

Workshop on Mplus and Latent Variable Analysis

Workshop Overview and Objectives

The goals of this workshop are threefold: (1) to provide an overview of latent variable analysis techniques in management and applied psychology; (2) to develop critical skills needed to plan for and evaluate empirical research using latent variable analysis; and (3) to develop skills of actually using various latent variable analysis techniques in Mplus. Most importantly, this workshop will teach attendees to think about theories in their content domain, research methods and design, and statistics as three inter-related components of a unified system through which theories are developed, tested, and refined.

Day 1 - June 20: Confirmatory Factor Analysis and Structural Equation Modeling

1. Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). Multiple regression/correlation and causal models. In *Applied multiple regression/correlation analysis for the behavioral sciences* (Ch. 12, pp. 452-478). Mahwah, NJ: Erlbaum.
2. MacCallum, R. C., & Austin, J. T. (2000). Applications of structural equation modeling in psychological research. *Annual Review of Psychology*, *51*, 201-226.
3. McDonald, R. P., & Ho, M.-H. R. (2002). Principles and practice in reporting structural equation analyses. *Psychological Methods*, *7*, 64-82.
4. O'Boyle, E. H., & Williams, L. J. (2011). Decomposing model fit: Measurement vs. theory in organizational research using latent variables. *Journal of Applied Psychology*, *96*, 1-12.

Day 2 - June 21: Testing Mediation and Moderation in Structural Equation Modeling

1. MacKinnon, D.P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, *58*, 593-614.
2. Klein, A. & Moosbrugger, H. (2000). Maximum likelihood estimation of latent interaction effects with the LMS method. *Psychometrika*, *65*, 457-474.
3. Edwards, J. R., & Lambert, L. S. (2007). Methods for integrating moderation and mediation: A general analytical framework using moderated path analysis. *Psychological Methods*, *12*, 1-22.
4. Liu, D., Zhang, Z. & Wang, M. (2012). Mono-level and multilevel mediated moderation and moderated mediation: Theorizing and test. In Chen, X., Tsui, A., and Farh, L. (Eds., 2nd Edition) *Empirical Methods in Organization and Management Research* (pp. 545-579). Beijing, China: Peking University Press.

Day 3 – June 22: Longitudinal Analysis Models

1. Chan, D. (2002). Latent growth modeling. In F. Drasgow & N. Schmitt (Eds.) *Measuring and analyzing behavior in organizations* (pp. 303-349). San Francisco, CA: Jossey-Bass.
2. Chan, D. (1998). The conceptualization and analysis of change over time: An integrative approach incorporating longitudinal mean and covariance structures analysis (LMACS) and multiple indicator latent growth modeling (MLGM). *Organizational Research Methods*, *1*, 421-483.

3. Liu, Y., Mo, S., Song, Y., & Wang, M. (2016). Longitudinal analysis in occupational health psychology: A review and tutorial of three longitudinal modeling techniques. *Applied Psychology: An International Review*, 65, 379-411.
4. Wang, M., Beal, D. J., Chan, D., Newman, D. A., Vancouver, J. B., & Vandenberg, R. J. (2017). Longitudinal research: A panel discussion on conceptual issues, research design, and statistical techniques. *Work, Aging and Retirement*, 3, 1-24.