2012 Themed Meeting:
Developmental Methodology

February 9 - February 11, 2012
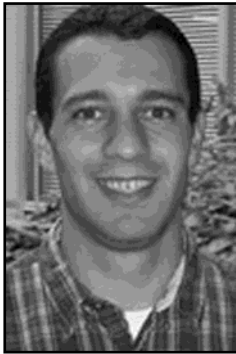
Tampa Marriott Waterside Hotel & Marina
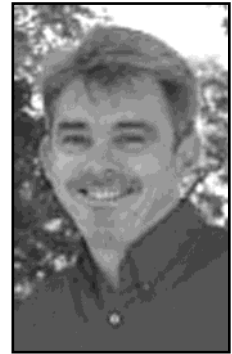**Tampa, Florida**

Table of Contents

Program Co-Chairs' Welcome

Welcome to Tampa and the *Developmental Methodology* themed meeting of the *Society for Research in Child Development*. As you glance at the program you see that this unique meeting provides exciting opportunities for learning, discussing, and networking with developmental methodologists from around the world.

The term "developmental methodology" describes an area of research and scholarship that has existed rather informally until this meeting. We view developmental methodology as the interface of developmental science and quantitative methodology. These two fields of inquiry have ebbed and flowed in a scholarly dance for some time. The advances in methodology improve the study of child development, while the unique research questions of child development motivate advancements in quantitative methods. The field of developmental methodology, therefore, is more than the addition of developmental designs and quantitative analyses; it is a synergistic combination that offers unique opportunities and challenges emergent only at the interface of these disciplines. This conference is our attempt to provide a forum and a modern identity to what has been an informal network of innovators and collaborators across the quantitative and developmental sciences areas of inquiry.

Noel A. Card

Todd D. Little

In attempting to organize this emergent area, we arranged the program around several themes (listed on page 4), intended to capture many of the design, measurement, and data analysis considerations in developmental science. Across these themes, numerous formats for presentation and discussion are utilized. Several workshops provide more extensive descriptions of topics, intended to help attendees learn methodological tools. More traditional formats of invited talks, paper symposia, and poster symposia present states of the art in developmental methodology. We also added a new "Ask a Question" format that allows presenters the chance to discuss with attendees challenging methodological issues in developmental science. Finally, we are especially excited by two keynote addresses by Peg Burchinal and John Nesselroade, both innovators in developmental methodology even before the phrase existed.

Over two years of planning went into this conference, and we have accumulated a considerable debt to many individuals for their hard work and thoughtful input. First and foremost, we want to thank the SRCD staff for organizing the logistics of this meeting. We also want to thank Greg Duncan, Lonnie Sherrod, and Susan Lennon for their many insights during the initial planning of this meeting. More generally, we want to thank SRCD for holding this meeting, which we view as the Society's commitment to advancing the rigor of our science. We also owe our thanks to the invited speakers of this conference, the panel chairs, and the expert reviewers of the submitted program. Finally, we want to thank you, in advance, for what we anticipate will be exciting and thought-provoking discussion throughout the meeting.

Thank you for attending the 2012 *Developmental Methodology* meeting. If you have any questions or suggestions, or simply want to introduce yourself, please do not hesitate to talk with either of us or with the SRCD staff.

Sincerely,

Noel A. Card and Todd D. Little
Program Co-Chairs

Developmental Methodology
2012 Meeting Information

All events and sessions will be held in:

Tampa Marriott Waterside Hotel & Marina
700 South Florida Avenue
Tampa, FL 33602

Always Wear Your BADGE – it identifies your registration and restricts you to the meeting for which you registered!
Badges should be worn at all times, not only as a courtesy to other attendees, but also as an indication that you have registered before participating in any scheduled event. Badges must be worn to gain admission to the meeting sessions, poster session, and reception for the *Developmental Methodology* meeting. **If you lose or forget your badge you may have it reprinted at the registration desk** (located to the left of the top of the escalator on the 2nd floor of the hotel). Thank you for your cooperation!

Registration Desk
The registration desk is located to the left of the top of the escalator on the 2nd floor of the hotel.

Registration Desk hours:

Wednesday	4:00 PM – 7:00 PM
Thursday	6:30 AM – 4:00 PM
Friday	7:00 AM – 4:15 PM
Saturday	7:00 AM – 11:30 AM

Speaker-Ready Room
The speaker-ready room is located in Meeting Room 11 on the 3rd floor of the hotel. This room is equipped with a screen, LCD projector, a table, and chairs.

Speaker-Ready Room hours:

Thursday	6:30 AM – 4:00 PM
Friday	7:00 AM – 4:15 PM
Saturday	7:00 AM – 10:15 AM

Special Events:
Coffee and a light breakfast will be available in the Grand Salon EF Foyer:

Thursday	7:30 AM – 8:00 AM
Friday	7:30 AM – 8:00 AM
Saturday	7:30 AM – 8:00 AM

Welcome Reception in the Grand Salon EF Foyer from 4:30 PM – 6:00 PM. All attendees are encouraged to come! **Please join us for wonderful hors d'oeuvres and an open bar.**

2012 Review Panels for
Developmental Methodology

A sincere thank you to all those involved in the review process! Your time and efforts are very much appreciated.

Theme 1: Scaling
Chaired by: Larry R. Price
Reviewers: Danielle Brown with mentees Chastity McFarlan and Marcia Calloway, Rachel Gordon with mentee Ken A. Fujimoto, Yibing Li, Amanda Pearl, Gary Resnick, Gail Ryser, Manfred van Dulmen, Naomi Wentworth, Nikki Yonts.

Theme 2: Measurement equivalence
Chaired by: Daniel J. Bauer and Patrick Curran
Reviewers: Annamaria Csizmadia, Natalie Eggum, Margaret K. Keiley, Peggy S. Keller, Michelle Lampl, Christine Merrilees with mentee Laura Taylor, Thomas M. Olino, Stephanie D. Stepp, Melissa Sturge-Apple, Deanne Swan.

Theme 3: Intensive data collection methods
Chaired by: Scott Hofer
Reviewers: Jeremy Biesanz, Niall Bolger, Daniel Bontempo, Jacqueline Mogle, Graciela Muniz, Brian Ogolsky, Andrea Piccinin, Annie Robitaille, Joshua Smyth, Catharine Sparks, Robert Stawski, Valgeir Thorvaldsson.

Theme 4: Content-specific measurement
Chaired by: Antonio Morgan-Lopez
Reviewers: Beth A. Bailey, Carla Bann, Kortnee Barnett-Walker, Joann P. Benigno, Ximena Franco, Eun Sook Kim, Assaf Oshri, Lissette Saavedra.

Theme 5: Innovative longitudinal designs
Chaired by: Antonius H. Cillessen
Reviewers: Amy D. Bellmore, William J. Burk, James A. Dixon, Patrick S. Malone, Karen Nylund-Gibson, Holly Schindler, Sara Tomek Templin, Rens van de Schoot.

Theme 6: Intraindividual longitudinal analysis
Chaired by: Nilam Ram
Reviewers: Annette Brose, Marcia Calloway, Sy-Miin Chow, Kristine Marceau, Ashley Mason, Chastity McFarlan, Matthias Mehl, Jennifer Morack, Florian Schmiedek, Mariya Shiyko, Lijuan (Peggy) Wang, Li Weilin, Phil Wood.

Theme 7: Interindividual longitudinal analysis
Chaired by: James P. Selig
Reviewers: Yvonne Anders, Naomi Ekas, John Geldhof, Sharon R. Ghazarian, Allen Gottfried with mentee Erin Arruda, Suzanne Hartman, Paul E. Jose, Christopher Lloyd, Florensia F. Surjadi, Yan Z. Wang.

Theme 8: Combining intraindividual and interindividual longitudinal analysis
Chaired by: Kevin J. Grimm
Reviewers: Stephen Aichele, Nayena Blankson with mentee Shana Rochester, Wes Bonifay, Jan Boom, Laura Castro-Schilo, Kai Cortiina, Ryne Estabrook, Melissa R.W. George, Christopher A. Hafen, Jon Helm, Scott Monroe, Joel Steele.

Theme 11: Missing data
Chaired by: Mijke Rhemtulla
Reviewers: Chantelle Dowsett, Carl Falk, Kim Gibson, Ross Larsen, Weilin Li, Gabriel Schlomer, Elliot Tucker-Drob, Amanda Williford with mentee Michelle Maier.

(Event 1-001) Coffee
Grand Salon EF Foyer
Thursday, 7:30 am – 8:00 am

1-001. Coffee and Continental Breakfast

(Event 1-002) Invited Workshop
Grand Salon A
Thursday, 8:00 am - 11:45 am

1-002. Growth Mixture Modeling and Beyond: Longitudinal Analysis with Continuous and Categorical Latent Variables

Instructors: Katherine E. Masyn, Hanno Petras

Abstract. This short course is designed for researchers with a working knowledge of growth modeling in either a multilevel or SEM framework. The goal of the workshop is to introduce participants to latent growth curve modeling with a combination of continuous and categorical latent variables, including latent class growth analysis (also known as semi-parametric group-based trajectory models) and the more flexible general growth mixture modeling. The course will begin with an introduction to unconditional growth mixture models involving discussions of model specification, estimation, and interpretation. Appropriate emphasis will be given to one of the more challenging aspects of any mixture modeling: class enumeration. We will then move on to general growth mixture models (GGMMs), examining methods for the inclusion of both antecedents (predictors and correlates) and consequences ("distal outcomes") of trajectory class membership. The workshop will conclude with an overview of some of the many extensions of GGMM possible in the broader latent variable modeling framework, including latent transition growth mixture models, multilevel growth mixture models, and joint survival and growth models. During the course, we will stress principled model building strategies, demonstrated with real data examples. Strengths and limitations of the methods, as well as the common misapplications and misinterpretations that have resulted in some of the standing criticisms of GGMM in the extant literature, will be discussed throughout the workshop. By the end of the course, participants should possess a familiarity with the analytic approach of general growth mixture modeling, such that they may competently evaluate the quality of applications of GGMM in the developmental literature, and a solid foundation to pursue additional training in order to develop their facilities for successfully applying GGMM in their own work.

Biography. Dr. Katherine Masyn, currently an Assistant Professor at the Harvard Graduate School of Education, received her doctorate in Social Research Methodology at UCLA under the mentorship of Prof. Bengt Muthén. She completed her postdoctoral training in Prevention Science Methodology through a NIMH-funded fellowship held by Johns Hopkins University and worked as an Assistant Professor in Human Development at UC Davis before moving in January 2010 to her present position. Dr. Masyn's research focuses on the development and application of latent variable statistical models related to: survival and event history analysis; multivariate and multi-faceted longitudinal processes, e.g., latent transition growth mixture models; and, more broadly, the characterization and parameterization of both observed and unobserved population heterogeneity in cross-sectional and longitudinal settings, e.g., factor mixture models. Along with her own methods research, Dr. Masyn also enjoys close collaborations with colleagues from the fields of Human Development, Education, Psychology, Public Health, and Prevention Science and serves as the statistical consultant on multiple federally-funded research grants.

Biography. Dr. Hanno Petras, currently the Associate Director of the Center for Health and Social Policy Research at JBS International, Inc., received his doctorate in Sociology from Christian-Albrechts University in Kiel, Germany and completed his postdoctoral training in

Prevention Science funded by a NIMH fellowship at Johns Hopkins University. His research interests and expertise are in the development of antisocial behavior, the design and evaluation of preventive interventions and the appropriate application of statistical methods using latent variables. Dr. Petras is an experienced reviewer for peer reviewed journals and an active participant on advisory panels. In addition, he is a member of the Prevention Science Methodology Workgroup. Finally, he is the current editor for SPR Community, the newsletter of the Society for Prevention Research (SPR), a consulting editor for Prevention Science and also serves on the Board of Directors of SPR. He is well-published in the areas of violence, substance use, and mental health and has applied latent variable models in the majority of his papers. Drs. Masyn and Petras share a strong commitment to the effective and accessible dissemination of emerging statistical methodology to substantive researchers and have taught, both individually and as a team, numerous trainings and workshops, both nationally and internationally, on the topics of: latent variable growth modeling and growth mixture modeling; latent class and latent transition analysis; multilevel modeling; and discrete- and continuous-time survival analysis.

(Event 1-003) Invited Workshop
Grand Salon B
Thursday, 8:00 am - 11:45 am

1-003. Introduction to Multilevel Structural Equation Modeling

Instructor: James P. Selig

Abstract. Multilevel Structural Equation Modeling (ML-SEM) is a relatively new approach that incorporates some of the best features of two distinct modeling traditions: Multilevel Modeling (MLM) and Structural Equation Modeling (SEM). This approach is exciting because it can be used to accommodate nested data structures (e.g., repeated observations within individuals or students within classrooms) while also incorporating a measurement model to correct for measurement error, and allowing the specification of complex relations among many latent and observed variables. The idea of ML-SEM is not new, but innovations occurring over the past several years in ML-SEM software have made it possible to estimate a wide variety of models that were previously unavailable. This workshop is designed to provide those attending with an overview of the fundamentals of ML-SEM. It is intended for those who have some familiarity with both SEM and MLM. We will begin with a brief review of the foundations of MLM and SEM and then introduce a unified model for ML-SEM with special attention to how it differs from the SEM and MLM specifications. Topics covered will include: Multilevel Confirmatory Factor Analysis; Multilevel Path Analysis; and issues of model fit in ML-SEM. Examples using the Mplus software package will be provided for both longitudinal and cross-sectional data.

Biography. James P. Selig, Ph.D., is an assistant professor of educational psychology at the University of New Mexico. He holds a Ph.D. in quantitative psychology from the University of Kansas. His areas of interest include models for longitudinal data, multilevel modeling, and structural equation modeling.

(Event 1-004) Invited Workshop
Grand Salon C
Thursday, 8:00 am - 11:45 am

1-004. Making Missing Data Work: Theory and Application of Planned Missing Designs for Developmental Research

Instructors: Wei Wu, Mijke Rhemtulla

Abstract. The goal of this workshop is to make participants well-versed in planned missing data designs, from conceptualization to the details of design and carry-out, to analysis. To reach this goal, the workshop will begin with a brief but thorough introduction to the problem of missing data and modern missing data mechanisms. We will then discuss in detail several specific planned-missing designs. Finally, we will explain how to compute power for designs with missing data. (1) Characteristics of Missing Data. It is important to be able to characterize missing data, whether it stems from a planned missing design or other reasons (e.g., attrition, nonresponse, computer failure). Too few published papers even mention missing data, with the result that important biases in their results may go unnoticed. Participants will first learn the

conceptual differences between missing data mechanisms (Missing Completely at Random, Missing at Random, Missing Not at Random), and learn how to tell which of these mechanisms is most likely to apply to their particular dataset (e.g., by inspecting missing data patterns and percentages, and by regressing missingness indicators on other variables in the dataset). These steps can be accomplished using any statistical software, such as SPSS. (2) Modern Missing Data Methods. The next part of the workshop will feature a brief overview of Multiple Imputation and Full Information Maximum Likelihood, the two modern missing data methods that should be used in almost any analysis where missing data are involved. Software options for the two methods will be presented. Participants will learn how to perform "Rubin's Rules" for combining estimates across multiple imputations; they will also learn how to use the variance components in Rubin's Rules (i.e., within- and between-imputation variances) to compute fractions of missing information for parameters of interest. (3) Planned Missing Designs. With fundamentals covered, participants will learn about three types of planned missing designs. The Multi-Form Design (Graham, Hofer, & Piccinin, 1994) takes a long test or survey and makes it significantly shorter for each participant, alleviating participant fatigue and drop-out, but retaining a large number of items. The Wave-Missing Design (Graham, Taylor, & Cumsille, 2001) is for longitudinal designs; here, participants are measured at some but not all waves of measurement. Finally, the Two-Method Design (Graham, Taylor, Olchowski, & Cumsille, 2006) is used when it is possible to measure a construct with an unbiased time- or cost-intensive method (e.g., personal interviews) or a biased but inexpensive method (e.g., paper-and-pencil tests). By administering the intensive measure to a small proportion of the total sample and administering the inexpensive method to the entire sample, it is possible to measure and remove the bias, maximizing validity as well as cost-efficiency. Participants will learn which (if any) design is appropriate for their research question and measures, how to implement these designs, and how to minimize power loss for important parameters. (4) Power Analyses. If there is time remaining, participants will learn how to use a Monte Carlo simulation approach to measure power of a design with a specified amount of missing data, using Mplus.

Biography. Dr. Wei Wu is an assistant professor of Quantitative Psychology and research affiliate in the Center of Research Method and Data Analysis at the University of Kansas. She completed her Ph.D. in Quantitative Psychology from Arizona State University in 2008. Wu is a specialist in structural equation modeling, longitudinal data analysis and missing data estimation. She currently serves as co-PI on a research grant funded by NSF developing and evaluating planned missing data designs in longitudinal studies. She regularly teaches multiple regression, multivariate statistics, advanced SEM and missing data analysis.

Biography. Mijke Rhemtulla, Ph.D., is a postdoctoral researcher at the Center for Research Methods and Data Analysis at the University of Kansas. Mijke received her PhD from the University of British Columbia in 2010 in Developmental Psychology. Her quantitative research focuses on understanding how standard errors are affected by missing data (i.e., fraction of missing information).

Thursday, 8:00 am - 9:45 am

(Event 1-005) Paper Symposium
Grand Salon D
Thursday, 8:00 am - 9:45 am

1-005. Modeling Individual & Dyadic Processes: New Time Series Methods

Chairs: Peter Molenaar, Nilam Ram
Pennsylvania State University

- Dynamic Models for Dyadic Interactions in Developmental Research
  Emilio Ferrer[1], Joel Steele[2]
  [1]University of California; [2]Portland State University

- A Novel Method for Obtaining Functional MRI Connectivity Maps
  Kathleen Gates, Peter Molenaar
  Pennsylvania State University

- Time-Frequency Analysis for Modeling Physiological Dynamics in Dyadic Interactions
  Siwei Liu[1], Peter Molenaar[1], Michael Rovine[1], Matthew Goodwin[2]
  [1]Pennsylvania State University;
  [2]Massachusetts Institute of Technology Media Laboratory

- Day-to-Day Person-Specific Processes of Social Anxiety in Vulnerable University Freshman
  Cynthia Campbell, Karen Bierman, Peter Molenaar
  Pennsylvania State University

(Event 1-006) Paper Symposium
Meeting Room 12
Thursday, 8:00 am - 9:45 am

1-006. Advances in longitudinal modeling applied to literacy research

Chair: Yaacov Petscher
Florida Center for Reading Research

- Methodological and Statistical Considerations in Detecting Matthew Effects
  Christopher Schatschneider[2], Yaacov Petscher[1]
  [1]Florida Center for Reading Research; [2]Florida State University

- Modeling within-person change using latent change models
  Donald Compton
  Vanderbilt University

- A multilevel bifactor framework for the measurement of instruction
  Ben Kelcey
  Wayne State University

- Linear and non-linear models for growth and change: examples from the National Longitudinal Study of Youth
  Ann O'Connell[1], Jessica Logan[1], Jill Pentimonti[1], Betsy McCoach[2]
  [1]Ohio State University; [2]University of Connecticut

(Event 1-007) Constructed Paper Symposium
Grand Salon D
Thursday, 10:00 am - 11:45 am

1-007. Assessing Measurement Across Time, Development, and Contexts

Chair: M. Lee Van Horn
University of South Carolina

- Cross-National Equivalency of Communities That Care-based Risk and Protective Factor Scales Between the United States and Australia
  Eric Brown[1], Jennifer Beyers[4], Richard Catalano[1], Todd Herrenkohl[1], John Toumbourou[2], M. Lee Van Horn[3]
  [1]University of Washington; [2]Deakin University; [3]University of South Carolina; [4]Organizational Research Services

- Factorial Invariance of an early measure of mathematics: Evaluating stability through kindergarten across three research groups
  Christopher Wolfe[1], Douglas Clements[2], Julie Sarama[2], Mary Elaine Spitler[2]
  [1]Indiana University - Kokomo; [2]University at Buffalo

- Testing Longitudinal Invariance of a Dynamic Developmental Construct: Executive Control Across the Preschool Years
  Kimberly Andrews Espy[1], Tiffany Sheffield[2], Hye-Jeong Choi[2], Jennifer Nelson[2], Caron Clark[2]
  [1]1. Office for Research, Innovation and Graduate Education, University of Oregon; [2]University of Nebraska-Lincoln

- A Comparison of Estimators for Latent Growth Models with Partially Invariant Ordinal Repeated Measures
  Hye-Jeong Choi
  University of Nebraska-Lincoln

(Event 1-008) Invited Talk
Meeting Room 12
Thursday, 10:00 am - 11:45 am

1-008. Slowly Moving from Repeated Measures ANOVA to Dynamic BUT Structural Modeling

Chair: Noel A. Card
University of Arizona
Invited Speaker: John J. (Jack) McArdle

Abstract. The predominance of Repeated Measures ANOVA (RANOVA) in longitudinal data analysis is considered. RANOVA is a readily available, and widely respected way to test mean changes over time, so it is a widely used technique in both observational and manipulation research. Controversies about the required covariance assumptions of the data (i.e., compound symmetry) have been largely settled by the use of an epsilon factor to correct the probability values. There is no doubt that RANOVA is a special and useful technique. But the recent surge of activity in Longitudinal Structural Equation Models (LSEM) should not be ignored either. Although it is not often stated, the RANOVA can be thought of and fitted as a special case of the more general LSEM approach. That is, exactly the same parameter values and fit indices can be obtained from RANOVA or SEM programs. As soon as this basic RANOVA option is demonstrated in LSEM, other longitudinal modeling approaches become clear - including the recent surge of activity in latent growth curve modeling and latent change score analysis. The need for these new approaches to dynamic analysis comes largely when we want to examine hypotheses about the individual differences in changes. This focus on the individual and their changes is not a formal property of RANOVA. The LSEM is not considered the final statement here, and Exact Differential Models or Chaos Models can be used instead. To clarify this first option, numerical examples are presented using standard SEM and SAS software. The key dynamic question arises - "What is your model for change?" The biggest surprise comes when many researchers have questions and ideas that are well beyond the RANOVA approaches they use, and the LSEM approaches would be much more suitable for evaluating their own ideas. McArdle, J.J. (2008). Latent variable modeling of differences and changes with longitudinal data. Annual Review of Psychology, 60, 577-605. PMCID: 18817479 McArdle, J.J. & Prindle, J.J. (2008). A latent
change score analysis of a randomized clinical trial in reasoning training. Psychology and Aging, 23(4), 702-719. PMCID: 19140642

Biography. John J. (Jack) McArdle, Ph.D., is Senior Professor of Psychology at the University of Southern California where he heads the Quantitative Methods training program and is Chair of the research Committee. He teaches classes in topics in psychometrics, multivariate analysis, longitudinal data analysis, exploratory data mining, and structural equation modeling. His research has been focused on age-sensitive methods for psychological and educational measurement and longitudinal data analysis including publications in factor analysis, growth curve analysis, and dynamic modeling of adult cognitive abilities. Jack was recently awarded an NIH-MERIT grant from the National Institute on Aging for his work on "Longitudinal and Adaptive Testing of Adult Cognition." (2005-2015), and here he is working on new adaptive tests procedures to measure higher order cognition as a part of standard surveys (e.g. the HRS). Working with the American Psychological Association he has led the Advanced Training Institute's on both Longitudinal Structural Equation Modeling (2000-2011) and Exploratory Data Mining (2009-2011).

Thursday, 1:30 pm - 3:15 pm

(Event 1-009) Paper Symposium
Grand Salon A
Thursday, 1:30 pm - 3:15 pm

1-009. Applications of Recent Advances in Causal Inference Methodology to Longitudinal Data

Chairs: Christopher Powers, Donna Coffman
Pennsylvania State University

- Investigating the Causal Relationship Between Parental Knowledge and Youth Risky Behavior
  Melissa Lippold, Donna Coffman, Mark Greenberg
  Pennsylvania State University

- Novel Approaches to Causal Mediation in the Context of Clinical Trials
  Scott Compton[2], Donna Coffman[1]
  [1]Pennsylvania State University; [2]Duke University Medical Center

- Causal Mediation of Inattention and Aggression on Substance Use Outcomes in the Fast Track Data
  Donna Coffman, Christopher Powers, Karen Bierman
  Pennsylvania State University

(Event 1-010) Constructed Paper Symposium
Grand Salon B
Thursday, 1:30 pm - 3:15 pm

1-010. Issues in and Applications of Latent Trait and Class Analysis in Longitudinal Research

Chair: Larry R. Price
Mind Spring

- Using a Latent Trait-State-Occasion Model to Study the Relationships Between Developmental Phenotypes of Internalizing Symptoms and Single Nucleotide Polymorphisms
  Rashelle Musci[1], Katherine Masyn[2], Nicholas Ialongo[3], George Uhl[4]
  [1]University of California-Davis; [2]Harvard University; [3]Bloomberg School of Public Health, Johns Hopkins University; [4]Johns Hopkins University

- Blatant Class Analysis
  Eric Loken
  Pennsylvania State University

- Predicting longitudinal outcomes using the latent transition analysis model: Early prediction of degree attainment
  Karen Nylund-Gibson[1], Amber Gonzalez[1], Gottfried Allen[2], Adele Gottfried[3]
  [1]University of California, Santa Barbara; [2]Claremont Graduate University; [3]California State University, Northridge

- Prediction in Growth Mixture Models: New Approaches From Data Mining to Predict Parameters, Classes, and Distal Outcomes
  Richard Gonzalez[1], WonJung Oh[1], Tianyi Yu[2], Brenda Volling[1]
  [1]University of Michigan; [2]University of Georgia

(Event 1-011) Paper Symposium
Grand Salon C
Thursday, 1:30 pm - 3:15 pm

1-011. Using Regression Mixtures to Model Individual Differences

Chair: M. Lee Van Horn[1]
Discussant: Hanno Petras[2]
[1]University of South Carolina; [2]JBS International, Inc.

- Moderation without a Moderator: Using Regression Mixtures to Find Differential Effects of Contexts
  M. Lee Van Horn[1], Thomas Jaki[2]
  [1]University of South Carolina; [2]Lancaster University

- A Novel Approach for Dealing with Non-Normal Errors When Using Regression Mixture Models
  Melissa George[1], Na Yang[2], M. Lee Van Horn[1]
  [1]University of South Carolina; [2]AdvanceMed Corporation

- Identifying Heterogeneity with Multilevel Regression Models and Multilevel Regression Mixture Models
  Tan Li, Melissa George
  University of South Carolina

(Event 1-012) Paper Symposium
Grand Salon D
Thursday, 1:30 pm - 3:15 pm

1-012. Measurement Issues in the Study of Change

Chair: Kevin J. Grimm
University of California, Davis

- Factorial Invariance in Longitudinal Investigations: Accurately Charting Growth Over Time
  Keith Widaman, Kevin Grimm
  University of California, Davis

- Testing the Number of Factors and Factorial Invariance with Longitudinal Data
  Ryne Estabrook
  Virginia Commonwealth University

- Using Measurement at Multiple Time-Scales to Articulate Developmental Theory
  Nilam Ram, David Conroy, Aaron Pincus, Denis Gerstorf, Peter Molenaar
  Pennsylvania State University

- Measurement Model Effects on Studying Change
  Kevin Grimm[1], Anthony Kuhl[1], Zhiyong Zhang[2]
  [1]University of California, Davis; [2]Notre Dame University

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(Event 1-013) Paper Symposium
Meeting Room 12
Thursday, 1:30 pm - 3:15 pm

1-013. Contemporary Behavior Genetic Methods Elucidate Developmental Process

Chairs: Soo Rhee[1], Kathryn Lemery-Chalfant[2]
[1]University of Colorado at Boulder; [2]Arizona State University

- Combining Behavioral Genetic and Longitudinal Approaches to Testing Hypotheses about Specific Environmental Influences on Development
  K. Paige Harden, Patrick Quinn, Elliot Tucker-Drob
  University of Texas at Austin

- Intergenerational Transmission of Genetic Risk for Psychopathology: Employing a Latent Variable Approach to Risk Estimation
  Gordon Harold[1], Kimberly Rhoades[2], Jenae Neiderhiser[3], Misaki Natsuaki[4], Daniel Shaw[5], David Reiss[6], Leslie Leve[2]
  [1]University of Leicester; [2]Oregon Social Learning Center; [3]The Pennsylvania State University; [4]The University of California, Riverside; [5]The University of Pittsburgh; [6]Yale Child Study Center

- Behavior Genetic Modeling of Gene-Environment Interplay: Using GxE and rGE to Understand Mechanisms of Development
  Susan South
  Purdue University

(Event 1-014) Afternoon Break
Grand Salon EF Foyer
3:15 pm – 3:30 pm

1-014 Afternoon Refreshments

(Event 1-015) Plenary Session
Grand Salons E-F
Thursday, 3:30 pm - 4:30 pm

1-015. Some Methodological Matters I Wish I Had Thought About Sooner

Co-Chairs: Noel A. Card, Todd D. Little
Keynote Speaker: John R. Nesselroade

Abstract. Calls for behavioral researchers to recognize and better take into account that the individual should be the primary unit of analysis have recurred over many decades. This call is as salient for developmentalists as for members of any other sub-discipline. Some of the dangers of not doing so were recently made evident by Molenaar (2004) in his discussion of ergodicity and his advancement of the argument that most developmental processes are not ergodic. In this talk, I focus on several key areas of research that have been pursued mainly from a between-persons, individual differences orientation (e.g., measurement models, prediction and selection, generalizability) and consider how the attendant research methodology might be re-structured in a more individually-oriented direction. I will discuss some current work but also point to what I believe may turn into some future work by the generations of researchers succeeding mine. In the process, I shall hope to "take a few bites of hands that have fed me" along the way -- not to cripple and maim so much as to secure attention.
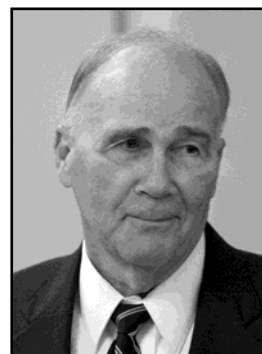
Biography. John R. Nesselroade earned his BS degree in Mathematics (Marietta College, 1961) and MA and PhD degrees in Psychology (University of Illinois at Urbana-Champaign, 1965, 1967). Prior to moving to UVA in 1991, Nesselroade spent five years at West Virginia University and 19

years at The Pennsylvania State University. He has been a frequent visiting scientist at the Max Planck Institute for Human Development, Berlin. Nesselroade is a past-President of APA's Division 20 (1982-83) and of the Society of Multivariate Experimental Psychology (1999-2000). He is a Fellow of the American Association for the Advancement of Science, the American Psychological Association, the Association for Psychological Science, and the Gerontological Society of America. Other honors include the R. B. Cattell Award and the S. B. Sells Award for Distinguished Lifetime Achievement from the Society of Multivariate Experimental Psychology and the Gerontological Society of America's Robert F. Kleemeier Award. In 2010, Nesselroade received an honorary doctorate from Berlin's Humboldt University. He is currently working on the further integration of individual level analyses into mainstream behavioral research.

Thursday, 4:30 pm - 6:00 pm

(Event 1-016) Reception
Grand Salon EF Foyer
4:30 pm – 6:00 pm

1-016. Welcome Reception

All attendees are encouraged to come! Please join us for wonderful hors d'oeuvres and an open bar.

Friday, 7:30 am - 8:00 am

(Event 2-001) Coffee
Grand Salon EF Foyer
7:30 am – 8:00 am

2-001 Coffee and Continental Breakfast

Friday, 8:00 am - 11:45 am

(Event 2-002) Invited Workshop
Grand Salon A
Friday, 8:00 am - 11:45 am

2-002. How to do Statistical Mediation and Moderation

Instructor: Paul E. Jose

Abstract. This workshop is intended to acquaint researchers with the core statistical concepts and methods of statistical mediation and moderation,

and then to provide guidance for current practices in computing these analyses. These analytic techniques are not well taught in current textbooks, and widespread ignorance and misconceptions prevail. The Baron and Kenny approach will be taught, but its extension into higher order platforms such as structural equation modelling (SEM), multi-level modelling, and bootstrapping will also be made. A working knowledge of multiple regression will be assumed, but familiarity with higher order statistical methods (e.g., SEM, multilevel modeling) is not necessary, but will be helpful. The first portion of the workshop will be devoted to statistical mediation and the second portion to statistical moderation.

Biography. Associate Professor Paul Jose received his Ph.D. in Developmental Psychology from Yale University in 1980, and after a post-doctoral fellowship at the University of Illinois, Champaign-Urbana and teaching at Loyola University Chicago for 17 years, currently teaches and conducts research on adolescent development and family dynamics at Victoria University of Wellington in New Zealand. His current research focus is positive youth development and the role of savoring and mindfulness in positive functioning. In the domain of methodology and statistics he is currently writing a book, How to do statistical mediation and moderation (Guilford Press), and is working on a stand-alone statistical program to compute mediation and moderation with raw data named M&M.

(Event 2-003) Invited Workshop
Grand Salon B
Friday, 8:00 am - 11:45 am

2-003. Network and Behavior Dynamics: An Introduction in SIENA and Its Applications

Instructor: René Veenstra

Abstract. Social relations can have a profound impact on human development in all life stages, be it positive relations such as friendship, support, and trust, or negative relations such as

dislike, envy, and bullying. The totality of relationships of a given type, measured in a meaningfully delineated social group, can be represented by a social network. When networks are used for explaining individual development, it needs to be considered that they also can develop over time. Together with the individual characteristics that change over time, the network change constitutes a mutually dependent feedback process. On the one hand, characteristics of individuals, pairs of individuals, and structural positions of individuals within networks can affect the evolution of the network. The best-known example of such dependencies for selection processes may be the homophily process: the formation of a relationship based on the similarity of two individuals. On the other hand, networks can affect the individual characteristics and behavioral development of their members. These latter dependencies can be summarized as influence processes. A prominent example is the assimilation process, by which socially connected individuals become increasingly similar over time. Because homophily and assimilation result in the same empirical phenomenon (similarity of connected individuals), developmental researchers have known for long that the study of influence requires the consideration of selection, and vice versa. Any attempt to analytically separate selection and influence processes is complicated by the fact that network data are inherently interdependent. Whether two individuals are connected in a network can crucially depend on their relations to third parties. Only few statistical methods are capable of mapping (or at least controlling for) such network dependencies. Among these, the prominent tool for the analysis of longitudinal network data is software called SIENA, Simulation Investigation for Empirical Network Analysis. It has proven to be a useful analytic tool for questions about selection (friends change but behavior stays similar) and influence (friends stay similar but behavior changes) effects, with as strengths that it models unobserved changes between observation points, controls for network structure effects, and takes dependencies in the data into account. In this presentation, I portray this method by first deriving some methodological requirements for analyzing selection and influence dynamics, then giving a brief sketch of the model and indicating how it meets these requirements. Next, developmental applications and an illustration of the method are given. Besides questions about

selection and influence dynamics, I will address additional questions treated in the SIENA literature, such as questions about deselection dynamics and about moderation and mediation processes in network and behavior dynamics. I finish with an outlook on future developments of this approach.

Biography. René Veenstra, Ph.D., is Professor, Department of Sociology and Interuniversity Center for Social Science Theory and Methodology (ICS), University of Groningen, the Netherlands, Visiting Professor, Department of Psychology, University of Turku, Finland. During the period 2011-2014, he coordinates the implementation and evaluation of the KiVa Antibullying Program in the Netherlands. He published on a variety of topics (bullying and victimization, peer relations, prosocial and antisocial behavior, social network analysis, temperament-by-environment interactions) in major scientific journals including Child Development, Developmental Psychology, International Journal of Behavioral Development, Journal of Early Adolescence, Journal of Research on Adolescence, and Social Networks. He is Associate Editor of the Journal of Research on Adolescence for the period 2010-2016. For that journal he edits, together with Jan Kornelis Dijkstra, Christian Steglich and Maarten Van Zalk, a special issue on Network and Behavior Dynamics in Adolescence.

(Event 2-004) Invited Workshop
Grand Salon C
Friday, 8:00 am - 11:45 am

2-004. My First Bayes: Why and How to Run Your First Bayesian Model Using Mplus

Instructor: Rens van de Schoot

Abstract. Did you ever wonder why: (1) A p-value of .049 is significant and whether a p-value of .051 isn't? (2) You are testing the null hypothesis even when it is never among your hypotheses of interest? (3) It is sometimes difficult to interpret the results of classical hypothesis testing? Did you ever encounter one of the following issues: (1) A

data set too small for your complex model? (2) Non-normally distributed variables? (3) Negative variances or correlations larger than one? Or did you ever want to compute: (1) The probability that your hypothesis is correct after observing the data? Note that this is not the interpretation of the classical p-value. (2) A 95% probability that your estimate (e.g. mean, regression coefficient) is in between two values? Note that, again, this is not the interpretation of the classical confidence interval. (3) A degree of support for each of the models in your model selection competition? If you answered 'yes' to one of these questions, this workshop might be of interest for you! During this one-day workshop you will be introduced to Bayesian statistics. Bayesian statistics are becoming more and more popular among applied researchers to answer the research question at hand. This is especially due to the availability of Bayesian estimation methods in popular software like MIWiN, AMORS or Mplus v6.x. The workshop will deal with four topics: First you are introduced into the world of Bayesian statistics. This includes: Bayes theorem, P(H|data} versus P{data|H), choosing prior distributions, interpreting posterior distributions and what to do with posterior estimates. Second, we will discuss why one should switch to Bayesian statistics. As Walker, Gustafson, and Frimer (2007, p. 366) state "the Bayesian approach offers innovative solutions to some challenging analytical problems that plague research in […] psychology". There are basically two reasons for switching: (1) you just like the definition of Bayesian probability, or (2) Bayesian statistics can deal with some common encountered problems in maximum likelihood estimation. Both reasons will be discussed in detail. Third, you will learn to analyze simple (regression) and more complex models (SEM/multi-level) using Bayesian statistics available in Mplus. Lastly, I will also show that the Bayesian toolbox should not be used carelessly. All textbooks introducing Bayesian statistics warn users never to forget to inspect the trace plots. In the current workshop it is shown why you should always do so, i.e. to inspect convergence problems. This requires expert knowledge of Bayesian statistics, and that is exactly what will be taught in the workshop. Moreover, guidelines are provided on how to change the settings of the Mplus in such a way that convergence can be reached, but we also discuss that non-convergence might be a sign of other problems with the model. All in all, after attending this workshop, you will have enough

expert knowledge to decide whether you should switch to Bayesian statistics or not.

Biography. Dr. Rens van de Schoot first studied medical imaging techniques and worked for two years in the university hospital of Utrecht. After this, he completed his Psychology bachelor with a minor in Juvenile Delinquency and graduated cum laude for the Research Master Development and Socialization of Children and Adolescents at the Graduate School for Social Sciences at Utrecht University. He obtained his PhD about informative hypotheses and Bayesian statistics at the Department of Methods and Statistics. While obtaining his PhD, he was chair of the University Board of PhD Students. He finished his PhD cum laude after only working three years on the project and was able to publish several articles as a PhD student. Currently, he is working in the Methods and Statistics Department, Utrecht University. Besides his research on how to directly evaluate expectations, he collaborates with many developmental researchers from different fields on projects about identity development, immigrants and post-traumatic stress. Also, he takes part in different projects about the labor market position of PhD students. Finally, he is president of the Young Researchers Union of the European Association of Developmental Psychology and he is vice-chair for the Scientific Committee of the Dutch Institute for Psychologists (NIP).

Friday, 8:00 am - 9:45 am

(Event 2-005) Paper Symposium
Grand Salon D
Friday, 8:00 am - 9:45 am

2-005. Eyes as windows of cognition: Developing eye-tracking techniques to understand infants' developing control of attention

Chairs: Erik Thiessen, Anna Fisher
Carnegie Mellon University

- Distinct processes in infants' perception of animate motion revealed by eye tracking

Willem Frankenhuis, Bailey House, H Clark Barrett, Scott Johnson
UCLA

- New Paradigms for Assessing Selective Sustained Attention in Children and Analyzing Smooth Pursuit Eye Movements
  John Dickerson, Lucy Erickson, Erik Thiessen, Anna Fisher
  Carnegie Mellon University

- So much to look at: Eye tracking as a way of assessing online learning in more ecologically valid settings
  Natasha Kirkham, Rachel Wu, Kristen Swan
  Birkbeck College, University of London

- Measuring the Whole-Body Dynamics of Visual Attention in Toddlers
  Linda Smith, Chen Yu, Damian Fricker
  Indiana University

(Event 2-006) Paper Symposium
Meeting Room 12
Friday, 8:00 am - 9:45 am

2-006. Intensive Data Collection Methods for Measuring Children's Use of and Attention to Television and Other Electronic Media

Chair & Discussant: David Bickham
Children's Hospital Boston

- The Use of Eye-Tracking Methodology to Study Online Processing of Video
  Heather Kirkorian
  University of Wisconsin-Madison

- Method for Assessing Reliability and Validity of Intensively Collected Media Use Measure in the Measuring Youth Media Exposure (MYME) Study
  Emily Blood, David Bickham, Lydia Shrier, Michael Rich
  Children's Hospital Boston

- Converging Operations: The Utility of a Multi-Method Developmental Approach to Studying Infants and Media
  Deborah Linebarger[1], Rachel Barr[2]
  [1]University of Iowa; [2]Georgetown University

(Event 2-007) Paper Symposium
Grand Salon D
Friday, 10:00 am - 11:45 am

2-007. Modeling Complexities of Behavioral Process: The Leading Edge of EMA & Diary Data Analysis

Chairs: Nilam Ram, Peter Molenaar
Pennsylvania State University

- Modeling Dynamics in Unequally Spaced Data: EMA Applications
  Lawrence Lo, Peter Molenaar, Michael Rovine, Nilam Ram
  Pennsylvania State University

- Using the Cubic Spline Model as a Data Interpolation Tool
  Diane Losardo, Sy-Miin Chow
  University of North Carolina

- Issues in Aggregating Time Series: Illustration Through an AR(1) Model
  Zhiyong Zhang, Zhenqiu Lu
  University of Notre Dame

- Linear and Nonlinear Regime-Switching State-Space Models
  Sy-Miin Chow, R. Hutton, Diane Losardo
  University of North Carolina

(Event 2-008) Invited Talk
Meeting Room 12
Friday, 10:00 am - 11:45 am

2-008. Theoretical Models, Statistical Models, and Testing Conjectures Strongly

Chair: Todd D. Little
Invited Speaker: Keith Widaman

Abstract. Hypothesis testing in psychology in general and in developmental psychology in particular typically follows a routinized procedure: A theoretical model leads to predicted patterns in data, data are collected, a statistical analysis approach is selected, a null hypothesis is formulated, and a statistical test is conducted to reject the null hypothesis and claim that the theoretical model and its conjectures are thereby supported. Despite its widespread use, several problems can be identified with this procedure. One problem is the logic of the

significance test itself, which tests the converse of the theoretical prediction, not the theoretical prediction itself. A second problem is the lack of specificity with regard to the theoretical hypothesis or conjecture guiding the research and the corresponding lack of specificity of the information obtained from the test of significance. Paul Meehl often referred to the lack of specificity in hypotheses as the flabbiness of our predictions - with flabby predictions leading to flabby tests of significance, which contribute to the slow progress in many areas of psychology. The preceding, standard approach to data analyses is exploratory in nature, which might be seen as its greatest strength, but may also be regarded as its principal shortcoming. On the positive side, a data analyst need know nothing about the hypotheses motivating the study. The analyst can simply ask which analytic procedure is to be used (t-test, ANOVA, regression, etc.), which variables are independent variables, which variable is the dependent variable, and the analysis can proceed - without the analyst ever having to learn about what the variables mean, what theory led to the collection of data, etc. The analyst can provide precise statistics for each significance test (test statistic, p-value, etc.), and the substantive psychologist supplies the understanding to go with the statistical results. Is there a negative side? A negative side does exist if other, more informative ways are available for testing our conjectures strongly. I argue that we should incorporate confirmatory approaches into our analyses. Confirmatory approaches begin with clear and definitive predictions derived from our theories. We should not be content with theories that predict merely that differences should be found. Instead, our theories should state whether certain trends should be present (e.g., linear, quadratic) and perhaps even delineate some conjectures about magnitudes of parameter estimates. Then, statistical models can be formulated that embody the theoretical predictions precisely, and the theoretical predictions should be tested strongly to determine whether they are consistent with the data. I will provide examples for confirmatory analytic approaches from several substantive domains, including estimating prenatal influences on intelligence of children of mothers with PKU, modeling growth trends for adaptive behaviors of youth with developmental disabilities, and comparing predictions of diathesis-stress and differential susceptibility models for gene X

environment, or GXE, interactions. I will also discuss general ways to generalize this approach to our most commonly used methods of analysis, so that we do what we set out to do - test our theoretical predictions.

Biography. Keith Widaman is a Distinguished Professor in the Department of Psychology at the University of California, Davis. He received his Ph.D. in 1982 from the Ohio State University in Developmental Psychology, with a minor in Quantitative Psychology. Widaman has interests in multivariate linear models, including regression analysis, factor analysis, structural equation modeling, and the modeling of longitudinal data. His substantive research focuses on family, economic, and other influences on child development and the development of mental abilities and skills in both representative and developmentally disabled populations. His work has appeared in methods-oriented journals such as Psychological Methods and Multivariate Behavioral Research, and in substantive journals such as Developmental Psychology, Child Development, and Intelligence. Widaman has served on the Editorial Boards of many journals, including Psychological Methods, Multivariate Behavioral Research, Intelligence, and Structural Equation Modeling. He is a Fellow of the American Psychological Association (Divisions 5, 7, and 33) and the Association for Psychological Science. Widaman received the 1992 Raymond B. Cattell Award for early career contributions to multivariate psychology from the Society of Multivariate Experimental Psychology (SMEP), has twice received the Tanaka Award for best article in SMEP's journal Multivariate Behavioral Research, and is a Past President of SMEP.

Friday, 1:30 pm - 3:15 pm

(Event 2-009) Paper Symposium
Grand Salon A
Friday, 1:30 pm - 3:15 pm

2-009. Time and Place: Exploring the Statistical Modeling of Developmental Processes over Time with Setting-Level Features as Predictors

Chair: Stephanie Jones
Harvard University

- Seasonal Change in Developmental Trajectories of Aggression: A test of Developmental-Contextual Models
  Andres Molano[1], Stephanie Jones[1], Joshua Brown[2], J. Lawrence Aber[3]
  [1]Harvard University; [2]Fordham University; [3]New York University

- The Classroom as a Complex System: Modeling the Association Between Classroom Climates and Teacher-child Relationships Over Time
  Catalina Torrente[2], J. Lawrence Aber[2], Stephanie Jones[1], Joshua Brown[3]
  [1]Harvard University; [2]New York University; [3]Fordham University

- Mothers' Anxiety over Time: A Longitudinal Analysis Examining the Role of Child, Family, and Neighborhood Characteristics in Predicting Maternal Anxiety Trajectories
  Hadas Eidelman[1], Stephanie Jones[1], Alice Carter[2]
  [1]Harvard University; [2]University of Massachusetts – Boston

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(Event 2-010) Constructed Paper Symposium
Grand Salon B
Friday, 1:30 pm - 3:15 pm

2-010. Examples of Evaluating Measurement in Longitudinal and Cross-National Studies

Chair: Scott M. Hofer
University of Victoria

- Emotional Security Among Chinese Families: Validation of the Security in the Interparental Subsystem Scales
  Rebecca Y. M. Cheung[1], Yan Li[2], E. Mark Cummings[1]
  [1]University of Notre Dame; [2]DePaul University

- Investigating Cross-national Equivalence of a Measurement of Early Child Development Outcomes

Eric Duku[1], Magdalena Janus[1], Sally Brinkman[2]
[1]Offord Centre for Child Studies, McMaster University; [2]Telethon Institute for Child Health Research

- Modeling Individual Differences in Within-Person Variation in a Mixed Effects Location Scale Model
  Philippe Rast, Scott Hofer
  University of Victoria

- Measurement Equivalence of a Screener for Behavioral and Emotional Risk across Language Form
  Bridget Dever, Randy Kamphaus, Tara Raines
  Georgia State University

(Event 2-011) Paper Symposium
Grand Salon C
Friday, 1:30 pm - 3:15 pm

2-011. Emerging Longitudinal Methods for Studying the Development of Antisocial Behavior

Chair: Thomas Loughran
University of Maryland

- Describing Trajectories of Adolescent Antisocial Behavior with Accelerated Longitudinal Data: Analytic and Matching Methods
  Christopher Sullivan[2], Thomas Loughran[1]
  [1]University of Maryland; [2]University of Cincinnati

- Linking Variability in Subjective Risk Perception Updating to Adolescent Cognition: A Random Coefficient Model of Bayesian Risk Updating
  Thomas Loughran
  University of Maryland

- A Propensity Score Model for the Treatment Effect of Adolescent Maltreatment on Subsequent Maltreatment Perpetration
  Terrence Thornberry[1], Kimberly Henry[2]
  [1]University of Maryland; [2]Colorado State University

- Are high-anxious variants of youth with psychopathic traits more violent across time

compared with low-anxious variants and youth scoring low on psychopathy?
Eva Kimonis
University of South Florida

(Event 2-012) Paper Symposium
Grand Salon D
Friday, 1:30 pm - 3:15 pm

2-012. Comparing methods for modeling excess zero values in longitudinal analyses of behavioral outcomes

Chair: Craig Henderson[1]
Discussant: Hanno Petras[2]
[1]Sam Houston State University; [2]JBS International, Inc.

- "Simple" models for longitudinal data with excess zeros: Censored, zero-inflated, and two-part growth curves
  Daniel Feaster[1], Kimberly Henry[2], Paul Greenbaum[3], Wei Wang[3], Hanno Petras[4], Katie Witkiewitz[5], Juan Pena[6]
  [1]University of Miami; [2]Colorado State University; [3]University of South Florida; [4]JBS International, Inc.; [5]Washington State University; [6]Washington University

- Growth mixture modeling with and without a "zero class"
  M. Lee Van Horn[2], Shaunna Clark[1], Hanno Petras[3], Karen Nylund-Gibson[4], Juan Pena[5]
  [1]Virginia Commonwealth University; [2]University of South Carolina; [3]JBS International, Inc.; [4]University of California at Santa Barbara; [5]Washington University

- Using a joint survival-to-growth model for the study of time-to-initiation and trajectories of alcohol use in adolescence
  Katherine Masyn[1], Patrick Malone[2], Katie Witkiewitz[3], Juan Pena[4]
  [1]Harvard University; [2]University of South Carolina; [3]Washington State University; [4]Washington University

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(Event 2-013) Paper Symposium
Meeting Room 12
Friday, 1:30 pm - 3:15 pm

2-013. Methodological Advances in the Study of Executive Function Development

Chair: Stephanie Carlson
University of Minnesota

- Understanding Executive Function in Early Childhood: Insights from Confirmatory Factor Analysis
  Sandra Wiebe[1], Jennifer Nelson[2], Tiffany Sheffield[2], Nicolas Chevalier[2], Craig Johnson[2], Kimberly Espy[3]
  [1]University of Alberta; [2]University of Nebraska; [3]University of Oregon

- Scaling the Development of Executive Function in Preschool Children
  Stephanie Carlson
  University of Minnesota

- NIH Toolbox Cognitive Function Battery (NIHTB-CFB): Measuring Executive Function and Attention
  Philip Zelazo[1], Jacob Anderson[1], Jennifer Richler[2], Kathleen Wallner-Allen[3], Jennifer Beaumont[4], Sandra Weintraub[4]
  [1]University of Minnesota; [2]Indiana University; [3]Westat; [4]Northwestern University

- Modeling the Experiential Canalization of Executive Function in Early Childhood: How Does a Fixed Effect Approach Stack Up?
  Clancy Blair, C Cybele Raver
  New York University

Friday, 3:15 pm - 3:30 pm

(Event 2-014) Afternoon Break
Grand Salon EF Foyer
3:15 pm – 3:30 pm

2-014 Afternoon Refreshments

Friday, 3:30 pm - 4:30 pm

(Event 2-015) Plenary Session
Grand Salons E-F
Friday, 3:30 pm - 4:30 pm

2-015. Past Lessons and Future Directions of Developmental Methodology

Co-Chairs: Noel A. Card, Todd D. Little
Keynote Speaker: Margaret (Peg) Burchinal

Abstract. During the past 40 years,
developmental methodology has broadened from
being primarily focused on experimental designs
to encompassing almost all aspects of
developmental science. The advent of accessible
fast computers and the advances in statistical
methods led to a plethora of methodologies that
range from item response theory for more precise
measurement to structural equation models for
representing complex theoretical models.
Methods for describing change over time have
advanced from very restrictive approaches to
very flexible methods within structural equation
modeling and hierarchical linear models. Multi-
disciplinary teams within developmental research
led to increased focus on methods that reduce
selection bias in analyzing observational data and
on methods that can combine our understanding
from both qualitative and quantitative analyses.
Examples of how developmental methods have
changed will be provided and attempts will be
made to discuss past lessons and suggest future
directions.

Biography. Dr. Burchinal
is Senior Scientist and
Director of the Data
Management and
Statistics Core at the
FPG Child Development
Institute at the
University of North
Carolina at Chapel Hill
and Adjunct Professor of
Education at the
University of California-
Irvine. She is currently an associate editor for
Child Development and Early Childhood Research
Quarterly, and has been a member of is a
member of The Secretary's Advisory Committee
for Head Start Research and Evaluation. She
served as the primary statistician for many
educational studies of early childhood, including
Abecedarian project, Cost, Quality and Outcomes
Study, and the NICHD Study of Early Child Care.
As an applied methodologist, she helped to
demonstrate that sophisticated methods such as
meta-analysis, fixed-effect modeling,
hierarchical linear modeling, piecewise
regression, and generalized estimating equations
provide educational researchers with advanced
techniques to address important issues for
research and policy. In addition, she has pursued
her substantive interest in early education as a
means to improve school readiness for at-risk
children, and is a leading contributor to this
literature.

Friday, 4:45 pm - 6:00 pm

(Event 2-016) Poster Session with Refreshments
Grand Salons G-J
Friday, 4:45 pm - 6:00 pm

1	Test Scaling in Cognitive Development:
For Some Elementary Processes, One
Need Not Adjust Test Difficulty
Nelson Cowan
University of Missouri

2	Temperament and Gender Differences in
Toddlers Born Preterm
*Maria Beatriz Linhares, Luciana Rocha,
Vivian Klein*
University of São Paulo

3	Scale Invariance in the Measurement of
Mental-attentional Capacity
Juan Pascual-Leone, Janice Johnson
York University

4	Simulating Reliability for Nominal Data:
Cohen's Kappa is Biased, the Novel
Agreement Statistic Iota is Consistent
With Pivotal Properties of Reliability Rho
Gregor Kappler
University of Vienna

5	Confirmatory Factory Analysis with Count
Variables: Implications for Significance
Testing of Nested Models when Indicators
are Not Normally Distributed
R. Barker[1], Rose Sevcik[2]
[1]University of Kansas, [2]Georgia State
University

6	The self-evaluations scales of relationship
and motivation (REMO) in school:
development of a measure
*William Bukowski[2], Diana Raufelder[1],
Danilo Jagenow[1]*
[1]Free University Berlin, [2]Concordia
University

7	Quantitative ethnography and the study
of development within context
William Bukowski, Diana Raufelder
Concordia University

22   Comparison of Growth Curve Modeling and Group-Based Modeling to Study the Development and the Predictors of Cognitive Functions
Mathieu Pilon[1], Charles-Édouard Giguère[1], Sophie Parent[2], Philip Zelazo[3], Richard Tremblay[1], Jean Séguin[1]
[1]CHU Sainte-Justine Research Center, [2]Ecole de psychoeducation, Universite de Montreal, [3]Institute of Child Development, University of Minnesota

23   How to Choose the Best Developmental Model: Examples From Numerical Estimation
Christopher Young, John Opfer
Ohio State University

24   Here's Looking at You: Quantifying Quotidian Exposure to Faces in Young Infants and Adults.
Nicole Sugden, Margaret Moulson
Ryerson University

25   Measuring Interpersonal Conflict: How Measurement Scale, Reference Period and Memory Cues Influence Conflict Reports
Shrija Dirghangi, Dawn DeLay, Justin Puder, Brett Laursen, Amy Hartl, Daniel Dickson, Ashley Richmond, Cody Hiatt
Florida Atlantic University

26   Measurement of Early Father Involvement using Time Diary Data and Associations with Parents' Prenatal Depression and Empathy
Rongfang Jia, Letitia Kotila, Sarah Schoppe-Sullivan, Claire Kamp Dush
The Ohio State University

27   Methods of Analyzing Observed Behavior: A Comparison of Rates, Proportional Responses, and Contingencies
Diane Putnick, Marc Bornstein
NICHD

28   Micro Change Processes in Dyadic Coordination During Early Mother Infant Interaction
Susanne Harder, Simo Koeppe, Mette Vaever
University of Copenhagen

29   Do Fierce Birds Flock Together?: Homophily of Interpersonal Aggression in Emerging Adult Ego Networks
Michelle Little
UTSA

30   Automated Measurement of Infant Head Orientation in Infant Negotiation of Relational Space
Mette Vaever
University of Copenhagen

31   It's About Time: Revealing the Dynamic Interplay Among Children's Exuberance Characteristics in Unstructured Group Play
Adriene Beltz, Charles Beekman, Peter Molenaar, Kristin Buss
Pennsylvania State University

32   Using the Internet for Developmental Research
Sam Hardy
Brigham Young University

33   Dynamic Modeling of Infant-Caregiver Interactions during the Face-to-Face Still-Face Paradigm using the State Space Grid Technique
Akhila Sravish[1], Ed Tronick[1], Tom Hollenstein[2], Marjorie Beeghly[3]
[1]University of Massachusetts Boston, [2]Queen's University, [3]Wayne State University

34   CUE: The Continuous Unified Electronic Diary Method
Kate Ellis-Davies, Elena Sakkalou, Nia Fowler, Elma Hilbrink, Merideth Gattis
Cardiff University

35   *Withdrawn*

36   Identifying Profiles of Risk for Youth in Contexts of Political Violence
Christine Merrilees[1], Laura Taylor[1], Kalsea Koss[1], Marcie Goeke-Morey[2], Peter Shirlow[3], Ed Cairns[4], E. Mark Cummings[1]
[1]University of Notre Dame, [2]Catholic University of America, [3]Queens University, [4]University of Ulster

Diana Raufelder[1], William Bukowski[2], Danilo Jagenow[1]
[1]Free University Berlin, [2]Concordia University

52 Re-parameterizing Regression Models to Test Theoretically Important Conjectures: The Sample Case of Gene X Environment Interactions
Keith Widaman[1], Jonathan Helm[1], Laura Castro-Schilo[1], Michael Pluess[2], Michael Stallings[3], Jay Belsky[2]
[1]University of California, Davis, [2]University of California, [3]University of Colorado

53 Adolescent peer groups and their influence on behaviors: Does measurement make a difference?
Lorrie Schmid[1], Megan Golonka[2]
[1]University of North Carolina - Chapel Hill, [2]Duke University

54 Measuring Emotion Regulation in Field-Based Settings: Understanding the Dot Probe Task
Alexandra Ursache, Amanda Roy, C Cybele Raver
New York University

55 A Multilevel Confirmatory Factor Analysis with Covariates to Assess the Factorial Validity of the Scores on the Student-Teacher Relationship Scale-Short Form
Mi-young Webb[1], Stacey Neuharth-Pritchett[2]
[1]Georgia State University, [2]University of Georgia

56 Multi-level factor analysis (MLFA): An emerging method to measure environments using individual-level data without aggregation
Erin Dunn[1], Katherine Masyn[2]
[1]Harvard School of Public Health, [2]Harvard Graduate School of Education

57 GEEs get more from your data: Using generalized estimating equations with high repeated measures and small sample sizes
Dorothy Mandell[1], Emily Blumenthal[2]
[1]University of Amsterdam, [2]University of California, San Diego

58 Accuracy of Retrospective Data Vary by Developmental Content, Person, and Metric of Agreement
Marc Bornstein, Diane Putnick, Joan Suwalsky, Mariya Sumaroka
NICHD

59 Longitudinal Models for Assessing Dynamic Relations: Children's Anxious and Depressive Symptoms
Chrystyna Kouros[1], Lauren Papp[2], Judy Garber[3]
[1]Southern Methodist University, [2]University of Wisconsin-Madison, [3]Vanderbilt University

60 Identifying and recruiting a random sample from a population who do not participate in early childhood services.
Daniel Cloney[1], Karen Thorpe[2], Collette Tayler[1]
[1]The University of Melbourne, [2]Queensland University of Technology

61 Multilevel Poisson Models for Children's Longitudinal Sociometric Rating Data
Richard Faldowski[1], Heidi Gazelle[2], Tamara Spangler Avant[3]
[1]University of North Carolina at Greensboro, [2]University of Melbourne, [3]South University

62 Exploring the biometric dual change score model in the development of reading component processes
Sara Hart, Christopher Schatschneider, Jeanette Taylor
Florida State University

63 A Bayesian Approach to Measurement Invariance Tests in Longitudinal Research on Executive Control across the Preschool Years
Caron Clark, Hye-Jeong Choi, Tiffany Sheffield, Kimberly Espy
University of Nebraska-Lincoln

64 Using Lagged Dependent Variables in Developmental Research: Understanding the Problems and Providing Solutions
Jade Marcus[1], E. Foster[2]
[1]UNC-Chapel Hill, [2]University of Alabama at Birmingham

93 Event Frequency Measurement: Variance in Conflict Assessments are Differentially Associated with Depression
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[1]Florida Atlantic University, [2]Yeshiva University, [3]Auburn University

94 Recursive Estimation Approaches for Estimating General Linear and General Linear Mixed Models
Michael Rovine, Lawrence Lo, Peter Molenaar
Pennsylvania State University

95 Longitudinal relations between depression and conduct problems in girls: An examination using parallel process latent class growth analysis
Thomas Olino, Stephanie Stepp, Alison Hipwell, Rolf Loeber
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96 Variability in Testosterone, Risk and Resilience, and Externalizing Behaviors in Adolescence
Melissa Peckins, Elizabeth Susman
Pennsylvania State University

97 Multivariate longitudinal modeling of cognitive change: Relationship between processing speed and visuospatial ability
Annie Robitaille[1], Graciela Muniz[2], Andrea Piccinin[1], Boo Johansson[3], Scott Hofer[1]
[1]University of Victoria, [2]MRC Biostatistics Unit, [3]University of Gothenburg

98 Measurement Invariance for Parental Autonomy Granting Constructs Among African American, White, and Hispanic Families
Sharon Ghazarian[1], Kathleen Roche[2], Luisa Franzini[3], Margaret Caughy[4]
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99 Evaluating Longitudinal and Subgroup Measurement Equivalence in a Battery of Cognitive Self-Regulation Measures for Preschoolers
Mary Fuhs, Kimberly Turner, Nianbo Dong, Mark Lipsey, Dale Farran

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100 The Effects of Missing Time-Varying Covariates in Multilevel Models
Sierra Bainter
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101 Differential specification of the bifactor model to control item dependency in reading comprehension.
Yaacov Petscher
Florida Center for Reading Research

102 The Superwoman/Black Female Ideal Scale: An Intersectional Identity Development Measurement for Black Female Adolescents
Celine Thompson
University of Pennsylvania, Graduate School of Education

103 Identifying Urbanicity-Related Differences in the Relationship Between Family Income and Early Achievement Using Generalized Additive Modeling
Portia Miller[1], Elizabeth Votruba-Drzal[1], Claude Setodji[2]
[1]University of Pittsburgh, [2]RAND Corporation

104 Bayes as a golden solution for all your modeling issues? But, never forget to inspect the trace plot!
Rens van de Schoot, Seda Can, Joop Hox
Utrecht University

105 Within-and Between-Person Factor Structure of Positive and Negative Affect
Jonathan Rush, Catharine Sparks, Scott Hofer
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106 Filtering Out Invalid Respondents Based on the Analysis of Negative Statements in Likert-scale Questionnaires
Krisztian Jozsa[1], George Morgan[2], Robert Pap-Szigeti[3]
[1]University of Szeged, [2]Colorado State University, [3]Kecskemet College

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108 A Multitrait-Multimethod Model to Analyze Executive Functions: Taking into

Account the Emotional Loading of the Stimulus
Mauricio Garnier-Villarreal[1], Luis Conejo-Bolaños[2]
[1]University of Kansas, [2]University of Costa Rica

109 Individual Differences in Forgetting: A New Measurement of Forgetting Using Parceling
Tanja Kurtz, Daniel Zimprich
University of Erlangen-Nuremberg

110 Dynamic Relations Within and Between Early Communication Key Skill Elements over Time: Evidence of Contiguous Continuity in Skill Development
Luke McCune[1], Waylon Howard[1], Charles Greenwood[2], Dale Walker[2], Jay Buzhardt[2], Rawni Anderson[1]
[1]University of Kansas, [2]Juniper Gardens Children's Project

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(Event 2-017) Ask-A-Question Poster Session with Refreshments
Grand Salons G-J
Friday, 4:45 pm - 6:00 pm

111 What are helpful data analytic approaches for analyzing and understanding trajectories of maternal depression in relation to infant affect expression?
Katherine Harris, Alissa Huth-Bocks
Eastern Michigan University

112 How Should we Measure and Model Types of Discrimination for Adolescents?
Jessica Harding, Diane Hughes, Niobe Way
New York University

113 What Statistical Analysis Can Reveal Different Types of Underlying Structures in Time Series Categorical Data?
Kathy Ritchie
Indiana University South Bend

114 How to Account for Different Time Intervals Between Assessments in the Same Longitudinal Sample?

Carla Martins[1], Ana Osório[1], Eva Martins[2], Paula Castiajo[1], Manuela Veríssimo[3], Isabel Soares[1]
[1]University of Minho, [2]Instituto Superior da Maia, [3]ISPA - Instituto Universitário

115 How Should the Narrative Goal Structure Complexity of Narrative Stimuli be Determined?
Chastity McFarlan, Marcia Calloway, Danielle Brown
Howard University

Saturday, 7:30 am - 8:00 am

(Event 3-001) Coffee
Grand Salon EF Foyer
7:30 am – 8:00 am

3-001. Coffee and Continental Breakfast

Saturday, 8:00 am - 11:45 am

(Event 3-002) Invited Workshop
Grand Salon A
Saturday, 8:00 am - 11:45 am

3-002. The Use of Integrative Data Analysis in Developmental Research

Instructors: Daniel J. Bauer, Andrea Hussong

Abstract. Integrative Data Analysis (IDA) is an emerging tool for integrating research findings across studies through the simultaneous analysis of multiple independent data sets. Like other such tools, such as substantive literature reviews, meta-analysis, and the independent but parallel analysis of multiple studies, IDA has a primary goal of synthesis and thus responds to the need for a cumulative approach to scientific inquiry. However, unlike these other tools, IDA provides a means for directly comparing results across studies for novel scientific questions using the power of inferential statistics (in contrast to parallel analysis and substantive literature reviews) without relying on published findings of questions only asked in prior studies (in contrast to meta-analysis and substantive literature reviews). Although IDA is not appropriate in every context, when feasible the pooling of multiple datasets for IDA has the potential benefits of increased sample size (resulting in greater statistical power, particularly for group comparisons and tests of interactions) and sample

heterogeneity (resulting in greater generalizability of findings across age, gender, ethnicity and other factors based on design characteristics). Moreover, IDA provides a means for testing whether key findings replicate across multiple datasets as well as whether differences exist in the strength of that replication or what factors may account for lack of replication. Finally, when used in secondary data analysis, IDA is a powerful tool for efficiently using resources to address novel questions by taking advantage of the rich datasets already available in the scientific community. Despite these advantages, there are several challenges in conducting IDA. In the current workshop, we discuss the IDA framework as well as guidelines for when IDA may be an appropriate tool for a research problem and when it may be less so. We consider core issues in planning for an IDA study including feasibility analyses related to key issues in pooling studies with different measures and sampling frames. Because IDA is not a set of analytic techniques but an approach to conducting analyses through the unique application of existing techniques, we present a guiding framework for conducting IDA. The application of this framework is, however, idiosyncratic to the research problem at hand. To exemplify this point, we provide many applied examples from our own work in examining the long-term longitudinal development of children of alcoholic parents and matched controls pooling across three data sets. These examples demonstrate an approach to measurement harmonization using Item Response Theory and Moderated Nonlinear Confirmatory Factor Analysis as well as hypothesis testing using both multilevel and latent growth curve modeling. We demonstrate the use of different approaches to key challenges of IDA including measurement harmonization and inferential testing of study differences in hypothesized effects. Finally, we end with recommendations for planning primary data collection and analysis efforts using the IDA framework as well as future directions for the methodological development of these techniques.

Biography. Daniel Bauer is an Associate Professor of Quantitative Psychology in the L.L. Thurstone Psychometric Laboratory in the Department of Psychology at the University of North Carolina at Chapel Hill. The aims of his program of research are to innovate, evaluate and apply quantitative methods to further the study of development, particularly in the areas of aggression, antisocial

behavior, substance use and other health-related behaviors. His primary expertise is with latent variable models, including multilevel linear and nonlinear models, structural equation models, latent trait models, and latent class / finite mixture models. He has published over 50 scientific papers and chapters, currently serves as Associate Editor for Psychological Methods, and serves on the editorial boards of Psychological Assessment and Multivariate Behavioral Research. He was honored to receive an Early Career Award from the American Psychological Association in 2009 for outstanding early-career research in the area of individual differences and the Raymond B. Cattell Award from the Society for Multivariate Experimental Psychology in 2006 for outstanding early-career contributions to multivariate experimental psychology.

Biography. Andrea Hussong, PhD, is a Professor of Psychology and the Director of the Center for Developmental Science at the University of North Carolina at Chapel Hill. The aims of her program of research are to understand early-emerging developmental pathways leading to substance use and disorder, developmental outcomes among high-risk youth who have parents with addiction disorders, and the use of innovative methods to advance this substantive research agenda. Her research focuses on developmental risk processes observed in both short-term (e.g., observational coding and experience sampling designs) and long-term (i.e., multi-year longitudinal studies) passive observational designs as well as the use of preventive interventions to understand and alter these developmental risk processes. Along with Patrick Curran and Dan Bauer, she leads a NIDA-funded project that uses integrative data analysis (i.e., the simultaneous analysis of multiple independent data sets) to examine an internalizing pathway to substance use and

disorder emerging over the first four decades of life. She has served as a NIH/CSR grant review panelist for many years, is on the Editorial Boards for journals in additions, clinical psychology and developmental psychology, and is a fellow in the APA and APS.

3-003. Growth Modeling Workshop: Articulating Developmental Change with Simple and Complex Growth Models

Instructors: Nilam Ram, Kevin J. Grimm

Abstract. Growth curve modeling has become a mainstay in the study of development. In this workshop we review the flexibility provided by this technique for describing and testing hypotheses about intraindividual change across multiple occasions of measurement, and interindividual differences in intraindividual change. Through empirical examples we demonstrate how simple (e.g., linear and quadratic) and complex (e.g., multiphase and nonlinear) growth models can be specified using the Structural Equation Modeling and Multilevel Modeling frameworks. We illustrate and discuss how results are obtained and interpreted. Particularly, we underscore the developmental theory articulated and tested by each model. Topics covered include the inclusion of time-invariant and time-varying covariates, multiple groups, and clustered longitudinal data.

Biography. Nilam Ram, Ph.D. (Quantitative Psychology, University of Virginia) is an Assistant Professor in the Departments of Human Development & Family Studies and Psychology at Pennsylvania State University. His current research interests have grown out of a history of studying change. After obtaining his B.A. in economics, he began a job as a currency trader. There he studied the movement of world markets as they jerked up, down and sideways. Later he moved on to the study of human movement, kinesiology, and eventually psychological processes - with a specialization in longitudinal research methodology with John Nesselroade and Jack McArdle. Generally Nilam studies how short-term changes (e.g., processes such as learning, information processing, etc.) develop over the course of the lifespan and how intraindividual change and variability study designs (e.g., measurement bursts) might contribute to our knowledge base. His current projects include examinations of: age differences in short-term dynamics at the cognitive/affective/temperament interface; cyclic patterns in the day-to-day progression of emotions; and change in cognition and well-being over the lifespan, particularly in the oldest old. Methodologically, Nilam is working to develop a variety of multi-person extensions of intraindividual analytic methods that maintain a focus on the individual while still tackling issues of aggregation and generalizability.

Biography. Kevin J. Grimm, Ph.D. (Quantitative Psychology, University of Virginia) is an Associate Professor in the Department of Psychology at the University of California, Davis. He received his B.A. in Mathematics and Psychology with a concentration in Education from Gettysburg College, and his M.A. and Ph.D. in Psychology at the University of Virginia. In graduate school Kevin studied structural equation modeling and longitudinal data analysis (e.g., growth curve analysis, longitudinal mixture modeling, longitudinal measurement, and dynamic models) with Jack McArdle and John Nesselroade. He has taught at the APA workshop on Longitudinal Structural Equation Modeling since 2004. Kevin's research interests include multivariate methods for the analysis of change, multiple group and latent class models for understanding divergent developmental processes, and cognitive/achievement development. His current research revolves around models of nonlinear change, exploratory forms of change modeling, residual structures in latent growth curve analysis, and the associations between early motor skills and the development of academic skills.

(Event 3-004) Invited Workshop
Grand Salon C
Saturday, 8:00 am - 11:45 am

3-004. Publishing Developmental Research

Instructor: C. Deborah Laughton

Abstract. Between publishing mergers and the Web, the world of publishing has become an increasingly complex one for prospective authors. How can you find the right publisher for your book or journal manuscript and get the attention of the editor? Taught by a leading methods editor, this workshop will provide you with the tools to prepare a prospectus, negotiate a contract, and select the right publisher for your work. You will learn how to think about your book or article as a publisher or journal editor would, how to sell an editor on your idea, and how to get the writing finished. Using instruction, brief exercises, and group discussion, you will be given strategies for approaching and convincing a publisher to publish your book, ways to make your article attractive to editors, and concrete steps for finishing that half-done study on your computer. Bring your book or article idea to be discussed.

Biography. C. Deborah Laughton, Publisher, Methodology & Statistics, has over 25 years' experience in publishing as both an acquisitions editor and a writer. In 2003, she joined Guilford Publications, one of the premiere publishers in psychology and education, to build a new program in Research Methods to cover research design and techniques (quantitative and qualitative), evaluation, and measurement. Before joining Guilford, she built the research methods list for 15 years at Sage Publications and published some of the best-selling texts, monographs, and reference books in statistics, qualitative research and evaluation. She has had the privilege of creating books with such talented developmental researchers as Baltes, Shaffer, Elder, Lerner, Salkind, Jaccard, Colombo, Hardy, Laursen, Little, and Card. In 2000, she was a research investigator for the MacArthur Fellows Study that was headed by Michael Quinn Patton as the PI. Her essays and short stories have appeared in national magazines and an anthology, as well as a chapter in a Sage book entitled Getting Your Book Published. She has also written five half-hour documentaries, which were produced by PBS. She has taught workshops on publishing for professors and graduate students at UCLA, UC Irvine, Harvard, U of IL, Urbana and U of Nebraska.

Saturday, 8:00 am - 9:45 am

(Event 3-005) Paper Symposium
Grand Salon D
Saturday, 8:00 am - 9:45 am

3-005. Special topics in the inclusion of covariates and distal outcomes in finite mixture and latent class models

Chair: Eric Brown[2]
Discussant: Elián Cabrera-Nguyen[1]
[1]Washington University; [2]University of Washington

- The effects of covariates on class enumeration for mixture models
  Karen Nylund-Gibson[1], Katherine Masyn[2]
  [1]University of California, Santa Barbara; [2]Harvard University

- Covariates effects on class membership and covariate sources of measurement non-invariance in mixture models
  Katherine Masyn[1], Karen Nylund-Gibson[2]
  [1]Harvard University; [2]University of California, Santa Barbara

- The consequences of latent classes: A simulation study of approaches to specifying and testing the effects of latent class membership on distal outcomes
  Katherine Masyn[1], Karen Nylund-Gibson[2]
  [1]Harvard University; [2]University of California at Santa Barbara

(Event 3-006) Paper Symposium
Meeting Room 12
Saturday, 8:00 am - 9:45 am

3-006. Developmental Methods in Applied Language Research

Chair: Jill Pentimonti
The Ohio State University

- Measuring Children's Development When the Measures Themselves Change Over Time: The

Early Language Trajectory of Poor Comprehenders
Yaacov Petscher[1], Laura Justice[3], Tiffany Hogan[2], Andrew Mashburn[4]
[1]Florida Center for Reading Research; [2]The University of Nebraska; [3]The Ohio State University; [4]The University of Virginia

- Differential Longitudinal Stability of Language and Reading Performance
  Jessica Logan, Stephen Petrill
  The Ohio State University

- Teacher-Child Inferential Talk in Preschool Classrooms: Sequential Relations in Small-Group Play
  Virginia Tompkins[1], Laura Justice[1], Sevda Binici[1], Tricia Zucker[2]
  [1]The Ohio State University; [2]University of Texas Health Science Center

- Measuring Teacher Talk During Book Reading: Development and Use of a Scalable Tool
  Jill Pentimonti[1], Tricia Zucker[4], Yaacov Petscher[3], Sonia Cabell[2], Laura Justice[1]
  [1]The Ohio State University; [2]The University of Virginia; [3]Florida Center for Reading Research; [4]University of Texas Health Science Center

Saturday, 10:00 am - 11:45 am

(Event 3-007) Constructed Paper Symposium
Grand Salon D
Saturday, 10:00 am - 11:45 am

3-007. Alternative Models for Analysis of Change and Chance

Chair: James P. Selig
University of New Mexico

- There's a Chance You're Miscalculating Chance: On the Evaluation of Chance Performance in Developmental Research.
  Anthony Dick, Daniel Wright
  Florida International University

- Event/Survival Analysis: Analysis Whose Time Has Come
  Margaret Keiley[1], Nina Martin[2], Dilbur Arsiwalla[1]
  [1]Auburn University; [2]Vanderbilt University

- A Bayesian Method for Deriving Quantitative Models of Individual Children's Records
  Sara Baker[1], Bruce Hood[2], Alan Leslie[3], Randy Gallistel[3]
  [1]University of Cambridge; [2]University of Bristol; [3]Rutgers University

- Rewriting Growth Curves as Latent Profile Models
  Eric Loken
  Pennsylvania State University

(Event 3-008) Paper Symposium
Meeting Room 12
Saturday, 10:00 am - 11:45 am

3-008. New Directions in Sociometric Classification

Chair: Antonius H. Cillessen
Radboud University

- Determining Sociometric Status Categories Using Latent Profile Analysis
  Marissa Smith, Julie Hubbard
  University of Delaware

- Does Perceived Popularity Represent a Third Dimension? Incorporating Popularity into Traditional Sociometric Classification
  William Burk, Antonius Cillessen
  Radboud University

- Identifying Subtypes of Peer Status by Preference and Popularity: A Cross-sectional and Longitudinal Study
  Yvonne van den Berg, Antonius Cillessen
  Radboud University

- Identifying Bullying Profiles Using Latent Class Modeling
  Asha Goldweber[1], Tracy Evian Waasdorp[2], Catherine Bradshaw[1]
  [1]Johns Hopkins Bloomberg School of Public Health; [2]University of Pennsylvania

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Level 3

Meeting Room 13

Meeting Room 12

Meeting Room 11

Terrace

Greco Board Room

Bayshore Board Room

Meeting Room 10

Meeting Room 9

Meeting Room 8

Level 2

Grand Ballroom

Salon J

Salon I

Salon H

Salon G

Salon F

Salon E

Salon A

Salon B

Salon C

Salon D

Foyer

Gallery

Business Center

Office #2

Office #1

Registration

Escalators

Lobby Bridge

Elevators

Meeting Room 7

Meeting Room 6

Meeting Room 5

Meeting Room 4

Meeting Room 3

Meeting Room 2

Meeting Room 1

Florida Ballroom

Salon VI

Salon V

Salon IV

Salon I

Salon II

Salon III

Foyer