

Yujiao Mai

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Research Interests

- ✓ Structural equation modeling (SEM); Mediation analysis; Psychological measurements; and the Application to cancer research.

EDUCATION

BS in Computer Science and Technology (Minor: Law) <i>South China Normal University, Guangzhou, China</i>	2001 - 2005
MS in Developmental and Educational Psychology <i>South China Normal University, Guangzhou, China</i>	2005 - 2008
PhD in Quantitative Psychology (Statistics in Psychology) <i>South China Normal University, Guangzhou, China</i>	2011 - 2014

TRAININGS

Postdoc in Quantitative Psychology <i>University of Notre Dame, IN, USA</i>	2014 - 2017
<ul style="list-style-type: none"> ➤ Key developer and researcher of the web-based statistical data analysis software WebSEM (websem.psychstat.org) (R, mySQL, PHP, Javascript) ➤ Key developer and researcher of the web-based statistical power analysis software WebPower (webpower.psychstat.org) (R, mySQL, PHP, Javascript) ➤ Led workshops tutoring on the online statistical software WebSEM and WebPower ➤ Prepared journal manuscripts and present research at international conferences 	
Postdoc in Biostatistics <i>University of Central Florida, FL, USA</i>	2017 - 2018
<ul style="list-style-type: none"> ➤ Developed statistical methods and SAS macros ➤ Investigated (national) survey data about tobacco use/ Crohn's disease ➤ Helped on grant proposals about tobacco use in LGBT community ➤ Mentored students on research and offered biostatistics consulting service 	
Postdoc in Biostatistics <i>St. Jude Children's Research Hospital, TN, USA</i>	2018 - 2020
<ul style="list-style-type: none"> ➤ Improved statistical methods, develop R packages/SAS macros, and publish papers ➤ Served with statistic consultation for collaboration research 	

POSITIONS

Senior Researcher/Data Analyst , <i>Zhenai Inc., Shenzhen, CHINA</i>	2008 – 2012
Part-time Lecturer, Statistics in Psychology & SPSS , <i>Guangdong University of Foreign Studies, Guangzhou, CHINA</i>	Spring 2013
Part-time Lecturer, Cognitive Psychology & Experiment , <i>Guangdong University of Foreign Studies, Guangzhou, CHINA</i>	Spring 2013

PUBLICATIONS

PEER REVIEWED:

- Li D., Zhang, W., Li, N., **Mai, Y.**, & Yu, M. (2008). Future time perspective, goal orientation, social connectedness and undergraduates' academic adjustment. *Psychological Development and Education*, 24(1), 60-65. (In Chinese)
- Li, N., Zhang, W., Li, D., **Mai, Y.**, Wang, J., & Xing, W. (2009). Parent-adolescent attachment, emotional intelligence, and aggression in adolescence. *Psychological Development and Education*, 25(2), 91-96. (In Chinese)
- Wang, J., Zhang, W., Zhu, Z., Zhen, S., **Mai, Y.**, & Li, D. (2010). A modulating model for the impacting factors in self-regulated learning of college students. *Acta Psychologica Sinica*, 42(2), 262-270. (In Chinese)
- Mai, Y.**, Hu, J., Yan, Z., Zhen, S., Wang, S., & Zhang, W. (2012). Structure and function of maladaptive cognitions in Pathological Internet Use among Chinese adolescents. *Computers in Human Behavior*, 28(6), 2376-2386.
- Mai, Y.**, & Wen, Z. (2013). Exploratory structural equation modeling: A hybrid of EFA and CFA. *Advances in Psychological Science*, 21(5), 934-939. (In Chinese)
- Mai, Y.**, & Zhang, Z. (2017). Statistical power analysis for comparing means with binary or count data based on analogous ANOVA. In: *van der Ark L., Wiberg M., Culpepper S., Douglas J., Wang WC. (eds) Quantitative Psychology. IMPS 2016. Springer Proceedings in Mathematics & Statistics (vol 196, pp. 381-393). Cham, Switzerland: Springer.*
- Jiang, G., **Mai, Y.**, & Yuan, K. H. (2017). Advances in measurement invariance and mean comparison of latent variables: equivalence testing and a projection-based approach. *Frontiers in psychology*, 8, 1823-1823.
- Mai, Y.**, Leonardo, S., & Soulakova, J. N. (2018). Smoke-free homes among single-parent families: Differences associated with parental race/ethnicity and smoking behaviors. *Preventive Medicine Reports*, 9, 18-23.
- Mai, Y.**, & Soulakova, J. N. (2018). Retrospective reports of former smokers: Receiving doctor's advice to quit smoking and using behavioral interventions for smoking cessation in the United States. *Preventive medicine reports*, 11, 290-296.
- Mai, Y.**, & Zhang, Z. (2018). Software packages for Bayesian multilevel modeling. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(4), 650-658.
- Mai, Y.**, Zhang, Z., & Wen, Z. (2018). Comparing exploratory structural equation modeling and existing approaches for multiple regression with latent variables. *Structural Equation Modeling: A Multidisciplinary Journal*, 25(5), 737-749.
- Mai, Y.**, Ha, T., & Soulakova, J. N. (2019). Workplace smoking restrictions and support for smoking cessation in the USA: state, region, and overall trends from 2010-11 to 2014-15. *Journal of Smoking Cessation*, 1-10.
- Mai, Y.**, Ha, T., & Soulakova, J. N. (2019). Multimediation method with balanced repeated replications for analysis of complex surveys. *Structural Equation Modeling: A Multidisciplinary Journal*, 26 (5), 678-684.
- Zheng, J., An, X., Qian, J. Y., **Mai, Y.**, Xu, Z., & Xu, T. (2020). Research letter: ED90 of phenylephrine prophylactic bolus dose to prevent maternal hypotension during cesarean delivery. *Journal of Clinical Anesthesia*, 64, 109812.
- Mai, Y.**, & Zhang, H. (accepted). *Classic linear mediation analysis of complex survey data using balanced repeated replication*. In: *Zhao, Y. & Chen, D. (eds), Modern Statistical Methods for Health Research*. New York, NY: Springer.

NON-PEER REVIEWED:

- Zhang, Z., Yuan, K.-H., & **Mai, Y.** (2012-2017). *WebSEM: Structural equation modeling online [Computer software manual]*. Retrieved from <https://websem.psychstat.org>
- Zhang, Z., Yuan, K.-H., & **Mai, Y.** (2015-2017). *WebPower: Statistical power analysis online*

- [Computer software manual]. Retrieved from <http://webpower.psychstat.org>
- Mai, Y., Zhang, Z., & Yuan, K.-H. (2016). *An online interface for drawing path diagrams for structural equation modeling [Computer Software]*. Retrieved from <http://semdiag.psychstat.org>
- Jiang, G., Mai, Y., & Yuan, K. H. (2017). *equaltestMI: Examine Measurement Invariance via Equivalence Testing and Projection Method (version 0.6.0) [Computer Software]*. Retrieved from <https://CRAN.R-project.org/package=equaltestMI>
- Zhang, Z., & Mai, Y. (2018). 'WebPower': An R package for basic and advanced statistical power analysis (version 0.5) [Computer Software]. Retrieved from <https://cran.r-project.org/web/packages/WebPower/WebPower.pdf>
- Zhang, Z., & Mai, Y. (2018). Power analysis based on Monte Carlo simulation through diagrams. In: Zhang, Z., & Yuan, K.-H. (eds) *Practical Statistical Power Analysis Using WebPower and R* (pp. 325-340). Granger, IN: ISDSA Press.
- Mai, Y., Srivastava, D. K., & Zhang, H. (2019). *MedSurvey: Mediation analysis for complex surveys (version 1.1.1.2.0) [Computer Software]*. Retrieved from <https://cran.r-project.org/package=MedSurvey>

CONFERENCE ABSTRACTS

- Mai, Y., & Wen, Z. (2014 Aug). *Regression analysis with multidimensional latent: comparing ESEM and SEM*. Poster presented at the 11th Cross-Straits Conference on Educational and Psychological Testing, Taiwan: China.
- Mai, Y., & Zhang, Z. (2015 April). *A general framework for graphical representation of a statistical model with non-normal data*. Paper presented at the 27th APS Annual Convention, New York, NY: US.
- Mai, Y., & Zhang, Z. (2016 May). *Multilevel modeling through path diagramming: An online graphical interface*. Poster presented at the 28th APS Annual Convention, Chicago, IL: US.
- Mai, Y., & Zhang, Z. (2016 July). *Statistical power for one-way ANOVA with binary or count data*. Paper presented at the 81th Annual Meeting of the Psychometric Society (IMPS), Asheville, NC: US.
- Soulakova, J. N., & Mai, Y. (2018 Feb). *Smoking policy and support for smoking cessation offered at work: Recent trends in the United States*. Paper presented at the 24th Annual Meeting of the Society for Research on Nicotine and Tobacco (SRNT), Baltimore, Maryland: US.
- Tham, T., Mai, Y., & Soulakova, J. N. (2018 March). *Mediation analysis of big data: Detecting effect of a mediator*. Poster presented at the University of Central Florida 2018 Big Data Series on Healthcare, Orlando, Florida: US.
- Mai, Y., Srivastava, D. K., & Zhang, H. (2019 May). *SAS macros for linear mediation analysis with complex survey data*. Presented at the 2019 The 7th Workshop on Biostatistics and Bioinformatics, Atlanta, Georgia: US.
- Mai, Y., Xu, J., Srivastava, D. K., & Zhang, H. (2019 July). *Mediation analysis for complex surveys with balanced repeated replications*. Presented at the International Society for Data Science and Analytics, Nanjing: China.
- Mai, Y., Srivastava, D. K., & Zhang, H. (2019 July). *Mediation analysis with binary mediators: A new parametric method and R programs*. Presented at the 2019 Joint Statistics Meeting, Denver, Colorado: US.
- Mai, Y., Srivastava, D. K., & Zhang, H. (2019 Nov). *Classic mediation analysis for complex surveys with balanced repeated replications*. Invited talk at Biostatistics Seminar of the University of Tennessee Health Science Center, Memphis, Tennessee: US.
- Mai, Y., Ha, T., & Soulakova, J.N. (2020 March). *Workplace smoking policies and support for smoking cessation offered to employees who smoke in the US in the period from 2010 to 2015*. Presented at the Society for Research on Nicotine and Tobacco Annual Meeting, New Orleans, LA: US.

HONORS

- Travel grant for junior faculty or isolated statistician from the Summer Research Conference Southern Regional Council on Statistics, 2018
- Travel award for graduate student from the International Society for the Study of Behavioral Development biennial meeting, 2014
- National scholarship for doctoral students from the China Ministry of Education, 2013
- Award for doctoral student scientific research from South China Normal University, 2012
- Award for excellent researcher from South China Normal University, 2007
- Scholarship for undergraduate students from South China Normal University, 2002, 2004

FUNDINGS

- PI of the grant (2012kyjj106) from Graduate School of South China Normal University (Guangzhou, China), entitled "*Application of exploratory structural equation modeling in psychological research*", 2012-2014