
Modern Modeling Methods – 2020 Schedule

Monday, June 1st:
Pre-Conference Workshop

Continental Breakfast and Registration

8:00 – 9:00 am

McHugh Hall Atrium

Pre-Conference Workshop

Advances in Latent Variable Modeling Using Mplus: RI-CLPM, RI-LTA, and new Bayes features

Bengt Muthén, Tihomir Asparouhov, Ellen Hamaker

McHugh Hall 102

9:00 am – 5:00 pm

Description - TBA

Tuesday, June 2nd

Continental Breakfast and Registration
McHugh Hall Atrium

7:30 – 8:30 am

Welcome
McHugh Hall 102

8:30 am

Opening Keynote – Bengt Muthén

8:45 – 10:15 am

What multi-level modeling can teach us about single-level modeling and vice versa

This talk discusses modeling connections between multi- and single-level analysis in the contexts of latent trait-state modeling, cross-lagged panel modeling, factor analysis, latent class analysis, and latent transition analysis. Both continuous and categorical outcomes are considered. A key point is that single-level, wide-format modeling of longitudinal data is sometimes carried out in a way that is different from what one would do in a two-level context. The single-level modeling can benefit from two-level thinking. An example of this is latent transition analysis which has been lacking an important two-level component. Two-level modeling can also benefit from single-level thinking, an example of which is time series analysis of intensive longitudinal data.

Concurrent Paper Session 1

Tuesday 10:30 am – 12:00 pm

Session 1A: Room TBA – Title TBA

Paper	Authors
<i>Advances in the Bayesian estimation of latent variable models</i>	Tihomir Asparouhov

Session 1B: Room TBA – Title TBA

Paper	Authors
<i>Auxiliary Variable Visualization in Mixture Models: A Shiny Application</i>	Karen Nylund-Gibson Adam Gerber Dina Naji Arch
<i>Interactive and Dynamic Tools for Structural Equation Modeling</i>	Laura Castro-Schilo
<i>A Web-Based Application to Support Applied Bayesian Data Analysis</i>	James Uanhoro

Session 1C: Room TBA – Title TBA

Paper	Authors
<i>Bayesian Regularization Methods in Measurement Invariance Evaluation</i>	Marco Siyuan Chen William M. Belzek Holger Brandt Daniel J. Bauer
<i>Sparse Estimation via Penalized Likelihood in Structural Equation Modeling: Theory, Performance, and Implementation</i>	Po-Hsien Huang

Session 1D: Room TBA – Title TBA

Paper	Authors
<i>ASPES Paper – Title TBA</i>	Anthony J. Gambino Christopher Rhoads D. Betsy McCoach
<i>A Comparison of Meta-Analytic Methods for Synthesizing Indirect Effects</i>	Camiel van Zundert Milica Miočević
<i>Autoregressive Mediation Models Using Composite Scores and Latent Variables: Comparisons and Recommendations</i>	Qian Zhang Yanyun Yang

Session 1E: Room TBA – Title TBA

Paper	Authors
<i>Applied Demonstration of Data Processing and Analysis of Continuous/Real Time Opioid Treatment Patient Data from a Statewide Health Center: Gaps in Treatment, Toxicology, and Clinical Conditions</i>	Emil Coman Marwan Haddad Lauren Bifulco

Lunch**Tuesday 12:00 – 1:15 pm**

Student Union Ballroom
3rd floor, Student Union

Concurrent Paper Session 2**Tuesday 1:15 – 2:15 pm****Session 2A: Room TBA – Title TBA**

Paper	Authors
<i>Statistical Significance, Uncertainty, and the Replication Crisis</i>	Edward Rigdon Marko Sarstedt Jan-Michael Becker

Session 2B: Room TBA – Title TBA

Paper	Authors
<i>An Evaluation of Statistical Estimation Procedures for Ordinal Factor Analysis Models</i>	Dakota W. Cintron
<i>Comparison of Exploratory and Bayesian Structural Equation Modeling with Ordered Categorical Indicators</i>	Xinya Liang Yanyun Yang Chunhua Cao

Session 2C: Room TBA – Title TBA

Paper	Authors
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<i>Bayesian Model Averaging: A Forward Paradigm Shift</i>	Tyler Hicks Jesse Pace Graham G. Rifenburg
<i>Examining Model Fit in Meta-Analysis with Posterior Predictive Model Checks</i>	Jeffrey C. Hoover Neal Kingston

Session 2D: Room TBA – Title TBA

Paper	Authors
<i>Affect Variability and Childhood Trauma Increase Risk for Non-Suicidal Self-Injury Following Psychiatric Hospitalization</i>	Leslie Brick Nicole Nugent Michael Armev
<i>Dynamics of Impulse Buying - an Application of R/DSEM</i>	Adam Sagan Aleksandra Borkowska Krystian Fejkiel Patrycja Lepak Izabela Ryszka

Session 2E: Room TBA – Title TBA

Paper	Authors
<i>A Bottom-Up Approach to Examining Group- Level Communication Patterns: A Multilevel Latent Profile Analysis of Functional Group Interaction</i>	Joseph A. Bonito
<i>Estimating Organizational Traits with Multiple Level 1 Informants: A Latent Variable Approach for Estimating Rater Differences in Multilevel Contexts</i>	Timothy R. Konold Elizabeth A. Sanders

2:15 – 2:30 pm Break – Refreshments in the McHugh Hall Atrium

Concurrent Paper Session 3

Tuesday 2:30 – 3:30 pm

Session 3A: Room TBA – Title TBA

Paper	Authors
<i>Evaluating Measurement Invariance—Which Approach to Choose? A Didactic Comparison of the Traditional Multiple-Group Factor Model and the Alignment Method</i>	Raymond Luong Jessica Kay Flake

Session 3B: Room TBA – Title TBA

Paper	Authors
<i>Modeling Dynamic Processes with Panel Data: An Application of Continuous Time Models to Prevention Research</i>	Pascal Deboeck David A. Cole Kristopher J. Preacher Rex Forehand Bruce E. Compas
<i>TBA</i>	<i>TBA</i>

Session 3C: Room TBA – Title TBA

Paper	Authors
<i>Identification Issues in Dichotomous and Polytomous LCA Models</i>	Eric Loken
<i>Scale-Adjusted Latent Class (SALC) modeling of ranked preferences</i>	Jay Magidson

Session 3D: Room TBA – Title TBA

Paper	Authors
<i>Sample Size Requirements in Multilevel Latent Growth Curve Models</i>	Melissa S. C. Lee
<i>The Impact of MNAR Dropout on Estimation of Latent Growth Curve Models with Binary Observed Variables</i>	Jason T. Newsom Nicholas A. Smith Craig K. Enders

Session 3E: Room TBA – Title TBA

Paper	Authors
<i>Matched Design vs. Machine Learning as Applied to Hospital Report Cards</i>	Ali Hashmi Frank Yoon

Using Principal Components to Develop Propensity Scores

Jaehoon Lee
Seungman Kim
Xinyang Li
Youngmin Kim
Yifang Zeng

3:30 – 3:45 pm Break – Refreshments in the McHugh Hall Atrium

Keynote – Keith Widaman

Tuesday 3:45 – 5:00 pm

Title - TBA

TBA

McHugh Hall 102

3:45 – 5:00 pm

Description - TBA

Poster Session and Reception

Student Union Ballroom

5:00 – 6:30 pm

Tuesday, June 2nd

Third Floor, Student Union

Wednesday, June 3rd

Continental Breakfast

7:30 – 8:00 am

McHugh Hall Atrium

Concurrent Paper Session 4

Wednesday 8:00 – 9:00 am

Session 4A: Room TBA – Title TBA

Paper	Authors
<i>Interpretable Dimension Reduction in Prediction Model: Extended Redundancy Analysis and its Extensions and Applications</i>	Sunmee Kim Heungsun Hwang

Session 4B: Room TBA – Title TBA

Paper	Authors
<i>Measurement Invariance Testing Using Factor Mixture Modeling and Structural Equation Model Trees: A Monte Carlo Simulation Study</i>	Yan Wang Joseph Gonzales
<i>Sample Size Requirements in Factor Mixture Modeling: A Monte Carlo Simulation Study</i>	Yan Wang Eunsook Kim Hsien-Yuan Hsu

Session 4C: Room TBA – Title TBA

Paper	Authors
<i>Success in Sports: Luck or Ability?</i>	Vinay Kanetkar
<i>Too Many Zeros and Not Sure What Model to Select</i>	Isaac J. Washburn

Session 4D: Room TBA – Title TBA

Paper	Authors
<i>Challenges of Class Imbalance and the Impact of Sampling Methods on Prediction Performances for Binary Classification Methods</i>	Meng-Ting Lo Yixi Wang Ann A. O'Connell
<i>A Methodological Comparison of Supervised Classifiers for Nested Data</i>	Anthony A. Mangino W. Holmes Finch

Session 4E: Room TBA – Title TBA

Paper	Authors
<i>Innovated Methods to Improving Performance of Multilevel Modeling for Variance Components in the Analysis of SCED</i>	Haoran Li Wen Luo Eunkyeng Baek Kwok Hap Lam Christopher Thompson Ashley Majzun
<i>Detecting L2 Misspecification in Multilevel Structural Regression Models</i>	Elizabeth A. Sanders Timothy R. Konold

Concurrent Paper Session 5**Wednesday 9:15 – 10:15 am****Session 5A: Room TBA – Title TBA**

Paper	Authors
<i>Construct Validity and Replications: Lessons Learned from Large Scale Replication Studies</i>	Jessica Kay Flake Leonie Cloos Ian Davidson Sasha Elbaz Raymond Luong Jolynn Pek Octavia Wong Mairead Shaw

Session 5B: Room TBA – Title TBA

Paper	Authors
<i>Disentangling Within from Between: Why and How</i>	Ellen Hamaker

Session 5C: Room TBA – Title TBA

Paper	Authors
<i>Constructing Bootstrap Confidence Intervals for Standardized Effect Size in Cluster-Randomized Trials</i>	Mark H. C. Lai
<i>Bootstrap Estimation Procedures in the Context of Two-Level Synthesis of Single-Case Experimental Data: A Simulation Study</i>	Mariola Moeyaert Wim Van Den Noortgate Xinyun Xu Panpan Yang

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Session 5D: Room TBA – Title TBA

Paper	Authors
<i>Handling Missing Data in Weighted Social Network Models</i>	Nathan Abe Elizabeth A. Sanders
<i>Covariance-based and Component-based Structure Analysis with Small Sample Sizes and Non-normal Data</i>	Alicia Olechowski Jennifer Koran

Session 5E: Room TBA – Title TBA

Paper	Authors
<i>Right Model, Wrong People: Classification Accuracy in Mixture Models</i>	Dakota W. Cintron D. Betsy McCoach Eric Loken Aarti P. Bellara
<i>To What Extent are Structural Fit Indices Affected by Reliability? A Tale of Two Approaches</i>	Graham G. Rifenbark D. Betsy McCoach H. Jane Rogers

Keynote – Stephen Raudenbush **Wednesday 10:30 am – 12:00 pm**
Title – TBA
 McHugh Hall 102
 10:30 am – 12:00 pm

Lunch **Wednesday 12:00 – 1:00 pm**
 Student Union

Concurrent Paper Session 6

Wednesday 1:00 – 2:30 pm

Session 6A: Room TBA – Data Mining Methods to Assist Statistical Modeling

Symposium	Authors
<i>Semi-supervised Learning Method to Adjust Biased Item Difficulty Estimates Caused by Nonignorable Missingness in a Virtual Learning Environment</i>	Kang Xue A. Corinne Huggins-Manley Walter L. Leite
<i>A Comparison of Machine Learning Techniques to Handle Sparse Data in Item Response Theory Model Estimation</i>	Shery Zhou Walter L. Leite A. Corinne Huggins-Manley
<i>Mixture Item Response Theory Model Selection with Hybrid Ant Colony Optimization Algorithm</i>	Zeyuan Jing Huan Kuang Walter L. Leite A. Corinne Huggins-Manley
<i>Detecting Heterogeneous Treatment Effects in an Experimental Study of a Personalized Learning Algorithm with Structural Equation Model Forests</i>	Huan Kuang Zeyuan Jing Walter L. Leite A. Corinne Huggins-Manley
<i>A Comparison of Missing Imputation Methods for Covariates in Propensity Score Analysis Using Random Forests Algorithms</i>	YongSeok Lee Walter L. Leite

Session 6B: Room TBA – Evaluation of Current and Novel Methods for Characterizing Path Directionality in Structural Vector Autoregressive Models

Symposium	Authors
<i>The Influence of Temporal Autocorrelation Strength and Search Strategy on Directionality Recovery in GIMME</i>	Alexander Weigard Stephanie Lane Kathleen Gates Adriene Beltz
<i>Path and Directionality Discovery in Individual Dynamic Models: A Regularized Unified Structural Equation Modeling Approach for Hybrid Vector Autoregression</i>	Ai Ye Kathleen Gates Teague Henry Lan Luo
<i>Estimating Both Directed and Bidirectional Contemporaneous Relations in Time Series Data Using hybrid-GIMME</i>	Lan Luo Cara Arizmendi Zachary Fisher Peter C. M. Molenaar Aaron Fisher Adriene Beltz Kathleen Gates
<i>Delineating Subgroups with Opposing Directionality in Dynamic Networks</i>	Jonathan J. Park Sy-Miin Chow Zachary Fisher Kathleen Gates Peter C. M. Molenaar

Session 6C: Room TBA – Title TBA

Paper	Authors
<i>Empirical Bayes Derivative Estimates</i>	Pascal Deboeck
<i>The Equivalence between Autoregressive Models and Differential Equation Models</i>	Yueqin Hu Kevin Patyk
<i>Fitting Multilevel Vector Autoregressive Models in the Bayesian Framework Using Stan, JAGS, and Mplus</i>	Yanling Li Julie Wood Linying Ji Sy-Miin Chow Zita Oravecz

Session 6D: Room TBA – Title TBA

Paper	Authors
<i>Checking the Robustness of Longitudinal “Effects” Across Two Types of Change Scores</i>	Robert E. Larzelere Hua Lin Ronald B. Cox, Jr.
<i>Centered-ANCOVA, a Solution for Lord’s paradox with Implications for Valid Causal Inferences in Longitudinal Analyses</i>	Hua Lin Robert E. Larzelere
<i>Unequal and Individually-Varying Time Intervals in Latent Change Score Model: A Demonstration of Five Approaches</i>	Yan Wang Eunsook Kim Katherine Tucker Luis Falcon

Session 6E: Room TBA – Title TBA

Paper	Authors
<i>Confirmatory Bifactor Measurement Models</i>	Rafael Ramirez
<i>Model Fit for Diagnostic Classification Models</i>	W. Jake Thompson Jeffrey C. Hoover
<i>Scientific Pathways to Identify and Measure Formative Constructs</i>	Gavin Jiayun Wu

Concurrent Paper Session 7**Wednesday 2:45 – 4:15 pm****Session 7A: Room TBA – Multiplex Modeling: Leveraging Multivariate Data from Multiple Sources at Multiple Levels**

Symposium	Authors
<i>Cross-Classified Measurement Modeling of Teacher Observation Item Ratings from Multiple Raters</i>	Audrey J. Leroux C. Kevin Fortner Hongli Li
<i>Integrative Data Analysis Using Multivariate Measurement Models with Passive Versus Explicit Between-Study Effects</i>	Justin M. Luningham Gitta H. Lubke
<i>Multilevel and Multivariate Models for Meta-Analysis</i>	Terri Pigott Beth Tipton

Session 7B: Room TBA – Title TBA

Paper	Authors
<i>Incorporating Spatial Data into Patient/Person Level Analytics: How to Find, Map, Merge and Analyze Data Capturing Lived Experiences; Demonstration Using Excel, Policymap, Geoda, Stata, and R</i>	Emil Coman Allison Joslyn

Session 7C: Room TBA – Title TBA

Paper	Authors
<i>How to Study Unequal Access, When Students Rate the Learning Environment Attribute of Interest</i>	Diego Alonso Carrasco Ogaz Pablo Torres Irribarra Natalia López-Hornickel Ernesto Treviño
<i>Estimation of Age, Period, and Cohort with Heterogeneity using Multilevel Model: An Example of Wage Trajectory Analysis</i>	Hawjeng Chiou Pi-Fang Lin
<i>Application of Spatial Models to Educational Phenomena</i>	Holmes Finch Maria Hernandez Finch Alicia Hazelwood

Session 7D: Room TBA – Title TBA

Paper	Authors
<i>Data Mining for Reporting the Results of Monte Carlo Simulations</i>	Zachary K. Collier Haobai Zhang
<i>An Algorithm for Covariance Matrix Estimation when Calculating Power in Multiple Regression Models with Interactions and Incomplete Information</i>	Ashutosh Srivastava Sean Lane
<i>Two Novel Methods to Perform Simultaneous Clustering and Variable Selection</i>	Shuai Yuan Katrijn Van Deun

Thursday, June 4th:
Post-Conference Workshop
9:00 am – 5:00 pm
McHugh Hall 102

Continental Breakfast

8:00 – 9:00 am

McHugh Hall Atrium

Post-Conference Workshop

Timing is Everything: Integrating Time-to-Event and Event History Data into Your Longitudinal Latent Variable Models

Katherine Masyn

Description - TBA