

Simran Johal

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Academic Appointments	University of Oregon Assistant Professor, Psychology	September 2025 - Present
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Education	University of California, Davis PhD, Quantitative Psychology Advisors: Dr. Mijke Rhemtulla & Dr. Emilio Ferrer	Davis, CA 2025
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	University of California, Davis MA, Psychology	Davis, CA 2021
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	University of California, Davis BA, Psychology BS, General Statistics Honors Thesis: The development of introspection ability and changes in white matter integrity: A longitudinal analysis	Davis, CA 2019
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Research Interests	(Intensive) longitudinal data analysis, psychometric network models, latent variable models, time-varying vector autoregressive models
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Industry Positions	Psychometric Intern National Commission on Certification of Physician Assistants	June - August 2023
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Peer-Reviewed Publications ¹	Batra, R.*, Johal, S. K.* , Chen, M., & Ferrer, E. (2025). Consequences of sampling frequency on the estimated dynamics of developmental processes using continuous time autoregressive models. <i>Psychological Methods</i> https://doi.org/10.1037/met0000595 Link to Preprint
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Johal, S. K., & Rhemtulla, M. (2024). Relating network-instantiated constructs to psychological variables through network-derived metrics: An exploratory study. *advances.in/psychology*. <https://doi.org/10.56296/aip00024> [Link to OSF](#)

Johal, S. K., & Ferrer, E. (2024). Variation in emotion dynamics over time is associated with future relationship outcomes. *Frontiers in Human Neuroscience - Cognitive Neuroscience*, 18. <https://doi.org/10.3389/fnhum.2024.1331859>

¹* indicates joint first-authorship

Johal, S. K., & Ferrer, E. (2024) Detecting cohort effects in accelerated longitudinal designs with multilevel models. *Multivariate Behavioral Research*. <https://doi.org/10.1080/00273171.2023.2283865>. [Link to OSF](#).

Johal, S. K., & Rhemtulla, M. (2023). Comparing estimation methods for psychometric networks with ordinal data. *Psychological Methods*. <https://doi.org/10.1037/met0000449>. [Link to Preprint](#). [Link to OSF](#)

Yu, X., **Johal, S. K.**, & Geng, J. J. (2022). Visual search guidance uses coarser template information than target-match decisions. *Attention, Perception, and Psychophysics*. <https://doi.org/10.3758/s13414-022-02478-3>. [Link to Paper](#)

Working Papers

Johal, S. K. (In preparation, planned submission December 2025). Comparing univariate and multivariate specifications of generalized additive models for time-varying vector autoregressive models.

Johal, S. K. (In preparation). Changing connections: Using generalized additive models to estimate time-varying contemporaneous networks.

Johal, S. K.*, Huth, K.*, Siegel, D., DeLong, B., & Rhemtulla, M. (In preparation). Making sense of multiple items: A theoretical framework for selecting between latent variable and network models.

Coleman, C., **Johal, S. K.**, Zou, L., & Ledgerwood, A. (Submitted to *Social Psychological and Personality Science*). The benefits of a systemic lay theory of racism for ethnoracial minorities in the United States.

Johal, S. K., Bondurant, N., & Rhemtulla, M. (In preparation). A permutation test for the network similarity metric.

Lim, T., Neel, R.,..., **Johal, S. K.**,..., & Hehman, E. (Submitted to PNAS). Improving a predictive model of prejudice.

Nissen, A. T., **Johal, S. K.**, & Beck, E. D. (In preparation). Person-specific personality network dynamics as predictors of distal outcomes.

Book Chapters

Johal, S. K.*, Batra, R.*, & Ferrer, E. (2023). Collecting longitudinal data: Present issues and future challenges. *APA Handbook of Research Methods in Psychology (2nd Edition)*. American Psychological Association.

Invited Talks

Johal, S.K. (2023, December). A comparison of the predictive utility of network characteristics. University of Virginia Psychology Department Rising Stars Colloquium. Charlottesville, VA.

Presentations

Johal, S. K., Jiang, Y., Walker, M., & Dallas, D. (2024, September). From PANCE to Present: Longitudinal Recertification Exams Benefit Physician Assistants' Knowledge Retention Across Time. American Board of Medical Specialties Conference. Chicago, IL.

Johal, S. K. (2024, July). Extending the time-varying temporal network to allow for changing contemporaneous connections. International Meeting of the Psychometric Society. Prague, Czech Republic.

Johal, S.K., & Rhemtulla, M. (2024, May). Relating network-instantiated constructs to psychological variables through network-derived metrics: An exploratory study. Association for Psychological Science. San Francisco, CA.

Johal, S. K., & Ferrer, E. (2024, May). Detecting cohort effects in accelerated longitudinal designs using multilevel models. Association for Psychological Science. San Francisco, CA.

Johal, S. K., & Ferrer, E. (2023, October). Detecting cohort effects in accelerated longitudinal designs using multilevel models. [Poster Presentation] Society of Multivariate Experimental Psychology. Iowa City, Iowa.

Johal, S. K., & Ferrer, E. (2023, June). Detecting cohort effects in accelerated longitudinal designs using multilevel models. [Poster Presentation]. Modern Modeling Methods. Storrs, CT.

Johal, S. K., & Ferrer, E. (2022, July). Using time-varying dynamic information to improve the prediction of distal outcomes. International Meeting of the Psychometric Society. Bologna, Italy.

Johal, S. K., & Rhemtulla, M. (2021, October). Comparing estimation methods for psychometric networks with ordinal data [Poster presentation]. Society of Multivariate Experimental Psychology.

Johal, S. K., & Ferrer, E. (2021, July). Detecting cohort effects in accelerated longitudinal designs with multilevel and latent change score models [Poster presentation]. International Meeting of the Psychometric Society.

Johal, S. K., & Rhemtulla, M. (2021, May). Evaluating network estimation performance with ordinal data [Poster presentation]. Association for Psychological Science.

Johal, S., & Rhemtulla, M. (2020, July). Comparing estimation methods for psychometric networks with ordinal data [Poster presentation]. International Meeting of the Psychometric Society, College Park, Maryland, United States.
[Poster](#)

Johal, S., Selmeczy D., & Ghetti, S. (2019, April). The development of introspection ability and changes in white matter integrity: A longitudinal analysis [Conference session]. University of California, Undergraduate Research Conference, Davis, CA, United States.

Johal, S., Selmeczy, D., & Ghetti, S. (2018, April). “Treasure or Trash?": The role of subjective evaluations in memory decisions [Poster presentation]. University of California, Undergraduate Research Conference, Davis, CA, United States.

Selmeczy, D., Hembacher, E., **Johal, S.** & Ghetti, S. (2017, November). “Treasure This, Trash That”: How subjective recollection guides memory decisions [Poster presentation]. Psychonomics, Vancouver, BC, Canada.

Workshops

Selecting and Implementing Alternative Measurement Models May 2025
 Western Psychological Association, Las Vegas, NV

Teaching and Mentoring

Instructor

Department of Psychology, UC Davis

- Statistical Analysis of Psychological Data (Spring 2023)

Co-Instructor

Department of Psychology, UC Davis

- Statistical Analysis of Psychological Data (Spring 2022)

Teaching assistant

Sept. 2020 - June 2025

Department of Psychology, UC Davis

- Statistical Analysis of Psychological Data
- Data Visualization
- Longitudinal Data Analysis (Graduate)
- Statistical Analysis in Psychological Research (Graduate)
- General Psychology
- Abnormal Psychology

Undergraduate Mentees

Sept. 2024 - Present

- Natalie Bondurant

Relevant Courses

- The Teaching of Psychology

Service

Graduate Student Mentor, Quant Family Collective	2023-2024
Workshop Organizer, Statistical Consulting for Psychology Undergraduate Students	March 2024, March 2025
Committee Member, Psychology Dept. Quantitative Faculty Search	Sept. - Dec. 2023
Coordinator, Quantitative Psychology Speaker Series	2022-2023
Panelist, Quantitative Methods Information Session	2020, 2021

Honors and Scholarships

Psychometric Society Student Travel Award	2024
Society of Multivariate Experimental Psychology Dissertation Award	2024
Psychology Dept. Diverse Mentoring Initiative Award	2023
Psychology Department Duke's Travel Award	2020, 2022, 2023
Psychology Dept. Summer Research Fellowship	2022, 2024
Psychology Dept. Early Graduate Career Quarter Fellowship	2022
Provost's First-Year Fellowship	2019-2020
Graduate Student Association Travel Award	2020, 2021

Ad-Hoc Reviewing

Psychological Methods
Collabra: Psychology
Cognitive Therapy and Research
PLOS One