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EDUCATION

- 12/00-8/02 University of North Carolina, Chapel Hill
Odum Institute for Research in Social Science
Individual NRSA Post-Doctoral Fellowship in Quantitative Methodology
- 8/96-12/00 University of North Carolina, Chapel Hill
Ph.D., Developmental Psychology; Concentration: Quantitative Psychology
- 8/91-12/94 Trinity University, San Antonio
B.A., Psychology; Minors: Mathematics and History; Concentration: Computer Science

POSITIONS HELD

- 7/04-present Assistant Professor of Quantitative Psychology, L.L. Thurstone Psychometric Laboratory, Department of Psychology, University of North Carolina at Chapel Hill.
- 8/02-6/04 Assistant Professor of Quantitative and Developmental Psychology, Department of Psychology, North Carolina State University, Raleigh.
- 2/95-7/96 Research Coordinator of the Mood Disorders and Psychopharmacology Research Program, Psychiatry Department, Baylor College of Medicine, Houston.

AWARDS

- 2004 Raymond B. Cattell Award for outstanding early-career contributions to multivariate experimental psychology. Awarded by the Society for Multivariate Experimental Psychology (SMEP).
- 2006 Tanaka Award for most outstanding paper published in *Multivariate Behavioral Research* in 2005. Awarded by the Society for Multivariate Experimental Psychology (SMEP).

PROFESSIONAL AFFILIATIONS AND ACTIVITIES

- 2004-present Elected Member, Society for Multivariate Experimental Psychology (SMEP)
- 2003-present Member, Mentor Faculty, Center for Developmental Science, Chapel Hill.
- 1997-present Member, American Psychological Association; American Psychological Society; Society for Research in Child Development; Psychometric Society.
- 2004-2005 Faculty Associate, Statistical and Applied Mathematical Sciences Institute (SAMSI); Leader, Multilevel Latent Variable Models working group.
- 2000-2002 Assistant Coordinator, Applied Statistics Seminar
Odum Institute for Research in Social Science, UNC-CH.

Editorial Boards: *Psychological Assessment* (2004-present), *Psychological Methods* (2005-present).

Consulting Editor: *Multivariate Behavioral Research* (2006-present)

Ad-hoc Reviewer: *Addiction*; *Development and Psychopathology*; *Developmental Psychology*; *Journal of Abnormal Psychology*; *Journal of Consulting and Clinical Psychology*; *Journal of Educational and Behavioral Statistics*; *Journal of Marriage and Family*; *Journal of Personality*; *Journal of Research on Adolescence*; *Multivariate Behavioral Research*; *Merrill-Palmer Quarterly*; *Neuropsychopharmacology*; *Psychological Methods*; *Psychopathology and Behavioral Assessment*; Sage Publications; *Sociological Methods & Research*; *Statistics in Medicine*; *Structural Equation Modeling*.

GRANTS AND FELLOWSHIPS

- 2007-2009 PI: *Diagnosing and estimating nonlinear effects in latent variable models.* (NSF SES-0716555), awarded by the National Science Foundation.
- 2007 PI: *Multilevel latent variable models*
IBM Fund Award (Junior Faculty Development Award), awarded by the University of North Carolina at Chapel Hill
- 2000-2002 Individual NRSA Post-Doctoral Fellowship, *Extending growth mixture models to the study of drug use* (F32 DA06062), awarded by NIDA, sponsored by Kenneth Bollen.
- 1999-2000 Institutional NRSA Pre-Doctoral Training Fellowship (T32 HD07376), awarded by NICHD through the Carolina Consortium on Human Development at the Center for Developmental Science.
- 1999 Travel Award, awarded by NICHD/NIMH, to present at the 32nd annual meeting of the International Society for Developmental Psychobiology.
- 1999 Travel Grant, awarded by the Graduate School of the University of North Carolina, to present at the annual convention of the American Psychological Association.
- 1997 Instructional Technology Grant, awarded by the University of North Carolina to support the incorporation of new technology into the teaching of research methods in psychology.

OTHER FUNDED PROJECTS

- 2007-2010 Sponsor. *Longitudinal Comorbidity: Modeling Symptom, Syndrome, and Impairment Change*, (NRSA F31 MH080494), Sonya Sterba, Fellow, University of North Carolina at Chapel Hill.
- 2007-2009 Co-Investigator: *Integrated Research Activities for Developmental Science (IRADS)-Child Development Research Collaborative* (NSF BCS-0720660), Marth Cox, PI, University of North Carolina at Chapel Hill
- 2005-2010 Co-Investigator. *The National Longitudinal Study of Adolescent Health*. (R01), Kathleen Harris, PI, University of North Carolina at Chapel Hill.
- 2005-2008 Co-Investigator. *Stress and children of alcoholic parents*. (R01 DA015398), Andrea Hussong, PI, University of North Carolina at Chapel Hill.
- 2004-2006 Subcontract. *Research to practice: An indicated prevention program*. Parent Grant: R01 DA13666, Denise Hallfors, PI, Pacific Institute for Research and Evaluation, Chapel Hill, NC.
- 2003-2005 Subcontract. *HIV in young adulthood: Pathways and prevention*. Parent Grant: R01 DA14496, Denise Hallfors, PI, Pacific Institute for Research and Evaluation, Chapel Hill, NC.

PUBLICATIONS AND PRESENTATIONS

Listed in reverse chronological order; *Indicates graduate student or post-doc co-author.

Peer-Reviewed Papers

- Bauer, D.J. (in press). Observations on the use of growth mixture models in psychological research. *Multivariate Behavioral Research*.
- Bauer, D.J. & *Cai, L. (in press). Consequences of unmodeled nonlinear effects in multilevel models. *Journal of Educational and Behavioral Statistics*.
- Bauer, D.J., *Sterba, S. & Hallfors, D.D. (in press). Evaluating group-based interventions when control participants are ungrouped. *Multivariate Behavioral Research*.
- Hussong, A., Bauer, D. & Chassin, L. (in press). Telescoped trajectories from alcohol initiation to disorder in children of alcoholic parents. *Journal of Abnormal Psychology*

- Kamata, A. & Bauer, D.J. (in press). A note on the relationship between factor analytic and item response theory models. *Structural Equation Modeling: A Multidisciplinary Journal*
- Curran, P.J., & Bauer, D.J. (2007). A path diagramming framework for multilevel models. *Psychological Methods, 12*, 283-297.
- Hallfors, D.D, Iritani, B., Miller, W.C. & Bauer, D.J. (2007). Sexual and drug behavior patterns and HIV/STD racial disparities: the need for new directions. *American Journal of Public Health, 97*, 125-132.
- Hussey, J.M., Hallfors, D.D., Waller, M.W., Iritani, B.J., Halpern, C.T. & Bauer, D.J. (2007). Sexual behavior and drug use among Asian and Latino adolescents: association with immigrant status. *Journal of Immigrant and Minority Health, 9*, 85-94.
- Iritani, B.J., Hallfors, D.D., & Bauer, D.J. (2007). Crystal methamphetamine use among young adults in the United States. *Addiction, 102*, 1102-1113.
- Meade, A.W. & Bauer, D.J. (2007). Power and precision in confirmatory factor analytic tests of measurement invariance. *Structural Equation Modeling: A Multidisciplinary Journal, 14*, 611-635.
- Bauer, D.J., *Preacher, K.J. & Gil, K.M. (2006). Conceptualizing and testing random indirect effects and moderated mediation in multilevel models: new procedures and recommendations. *Psychological Methods, 11*, 142-163.
- Hallfors, D., Cho, H., Sanchez, V., Khatapoush, S., Kim, H., Bauer, D. (2006). Efficacy versus effectiveness trial results in an indicated "model" substance abuse program: implications for public health. *American Journal of Public Health, 96*, 2254-2259.
- *Hipp, J. & Bauer, D.J. (2006). Local solutions in the estimation of growth mixture models. *Psychological Methods, 11*, 36-53.
- *Preacher, K.J., Curran, P.J., & Bauer, D.J. (2006). Computational tools for probing interaction effects in multiple linear regression, multilevel modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics, 31*, 437-448.
- Bauer, D.J. (2005). The role of nonlinear factor-to-indicator relationships in tests of measurement equivalence. *Psychological Methods, 10*, 305-316.
- Bauer, D.J. (2005). A semiparametric approach to modeling nonlinear relations among latent variables. *Structural Equation Modeling: A Multidisciplinary Journal, 4*, 513-535.
- Bauer, D.J. & Curran, P.J. (2005). Probing interactions in fixed and multilevel regression: Inferential and graphical techniques. *Multivariate Behavioral Research, 40*, 373-400.
- Boskovic, R., Wade, R., Wolpin, J., Bauer, D.J. and Koren, G. (2005). The reproductive effects of beta interferon therapy in pregnancy: a longitudinal cohort. *Neurology, 65*, 807-811.
- Hallfors, D.D., Waller, M.A., Bauer, D., Ford, C.A., Halpern, C.T. (2005) Which comes first in adolescence: sex and drugs or depression? *American Journal of Preventive Medicine, 29*, 163-170.
- *Hipp, J., Bauer, D.J. & Bollen, K.A. (2005). Conducting tetrad tests of model fit and contrasts of tetrad-nested models: a new SAS macro. *Structural Equation Modeling: A Multidisciplinary Journal, 12*, 76-93.
- Shanahan, M.J., *Erickson, L.D., & Bauer, D.J. (2005). One hundred years of knowing: the changing science of adolescence, 1904 and 2004. *Journal of Research on Adolescence, 15*, 383-394.
- Bauer, D.J. & Curran, P.J. (2004). The integration of continuous and discrete latent variable models: Potential problems and promising opportunities. *Psychological Methods, 9*, 3-29.
- Bollen, K.A. & Bauer, D.J. (2004). Automating the selection of model implied instrumental variables. *Sociological Methods and Research, 32*, 425-452.
- Curran, P.J., Bauer, D.J. & *Willoughby, M.T. (2004). Testing main effects and interactions in latent curve analysis. *Psychological Methods, 9*, 220-237.

- Halpern, C., Hallfors, D., Bauer, D.J., Iritani, B., *Waller, M.W. & Cho, S. (2004). STI/HIV implications of race and sex differences in patterns of adolescent risk behavior. *Perspectives on Reproductive and Sexual Health*, 36, 239-247.
- *Hipp, J., Bauer, D.J., Curran, P.J. & Bollen, K.A. (2004). Crimes of opportunity or crimes of emotion? Testing two explanations of seasonal change in crime. *Social Forces*, 82, 1333-1372.
- Shanahan, M.J. & Bauer, D.J. (2004). Developmental properties of transactional models: the case of life-events and mastery from adolescence to young adulthood. *Development and Psychopathology*, 16, 1095-1117.
- Bauer, D.J. (2003). Estimating multilevel linear models as structural equation models. *Journal of Educational and Behavioral Statistics*, 28, 135-167.
- Bauer, D.J. (2003). The scaling of latent and observed variables in state-trait models. *Measurement: Interdisciplinary Research and Perspectives*, 1, 207-211.
- Bauer, D.J. & Curran, P.J. (2003). Distributional assumptions of growth mixture models: Implications for over-extraction of latent trajectory classes. *Psychological Methods*, 8, 338-363.
- Bauer, D.J. & Curran, P.J. (2003). Over-extracting latent trajectory classes: Much ado about nothing? Reply to Rindskopf (2003), Muthén (2003), and Cudeck and Henly (2003). *Psychological Methods*, 8, 384-393.
- Bauer, D.J., Goldfield, B.A. & Reznick, J.S. (2002). Alternative approaches to analyzing individual differences in the rate of early vocabulary development. *Applied Psycholinguistics*, 23, 313-315.
- Pungello, E.P. & Bauer, D.J. (2002). Day Care. In N.J. Salkind (Ed.), *Macmillan Psychology Reference Series: Vol 1. Child Development* (pp. 110-113). New York: Macmillan Reference, USA.
- Bauer, D.J. & Gariépy, J.-L. (2001). The functions of freezing in the social interactions of juvenile high- and low-aggressive mice. *Aggressive Behavior*, 27, 463-475.
- Gariépy, J.-L., Bauer, D.J. & Cairns, R.B. (2001). Selective breeding for differential aggression in mice provides evidence for heterochrony in social behaviors. *Animal Behaviour*, 61, 933-947.

Chapters

- Kamata, A., Bauer, D.J. & Miyazaki, Y. (in press). Multilevel measurement models. To be included in A. O'Connell & B. McCoach (Eds.) *Multilevel Analysis of Educational Data*.
- Bauer, D.J. & Shanahan, M.J. (2007). Modeling complex interactions: Person-centered and variable-centered approaches. Little, T.D., Bovaird, J.A. & Card, N.A. (Eds.). *Modeling ecological and contextual effects in longitudinal studies of human development* (pp. 255-283). Mahwah, NJ: LEA.
- Curran, P.J., Bauer, D.J. & Willoughby, M.T. (2006). Testing and probing interactions in hierarchical linear growth models. In C.S. Bergeman & S.M. Boker (Eds.), *The Notre Dame Series on Quantitative Methodology, Volume 1: Methodological Issues in Aging Research*, (pp. 99-129). Mahwah, NJ: Lawrence Erlbaum Associates.

Published Research Abstracts

- Bauer, D.J. & Estell, D.B. (2001). Cluster analysis of developmental profiles: Relationships between trajectories of aggression and popularity over adolescence. In L.M. Collins & A.G. Sayer (Eds.), *New Methods for the Analysis of Change* (pp. 385-387). Washington, D.C: American Psychological Association.
- Mills-Koonce, R. & Bauer, D.J. (2001). Experiential modification of phenotypes produced by selective breeding. *Developmental Psychobiology*, 37, 208.
- Nehrenberg, D.L., Gariépy, J.-L. & Bauer, D.J. (2001). Selective breeding for behavioral traits: Relationships between stabilizing and directional effects. *Developmental Psychobiology*, 37, 209.

Bauer, D.J. & Gariépy, J.-L. (2000). The regulation of social dominance in high and low aggressive mouse lines. *Developmental Psychobiology*, 36, 236.

Selected Presentations

Bauer, D.J. & *Sterba, S. (2007, October). *When bias and RMSE don't agree*. Meeting of the Society for Multivariate Experimental Psychology, Chapel Hill, NC.

Bauer, D.J. & *Sterba, S. (2007, August). *Multilevel models for ordinal outcomes in longitudinal and clustered data*. Meeting of the American Psychological Association, San Francisco, CA.

Bauer, D.J. & *McNaughton, L. (2007, May). *An evaluative comparison of random coefficient growth models for individual development*. Invited presentation at the meeting of the Association for Psychological Science, Washington DC.

Bauer, D.J. (2007, February). *Developing commensurate measures for cross-study analyses via a moderated nonlinear factor analysis model*. 3rd Conference on Emerging Adulthood, Tuscon, AZ.

Bauer, D.J. (2006, October). *Comparing the estimates of mixed models for binary or ordinal data*. Meeting of the Society for Multivariate Experimental Psychology, Lawrence, KS.

Bauer, D.J. (2005, November). *Multilevel linear models with latent variables*. Invited presentation at the Statistical and Applied Mathematical Sciences Institute (SAMSI) closing workshop on Latent Variable Models in the Social Sciences, Research Triangle Park, NC.

*Sterba, S., Prinstein, M.J., Bauer, D.J., & Cox, M.J. (2005, November). *Heterogeneity in latent trajectories of internalizing problems across early childhood: gender divergence over time*. Meeting of the Association for the Advancement of Cognitive and Behavioral Therapy, Washington, D.C.

*Sterba, S., Prinstein, M.J., Bauer, D.J., & Cox, M.J. (2005, November). *Unpacking heterotypic continuity: gender and developmental factors differentiating latent trajectories of homotypic versus heterotypic symptoms from 2-11 years*. Meeting of the Association for the Advancement of Cognitive and Behavioral Therapy, Washington, D.C.

Bauer, D.J. (2005, October). *Incongruence between the statistical theory and substantive application of growth mixture models in psychological research*. Cattell Award address presented at the annual meeting of the Society for Multivariate Experimental Psychology, Lake Tahoe, CA.

Hallfors, D., Iritani, B., Bauer, D., Miller, W.C. (2005, October). Do sex and drug behavior patterns account for HIV/STD racial disparities? Bridging science & culture to improve drug abuse research in minority communities (Sponsored by the National Institute on Drug Abuse), Atlanta, GA.

Hallfors, D., Iritani, B., Bauer, D., Miller, W.C. (2005, October). *Racial disparities in STDs and HIV*. Meeting of the minds conference at the Pacific Institute for Research and Evaluation; Dallas, TX.

*Sterba, S.K., Bauer, D.J. & Cox, M.J. (2005, August). *Comparing growth mixture and correlative methods for identifying symptom covariation*. Poster presented at the annual meeting of the American Psychological Association, Washington, DC.

Bauer, D.J. (2005, February). *The intersection of quantitative methodology and developmental science*. Invited presentation at the Center for Developmental Science, Chapel Hill, NC.

Bauer, D.J. (2004, September). *Multilevel models with latent variables*. Invited presentation at the Statistical and Applied Mathematical Sciences Institute (SAMSI) opening workshop on Latent Variable Models in the Social Sciences, Research Triangle Park, NC.

Bauer, D.J. (2004, October). *Nonlinear Latent Variable Models: A Finite Mixture Approach*. Paper presented at the annual meeting of the Society for Multivariate Experimental Psychology, Fort Meyers, FL.

Bollen, K.A. & Bauer, D.J. (2004, August). *Dissecting chi-squares in testing structural equation models*. Paper presented at the Amsterdam Workshop on Model Selection, Amsterdam, The Netherlands.

- Bauer, D.J. & Shanahan, M.J. (2004, March). *A person-centered approach to modeling complex interactions*. Paper presented at the Merrill Center Conference, Modeling Developmental Processes in Ecological Context, Tempe, AZ.
- Shanahan, M.J. & Bauer, D.J. (2004, March). *Life-events and mastery from adolescence to young adulthood: A growth curve analysis of selection and causation*. Paper presented at the Biennial Meeting of the Society for Research in Adolescence, Baltimore, MD.
- *Waller, M.W., Iritani, B., Hallfors, D., Halpern, C.T. & Bauer, D.J. (2004, March). *Risk behavior patterns associated with experiencing and perpetrating forced sex*. Poster presented at the biennial meeting of the Society for Research in Adolescence, Baltimore, MD.
- Bauer, D. J. (2003, October). *Finite mixture growth models: problems and opportunities*. Invited presentation at the Statistics Seminar of the University of Michigan, Ann Arbor, MI.
- Bauer, D. J. (2003, April). *Using growth mixture models to examine developmental heterogeneity in reading achievement from 1st to 7th grade*. Paper presented at the biennial meeting of the Society for Research in Child Development, Tampa, FL.
- *Vandergrift, N.A., Curran, P.J. & Bauer (2002, August). *Methods for modeling nonlinearity in latent curve models*. Poster presented at the annual meeting of the American Psychological Association, Chicago IL.
- Bauer, D.J. & Curran, P.J. (2002, June). *Estimating multilevel linear models as structural equation models*. Paper presented at the meeting of the Psychometric Society, Chapel Hill, NC.
- Bauer, D.J. (2002, May). *Growth modeling in heterogeneous populations*. Invited presentation at the 5th Annual International Developmental Science Institute, The Penn State University, State College, PA.
- Bauer, D.J. (2001, October). *Identifying discrete clusters of growth trajectories (even when none actually exist)*. Invited colloquium presentation to the Applied Statistics Working Group at the Odum Institute for Research in Social Science, University of North Carolina at Chapel Hill.
- Bauer, D.J., Curran, P.J. & Bollen, K.A. (2001, June). *On the use of confidence bands in latent trajectory models*. Paper presented at the meeting of the Psychometric Society, King of Prussia, PA.
- Bauer, D.J. & Curran, P.J. (2001, April). *The impact of model misspecification in clustered and continuous growth modeling*. Poster presented at the biennial meeting of the Society for Research in Child Development, Minneapolis, MN.
- Carrig, M. & Bauer, D.J. (2001, April). *A comparison of cluster analysis and growth mixture modeling in the recovery of developmental trajectory classes*. Poster presented at the biennial meeting of the Society for Research in Child Development, Minneapolis, MN.
- Bauer, D.J. & Pelphrey, K.A. (1999, August). *On Memory Traces and Developmental Trends*. Poster presented at the Annual Convention of the American Psychological Association, Boston, MA.
- Bauer, D.J. & Rodriguiz, R.M. (1999, April). *Self-regulation of reactivity and the organization of social interactions*. Poster presented at the biennial meeting of the Society for Research in Child Development, Albuquerque, NM.
- Pelphrey, K.A., Staneck, C.H., Bauer, D.J., Gramzow, E.F., Agosto, C.D., Baker-Ward, L. & Ornstein, P.A. (1999, February). *On knowledge and long-term retention: Examining relations among knowledge, trace strength, and recall features of a pediatric examination over a six-month delay*. Poster presented to the North Carolina Cognition Group, Raleigh, NC.
- Estell, D.B. & Bauer, D.J. (1998, October). *Cluster analysis of developmental profiles: Relationships between trajectories of aggression and popularity over adolescence*. Poster presented at New Methods for the Analysis of Change, State College, PA.
- Bauer, D.J. (1998, June). *Freezing as a behavioral regulator of social stress in mice*. Poster presented at the First International Institute for Social Science, Chapel Hill, NC.

TEACHING

Graduate Courses

Statistical Methods in Psychology I: UNC: Fall, 2004, Fall 2005

Quantitative Methods in Psychology: NCSU: Spring 2003, Spring 2004

Multivariate Methods in Psychology: NCSU: Fall 2002, Fall 2003

Multilevel Modeling: UNC: Spring 2006, Fall 2007

Undergraduate Courses

Introduction to Statistics in Psychology: UNC, Spring 2005, Fall 2006, Fall 2007

Research Methods: UNC: Fall 1996; Spring 1997

Child Development: UNC: Fall 1997; Spring 1998; Summer 1998; Fall 1998; Summer 1999;
Carolina Courses Online: Fall 2000; Spring 2001

Introductory Psychology: UNC: Spring 1999

Courses offered through SAS Institute

Bauer, D.J. & Curran, P.J. (2006). *Multilevel modeling of hierarchical and longitudinal data in SAS*.

Independent Workshops / Short Courses

Bauer, D.J. (2005, November). *Multilevel modeling in SAS and SPSS*. Department of Behavioral Science, M.D. Anderson Cancer Center, Houston, Texas.

Bauer, D.J. (2005, July). *Multilevel modeling of clustered and longitudinal data in SPSS and HLM*. Department of Psychology, Yale University, New Haven, Connecticut.

Bauer, D.J. (2005, May). *Mixed models and models for hierarchical data*. Summer Programme in Data Analysis (<http://www.math.yorku.ca/SCS/spida/>), Institute for Social Research, York University, Toronto, Canada.

Bauer, D.J. (2005, June). *Mixed models for longitudinal data*. Summer Programme in Data Analysis (<http://www.math.yorku.ca/SCS/spida/>), Institute for Social Research, York University, Toronto, Canada.

Bauer, D.J. (2004, June). *Mixed models and models for hierarchical data*. Summer Programme in Data Analysis (<http://www.math.yorku.ca/SCS/spida/>), Institute for Social Research, York University, Toronto, Canada.

Bauer, D.J. (2004, June). *Mixed models for longitudinal data*. Summer Programme in Data Analysis (<http://www.math.yorku.ca/SCS/spida/>), Institute for Social Research, York University, Toronto, Canada.

Bauer, D.J. (2003, June). *Mixed models for longitudinal data*. Summer Programme in Data Analysis (<http://www.math.yorku.ca/SCS/spida/>), Institute for Social Research, York University, Toronto, Canada.

Bauer, D.J. (2003, April). *Using structural equation models and hierarchical linear models in developmental research*. Short course for the Center for Developmental Science, University of North Carolina at Chapel Hill.

Bauer, D.J. (2002, October). *Identifying population heterogeneity with finite normal mixtures*. Odum Institute for Research in Social Science Quantitative Analysis Short Course Series, University of North Carolina at Chapel Hill.