

Xijuan (Cathy) Zhang

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EDUCATION

Doctor of Philosophy

University of British Columbia (UBC), Vancouver, BC, Canada

2015 – Present

- Quantitative Methods in Psychology
- Advisor: Victoria Savalei

Master of Arts

University of British Columbia (UBC), Vancouver, BC, Canada

2013 – 2015

- Quantitative Methods in Psychology
- Advisor: Victoria Savalei

Bachelor of Arts

University of British Columbia (UBC), Vancouver, BC, Canada

2007 – 2012

- Psychology

AWARDS & FELLOWSHIPS

- Art Graduate Research Award (2018): \$1000
- The Society for Multivariate Experimental Psychology (SMEP) Travel Award for 15th Annual SMEP Graduate Student Conference (2017): \$1,500 USD
- Joseph-Armand Bombardier Canada Graduate Scholarships Program-Doctoral Scholarship (2016): \$35,000 per year for three years
- The Society for Multivariate Experimental Psychology (SMEP) Travel Award for 13th Annual SMEP Graduate Student Conference (2015): \$1,500 USD
- UBC's Affiliated Fellowship (2015): \$16,000
- The Society for Multivariate Experimental Psychology (SMEP) Travel Award for Multilevel Modeling Conference (2014): \$1,000 USD
- Walter C Koerner Fellowship (2014): \$7,500
- Canada Graduate Scholarship-Master Program (2014): \$17,500
- University of British Columbia Graduate Entrance Scholarship (2013): \$17,500
- McGraw Hill Prize for Academic Excellence in Biology (2011)
- Arts Travel and Learn Abroad Award Scholarship (2011): \$2,500
- UBC's President Entrance Scholarship (2007): \$2,000
- British Columbia Government Scholarship (2007): \$1,000
- Science Achievement Award of BC Innovation Council (2007)
- Recipient of the Governor General's Academic Bronze Medal (2007)

CURRENT RESEARCH PROJECTS

2018 Jan –Present: Investigating the computations of fit indices in the presence of missing data

- Investigating new computations of fit indices (i.e., RMSEA and CFI) used in the structural equation modelling (SEM) when missing data are present.

2017 Jan –Present: Examining different methods for generating missing data

- Examining various ways of generating different types of missing data.
- Presenting guidelines for researchers who want to generate missing data for simulations studies.

2017 Sep – Present: Examining alternative scale formats to the Likert scale format

- Comparing three alternative scale formats to the Likert format in terms of factor structure, reliability and validity.

REFEREED PUBLICATIONS

Zhang, X., & Savalei, V. (2019). Examining the effect of missing data on RMSEA and CFI under the normal theory full information maximum likelihood. *Structural Equation Modeling, Advanced Online Publication*, 21 pages. doi: 10.1080/10705511.2019.1642111

Role: Completed the mathematical component of the paper with Dr. Savalei; came up with the analytical examples for the paper; designed the simulation study; wrote the manuscript.

Zhang, X., Tse, WW-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, 11 pages. doi:10.3389/fpsyg.2019.01286
 Role: Came up with the research idea; designed the experimental study; analyzed the data; wrote the manuscript.

Zhang, X., & Savalei, V (2018). Investigating the effect of missing data on the population CFI and RMSEA values. *Multivariate Behavioral Research*, 53, 147-147. doi: 10.1080/00273171.2017.1405787 (abstract for SMEP conference)

Zhang, X., Noor, R., & Savalei, V. (2016). Examining the effect of reverse worded items on the factor structure of the Need for Cognition Scale. *PLOS ONE* 11(6): e0157795, 15 pages. doi: 10.1371/journal.pone.0157795
 Role: Came up with the research idea; designed the experimental study; analyzed the data; wrote the manuscript.

Zhang, X., & Savalei, V. (2016a). Bootstrapping confidence intervals for fit indices in structural equation modeling. *Structural Equation Modeling*, 23, 392-408. doi: 10.1080/10705511.2015.1118692
 Role: Came up with the research topic; found a solution to bootstrap fit indices; completed the mathematical component with Dr. Savalei; designed the simulation study; wrote the manuscript.

Zhang, X., & Savalei, V. (2016b). Improving the factor structure of psychological scales: The Expanded format as an alternative to the Likert scale format. *Educational and Psychological Measurement*, 76, 357-386. doi: 10.1177/0013164415596421
 Role: Came up with the research idea; designed the experimental study; analyzed the data; wrote the manuscript.

Falk, C. F., Heine, S.J., Takemura, K., **Zhang, C. X. ,** & Hsu, C-W. (2015). Are implicit self-esteem measures valid for assessing individual and cultural differences? *Journal of Personality*, 83, 56-68. doi: 10.1111/jopy.12082

Zhang, X. (2012). Too much sex, a mental disorder? Examining both sides of the debate on hypersexual disorder. *University of British Columbia's Undergraduate Journal of Psychology*, 1, 35-43.

PRESENTATIONS

Zhang, X. (Accepted but cancelled due to COVID 19 in March, 2020). *How to compute SEM fit indices in the presence of missing data*. Presentation presented at the International Meeting of the Psychometric Society (IMPS), College Park, MD.

Zhang, X. (Accepted but cancelled due to COVID 19 in March, 2020). *Examining missing data methods for computing fit indices in structural equation modeling*. Invited session presentation at the Statistical Society of Canada 2020 Meeting, Ottawa, ON.

Zhang, X. (Accepted but cancelled due to COVID 19 in March, 2020). *Computing approximate fit indices in SEM with missing data*. Invited colloquium presentation at Vanderbilt University, Nashville, TN.

Zhang, X., & Savalei, V (2019 May). *How missing data affect fit indices in structural equation modelling*. Poster presented at the annual meeting of the Association of Psychological Science, Washington, DC.

Zhang, X., & Savalei, V (2017 October). *Investigating the effect of missing data on the population CFI and RMSEA*. Poster presented at the annual meeting of Society of Multivariate Experimental Psychology, Minneapolis, MN.

Zhang, X. (2017 August). *How to generate missing data*. Colloquium talk for the department of psychology at the University of Notre Dame, South Bend, IN.

Zhang, X., Noor Ramsha, & Savalei, V. (2016 June). *Examining the effect of reverse-worded items on the factor structure of the Need for Cognition Scale*. Poster presented at the Annual Convention of the Canadian Psychological Association, Victoria, BC.

Zhang, X., & Savalei, V. (2016 June). *Bootstrapping confidence intervals for fit indices in Structural Equation Modelling*. Presentation presented at the International Meeting of the Psychometric Society (IMPS), Asheville, NC.

Zhang, X., & Savalei, V. (2015 October). *Writing better psychological scales: The Expanded format as the alternative to the Likert scale format*. Poster presented at the annual meeting of Society of Multivariate Experimental Psychology, Redondo Beach, CA.

Zhang, X., & Savalei, V. (2015 May). *How to find confidence interval for CFI and RMSEA using bootstrap*. Poster presented at the Modern Modeling Methods Conference, Storrs, CT.

Zhang, X., & Savalei, V. (2015 May). *Bootstrapping confidence intervals for fit indices in structural equation modeling*. Poster presented at the annual meeting of the Association of Psychological Science, New York, NY.

Zhang, X., & Biesanz, J. (2014 Nov). *Examining the method effects caused by reverse-worded items in nested data*. Poster presented at the conference for Advances in Multilevel Modeling for Educational Research, College Park, MD.

Zhang, X. (2014 October). *Problems with Likert scales and an alternative scale format*. Presentation given at UBC FIREtalk, A World of Methodologies, Vancouver, BC.

Chang, S. C. H., Zhao, L., **Zhang, X.,** Beesley Y, & Gorzalka, B. B. (2014 July). *Does analytical thinking suppress acceptance of rape myths?* Poster presented at annual meeting of the Canadian Society for Brain, Behaviour and Cognitive Science, Toronto, ON.

Zhang, X. & Savalei, V. (2014 June). *How to eliminate the impact of reverse-worded items on psychological scales? Exploring an alternative scale format to Likert scale*. Poster presented at the annual meeting of the Canadian Psychological Association, Vancouver, BC.

Zhang, X. & Savalei, V. (2014 May). *The effects of reverse-worded items on factor structures of psychological scales*. Poster presented at the annual meeting of the Association of Psychological Science, San Francisco, CA.

Zhang, X. (2012 July). *Attitudes towards interracial relationships among Chinese, Korean and Japanese University Students in Canada*. Poster presentation presented at Connecting Minds Undergraduate Research Conference in Psychology, Vancouver, Canada.

Falk, C.F., Heine, S. J, & **Zhang, X.** (2011, January). *The validity of implicit self-esteem measures for assessing individual and cultural differences*. Poster presented at the meeting of the Society for Personality and Social Psychology Cultural Psychology Preconference, San Antonio, TX, USA.

Zhang, X., Falk, C. F., & Heine S. J. (2010 July). *How should implicit self-esteem be measured? Reassessing the utility of current implicit self-esteem measures*. Poster presentation presented Connecting Minds Undergraduate Research Conference in Psychology, Vancouver, Canada.

JOURNAL REVIEW

Structural Equation Modelling
Educational and Psychological Measurement
BMC Psychiatry

STATISTICAL AND MATHEMATICAL TRAINING

Courses Taken at the UBC

- Multiple Regression; Generalized Linear Models (PSYC 546E; STAT 306, 538A)
- Structural Equation Modeling (PSYC 546Y)
- Multilevel Modeling (PSYC 546J)
- Multivariate Analyses (PSYC 546D)
- Machine Learning (STAT 406)
- Probability (MATH 302; STAT 547C (AUDIT))
- Statistics Inference (STAT 305, 460 (AUDIT))
- Real Analysis; Mathematical Proof (MATH 220, 320)
- Linear Algebra (MATH 221)
- Calculus (MATH 100, 101, 200)

COMPUTER & PROGRAMMING EXPERIENCE

Computer Programs/Languages:

- Statistical: R, Python, EQS, Mplus, SPSS
- Web Programming: Bootstrap, CSS, HTML, Jekyll
- Office and Document Preparation programs: LaTeX, RMarkdown, Excel, PowerPoint, Word

TEACHING EXPERIENCE

Sessional Lecturer for the following UBC course

- Advanced Research Methods in Behavioural Sciences (PSYC 359), Sept 2019-Dec 2019

Teaching Fellow for the following UBC courses

- Structural Equation Modeling (PSYC 546Y), Fall 2018
- Measurement in Psychology (PSYC 546H), Fall 2017
- Multiple Regression (PSYC 546E), Fall 2015, 2016; Spring 2018
- Research Methods (PSYC 217), Fall 2014
- Advanced Research Methods in Behavioural Sciences (PSYC 359), Fall 2013
 - Teaching fellows at UBC are explicitly responsible for leading regular lecture and lab components of the course.

Teaching Assistant for the following UBC courses

- Analysis of Behavioural Data (PSYC 218), Spring 2014, 2015
- Psychological Aspects of Human Sexuality (PSYC 350A), Summer 2014, 2015; Fall, 2015; Spring 2016, 2017
- Cultural Psychology (PSYC 307), Spring 2016, 2017
- Forensic Psychology (PSYC 331), Summer 2016

Completion of the Instructional Skills Workshop

- Received the CIRTL (Center for the Integration of Research, Teaching and Learning) Associate certificate, Spring 2019.

MENTORING EXPERIENCE

Department of Psychology, University of British Columbia

- Master student (Can Phuong), 2019-Now
- Three directed studies students (Winnie Tse, Ramsha Noor, Angela Miao), 2015-Now
- One honour student (Trevor Kwon), 2018-2019
- Four research assistants (Bernice Liang, Yu Luo, Kurtis Stewart, Priyanka Gill), 2014-2016

LANGUAGES

Mandarin Chinese (Native)
English (Proficient)