

Han Hao

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EDUCATIONAL BACKGROUND

Ph. D. in Applied Cognitive Psychology, 2022

Department of Psychology, Claremont Graduate University, Claremont, CA

M. A. in Positive Organizational Psychology and Evaluation, 2017

Department of Psychology, Claremont Graduate University, Claremont, CA

B.Sc. in Psychology, 2013

Department of Psychology & Behavioral Science, Zhejiang University, Hangzhou, China

PUBLICATIONS

Navarro, E., **Hao, H.**, Rosales, K. P., & Conway, A. R. (2023). An item response theory approach to the measurement of working memory capacity. *Behavior Research Methods*, 1-18.

Hao, H., & Conway, A. R. (2022). The impact of auditory distraction on reading comprehension: An individual differences investigation. *Memory & Cognition*, 50(4), 852-863.

Conway, A. R., Kovacs, K., **Hao, H.**, Rosales, K. P., & Snijder, J. P. (2021). Individual differences in attention and intelligence: A united cognitive/psychometric approach. *Journal of Intelligence*, 9(3), 34.

Ni, L., McKlin, T., **Hao, H.**, Baskin, J., Bohrer, J., & Martin, A. (2021, March). Assessing Professional Identity of Computer Science Teachers: Design and Validation of the CS Teacher Identity Survey. In *Proceedings of the 52nd ACM Technical Symposium on Computer Science Education* (pp. 1332-1332).

Ni, L., McKlin, T., **Hao, H.**, Baskin, J., Bohrer, J., & Tian, Y. (2021, August). Understanding Professional Identity of Computer Science Teachers: Design of the Computer Science Teacher Identity Survey. In *Proceedings of the 17th ACM Conference on International Computing Education Research* (pp. 281-293).

Conway, A. R., Kovacs, K., **Hao, H.**, Goring, S. A., & Schmank, C. (2020). The Struggle Is Real: Challenges and Solutions in Theory Building. *Psychological Inquiry*, 31(4), 302-309.

Conway, A. R., & **Hao, H.** (2020). The Role of Non-Cognitive Factors in the SAT Remains Unclear: A Commentary on Hannon (2019). *Journal of Intelligence*, 8(2), 15.

PREPRINTS/MANUSCRIPTS

- Hao, H.** (2024, February 18). Are We Getting Closer to Artificial Consciousness?: A Commentary of Butlin et al. (2023) from A Psychological Research Perspective. *Preprint Available at <https://doi.org/10.31234/osf.io/5hy pb>*
- Burnell, R., **Hao, H.**, Conway, A. R., & Orallo, J. H. (2023). Revealing the structure of language model capabilities. *arXiv preprint arXiv:2306.10062*.
- Hao, H.**, Conway, A. R., Kovács, K., & Snijder, J. P. (2023). Simulating the Process Overlap Theory of Intelligence: A Unified Framework Bridging Psychometric and Cognitive Perspectives. *Under Review. Preprint Available at SSRN 4512895*.
- Hao, H.** (2023). The Conceptual Representation of Latent Variables from Variational Autoencoders: A Psychometric Investigation of Cognitive Data Using Interpretable Variational Autoencoder. *Under Review. Preprint Available at <https://doi.org/10.31219/osf.io/c38hn>*
- Protzko, J., Kovács, K., Conway, A. R., **Hao, H.**, Murphy, C., Garvey, W., Moreau, D., Pietschnig, J., Thurn, C., von Bastian, C. (2024). Strict Theory Testing with Big Team Science: Acute Cardiovascular Exercise, Executive Functioning, and the Cause of the Positive Manifold. *Under Review*.

PROJECTS IN PROGRESS

- Ni, L., **Hao, H.**, Tian, Y., McKlin, T., (2024). *Examining Computer Science Educators' Professional Identity: Computer Science Teacher Identity Survey and Profiles*. Manuscript under revision
- Wanzer, D. L., **Hao, H.**, McKlin, T. (2024). *Response or recall bias? Choosing between the traditional and retrospective pretest using measurement invariance techniques*. Manuscript under revision.
- Hao, H.**, Rosales, K., Conway, A.R., Kovacs, K., & Kane, M. J. (2024). *The Domain-Generality of Working Memory and Fluid Intelligence: A Novel Psychometric Network Re-Analysis of Kane et al. (2004)*. Manuscript in preparation.
- Hao, H.**, Conway, A. R., Bauer, Williams, J., Kotov, R., Perlman, G., Van Snellenberg, J. (2024). *What can large-scale latent variable models tell us about working memory paradigms in clinical research of schizophrenia*. Manuscript in preparation.
- Hao, H.** (2024). *The longitudinal network structure of adolescent cognitive abilities: A developmental psychometric investigation on neurocognition data from the Adolescent Brain Cognitive Development Study*. Project in preparation.

CONFERENCE PRESENTATIONS

- Hao, H.**, Conway, A. R. A., Kovacs, K., & Snijder, J. (2023, November) Simulating the Process Overlap Theory of Intelligence: A Unified Framework Bridging Psychometric and Cognitive Perspectives. Poster session of Psychonomic Society Annual Meeting, San Francisco, CA.
- Hao, H.**, Conway, A. R. A., Kovacs, K., & Snijder, J. (2023, July) Simulating the Process Overlap Theory of Intelligence: A Unified Framework Bridging Psychometric and Cognitive Perspectives. Poster session of International Society of Intelligence Research, Annual Meeting, Berkeley, CA.
- Hao, H.**, Rosales, K. P., Snijder, J., Kovacs, K., Kane, M. J., & Conway, A. R. A. (2021 November). *The Generality of Working Memory and Reasoning: Rethinking the Relationship*. Poster session of Psychonomic Society Annual Meeting, Virtual Conference.
- Hao, H.**, Rosales, K. P., Snijder, J., Kovacs, K., Kane, M. J., & Conway, A. R. A. (2021 September). *Rethinking the Relationship of Working Memory and Intelligence: A Perspective Based on Process Overlap Theory*. Poster session of International Society for Intelligence Research Annual Conference, Virtual Conference.
- Hao, H.**, Navarro, E., Rosales, K. P., & Conway, A. R. A. (2020 November). *Measurement of Working Memory Capacity: An Item Response Theory Examination of Complex Span Tasks*. Poster session of Psychonomic Society Annual Meeting, Austin, TX.
- Hao, H.** & Conway, A. R. A. (2019, November). *The Impact of Auditory Distraction on Reading Comprehension: An Individual Differences Investigation*. Poster session presented at the Psychonomic Society Annual Meeting, Montreal, Canada.
- Kovacs, K., Conway, A. R. A., Snijder, J., & **Hao, H.** (2018, November). *General Intelligence Explained (Away)*. Poster session presented at Psychonomic Society Annual Meeting, New Orleans, LA.

RESEARCH/WORK EXPERIENCE

Postdoctoral Researcher, New Mexico State University, 2023-present

Graduate Researcher, CALIBER Research Lab, Claremont Graduate University, 2017 – 2022

Research Intern, REACH lab, University of Southern California, Summer 2016

M. A. Researcher Claremont Graduate University, 2015 – 2017

Student Research Training Program, Zhejiang University, China, 2011 - 2013

TEACHING EXPERIENCE

Assistant Professor (Lecturer), New Mexico State University

CEPY 6440 Multivariate Statistics, 2024

Teaching Assistant, Claremont Graduate University

PSYCH 315 E Multilevel Modeling, 2020..... Instructor: Dr. Seong-Hyeon Kim
PSYCH 315 F Factor Analysis, 2019..... Instructor: Dr. Andrew Conway
PSYCH 315 H Structural Equation Modeling, 2019..... Instructor: Dr. Andrew Conway
PSYCH 315 F Factor Analysis, 2017..... Instructor: Dr. Andrew Conway
PSYCH 315 H Structural Equation Modeling, 2017 Instructor: Dr. Andrew Conway
PSYCH 308 A Intermediate Statistics, 2016..... Instructor: Dr. Kathy Pezdek
PSYCH 308 B ANOVA, 2016..... Instructor: Dr. Andrew Conway
PSYCH 308 C Applied Regression, 2016..... Instructor: Dr. Andrew Conway
PSYCH 308 D Categorical Data Analysis, 2016..... Instructor: Dr. Andrew Conway

AWARDS & SCHOLARSHIPS

Brayfield Outstanding Dissertation Award (2023)

Division of Behavioral & Organizational Sciences at Claremont Graduate University

CGU Fellowships (2016, 2017, & 2018)

Division of Behavioral & Organizational Sciences at Claremont Graduate University

Outstanding Research Awards of the 15th (2012) & 14th (2011) Student Research Training Program

PROFESSIONAL SKILLS

Statistical Skills:

General/Generalized regression Modeling, Multilevel Modeling, Exploratory and Confirmatory Factor Analysis, Structural Equation Modeling, Item Response Theory, Psychometric Network Analysis, Data Simulation, Artificial Neural Network.

Software Skills:

R, SPSS, AMOS, Mplus, C, Python, Markdown, HTML