 in a predominantly non-demented at-risk sample.
- Huang, Q.**, & Bolt, D. M. (in progress). Compare CDM and IRT reliabilities with new CDM measures and IRT analogs.

CONFERENCE PRESENTATIONS

- Huang, Q.**, Bolt, D. M., Jonaitis, E. M., Hermann, B., Studer, R., Du, L., Ryther, B., Sparks, L., Galvin, J. E., Johnson, S. C., & Langhough, R. (2024, July). *The Quick Dementia Rating System and the Clinical Dementia Rating Scale: Investigation of agreement and related features in a predominantly unimpaired sample*. Alzheimer's Association International Conference, Virtual.
- Huang, Q.**, & Bolt, D. M. (2024, April). *Unipolar IRT and measurement of vocabulary knowledge*. National Council on Measurement in Education Annual Meeting, Philadelphia, PA, USA.
- Huang, Q.**, & Bolt, D. M. (2023, July). *Asymmetry-induced model misspecification and the*

observation of cross-national DIF. International Meeting of the Psychometric Society, College Park, MD, USA.

Huang, Q., & Bolt, D. M. (2023, April). *IRT misspecification and its implications in the modeling of recognition task data*. National Council on Measurement in Education Annual Meeting, Chicago, IL, USA.

Bolt, D. M., & Huang, Q. (2022, July). *Methodological issues in the IRT modeling of recognition task data*. International Meeting of the Psychometric Society, Bologna, Italy.

Huang, Q., & Bolt, D. M. (2022, April). *Comparing DCM and IRT reliabilities with new DCM measures and IRT analogs*. National Council on Measurement in Education Annual Meeting, San Diego, CA, USA.

Huang, Q., & Bolt, D. M. (2021, July). *Comparison of DCM and IRT reliabilities using new indices*. International Meeting of the Psychometric Society, Virtual.

Huang, Q., & Bolt, D. M. (2021, April). *Relative robustness of CDMs and (M)IRT in measuring growth in latent skills*. National Council on Measurement in Education Annual Meeting, Virtual.

Huang, Q., & Bolt, D. M. (2020, July). *The potential for interpretational confounding in discrete growth models*. International Meeting of the Psychometric Society, Virtual.

TEACHING & RESEARCH EXPERIENCE

Jan. 2025 – May. 2025 *Instructor*, EDPS 531 Introduction to Education Measurement,
College of Education, Purdue University

Sep. 2023 – Dec. 2024 *Project Assistant*, Wisconsin Alzheimer's Institute,
School of Medicine, University of Wisconsin, Madison

Sep. 2021 – Dec. 2021 *Teaching Assistant*, Educational Psychology,
University of Wisconsin, Madison

Jan. 2022 – May 2022 *Teaching Assistant*, Educational Psychology,
University of Wisconsin, Madison

PROFESSIONAL SERVICE

I serve as a reviewer for the following journals and conferences:

Journal of Educational Measurement

Large-scale Assessments in Education

Educational and Psychological Measurement

Journal of General Psychology

National Council on Measurement in Education Annual Meeting

PROFESSIONAL Certificates, Licenses, and Memberships

<i>Period</i>	<i>Society</i>
1. 2020-present	Psychometric Society
2. 2021-present	National Council on Measurement in Education
3. 2024-present	American Educational Research Association

COMPUTER SKILLS

R, Stan, SPSS, Python, HLM, NOHARM, G*Power, LaTeX