

## Education

- 2019 — 2021 **MA in Psychology**, University of Southern California  
Advisor: Hok Chio (Mark) Lai  
[Thesis](#): Incorporating Uncertainty in Design Parameters: A Hybrid Classical-Bayesian Power Analysis Approach for Two-Level Cluster Randomized Trials)
- 2015 — 2018 **BA in Psychology**, University of British Columbia  
Advisor: Victoria Savalei  
Graduate Student Advisor: Cathy Xijuan Zhang)

## Awards & Fellowships

- 2021 — 2022 **Spencer Foundation** (USD \$49,796), University of Southern California.  
Role: Graduate Research Assistant
- 2018 **Natural Sciences and Engineering Research Council of Canada (NSERC)** (CAD \$12,900), University of British Columbia.  
Conducted online due to the corona pandemic

## Publications

- 2021 J1 Lai, H. C., Liu, Y., & **Tse, W. W.-Y.** (2021). Adjusting for partial invariance in latent parameter estimation: Comparing forward specification search and approximate invariance methods. *Behavior Research Methods*. <https://doi.org/10.3758/s13428-021-01560-2>
- 2019 J2 Zhang, X., **Tse, W. W.-Y.**, & Savalei, V. (2019). Improved properties of the big five inventory and the Rosenberg self-esteem scale in the expanded format relative to the likert format. *Frontiers in Psychology*, 10, 1286-1286. <https://doi.org/10.3389/fpsyg.2019.01286>

## Conference presentations

- 2021 P1 **Tse, W.W.-Y.** & Lai, M. H. C. (Sep 26, 2021). *Sample size determination in the presence of uncertainty: A hybrid classical-Bayesian approach for two-level cluster randomized trials* [Paper Session]. Annual Conference of the Society for Research on Educational Effectiveness, Arlington, VA, United States. [Schedule](#)
- P2 **Tse, W.W.-Y.** & Lai, M. H. C. (Aug 12, 2021). *A Bayesian approach to power analysis and sample size planning for cluster randomized trials* [Poster Session]. Virtual conference at the American Psychological Association (APA) Annual Convention due to covid-19.
- P3 **Tse, W.W.-Y.** & Lai, M. H. C. (Jul 20, 2021). *Incorporating uncertainty in design parameters: A hybrid classical-Bayesian power analysis approach for two-level cluster randomized trials* [Paper Session]. Virtual conference at the Annual Meeting of the Psychometric Society (IMPS) due to covid-19.. [Schedule](#)

- P4 Cardenas, S.I., **Tse, W.W.-Y.**, & Saxbe, D.E. (Apr 29, 2021). *Prenatal and postpartum testosterone synchrony in first time parents: Links with suboptimal relationship functioning and enhanced parenting outcomes* [Paper Session]. Virtual conference at the meeting of Western Psychological Association due to covid-19.
- 2020 P5 **Tse, W.W.-Y.** & Lai, M. H. C. (Jul 14, 2020). *Measurement Invariance for Ordered Categorical Variables: The Necessity of Strict Invariance for Valid Group Comparisons* [Poster Session]. Annual Meeting of the Psychometric Society (IMPS). [Schedule](#)
- P6 **Tse, W.W.-Y.** & Lai, M. H. C. (Jun 25, 2020). *Measurement Invariance for Ordered Categorical Variables: The Necessity of Strict Invariance for Valid Group Comparisons* [Paper Session]. A Meeting of Methodologies (AMOM). [Slides](#)
- P7 **Tse, W.W.-Y.** & Lai, M. H. C. (Jun 2, 2020). *Path to valid means comparisons: The necessity of strict measurement invariance for ordered categorical variables* [Poster Session]. Conference canceled due to Covid-19.
- 2017 P8 **Tse, W.W.-Y.**, Zhang, X., & Savalei, V. (Apr 1, 2017). *Examining the Order Effects in Psychological Scales in the Expanded Format* [Poster Session]. Psychology Undergraduate Research Conference, University of British Columbia, Vancouver, BC.

## Teaching experience

- 2021 **Guest Lecturer, Multilevel Modeling (PSYC 575)**, University of Southern California  
Statistical foundations and tools for sample size planning in multilevel studies. [Course Materials](#).
- Co-instructor, Advancing Quantitative Sciences With Monte Carlo Simulation**, British Psychological Society  
Monte Carlo Simulation on Structural Equation Modeling using the SimDesign Package in R. [Course Materials](#).
- 2019 **Teaching assistant, Statistics (PSYC 271)**, University of Southern California  
Statistical methods for psychological research, including t-tests, ANOVA, and regressions, with SPSS and R

## Service

- 2019 **Ad-hoc Reviewer** Alcohol and Alcoholism
- 2020 **Ad-hoc Reviewer** Asian American Journal of Psychology

## Computer skills

**Statistics:** R, SPSS, Stata, SAS, Mplus, Julia

- **SEM:** R (lavaan), Mplus
- **Multilevel:** R (lme4), Mplus
- **Bayesian:** R (brms, Rstan, Rjags)

**Database:** SQL

**Document preparation:** LaTeX, RMarkdown (bookdown, pagedown, blogdown), MS Excel, Word, Powerpoint

**Frontend:** HTML, CSS, JavaScript