

## CURRICULUM VITAE

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University of Chicago  
Department of Public Health Sciences (MC2000)  
Biological Sciences Division  
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### EDUCATION:

Ph.D., University of Chicago, 1989, Department of Behavioral Sciences, Committee on Research Methodology and Quantitative Psychology, *Random Regression Models with Autocorrelated Errors: Investigating Drug Plasma Levels and Clinical Response* (Advisor: R. Darrell Bock).

B.A., University of Chicago, 1980, Economics.

### ACADEMIC APPOINTMENTS:

[2014-] **Professor of Biostatistics**, Department of Public Health Sciences, Biological Sciences Division, University of Chicago.

[2002-2003] **Interim Division Director**, Division of Epidemiology and Biostatistics, School of Public Health, University of Illinois at Chicago.

[2001-2014] **Professor of Biostatistics**, Division of Epidemiology and Biostatistics, School of Public Health, University of Illinois at Chicago.

[1996-2001] **Associate Professor of Biostatistics**, Division of Epidemiology and Biostatistics, School of Public Health, University of Illinois at Chicago.

[1993-1996] **Assistant Professor of Biostatistics**, Division of Epidemiology and Biostatistics, School of Public Health, University of Illinois at Chicago.

[1991-1993] **Adjunct Assistant Professor of Biostatistics**, Department of Psychiatry, University of Illinois at Chicago.

[1991-1993] **Associate Director of Statistics and Methods Core**, Prevention Research Center, School of Public Health, University of Illinois at Chicago.

[1989-1991] **Senior Research Specialist**, Department of Psychiatry, University of Illinois at Chicago.

### HONORS:

- L. L. Thurstone Predoctoral Fellowship, University of Chicago, 1981-1984.
- Fellow, American Statistical Association, 2000.
- University Scholar, University of Illinois, 2000.
- President, Chicago Chapter of the American Statistical Association, 2000-2001.

- Teaching Recognition Program Award, Council for Excellence in Teaching and Learning, University of Illinois at Chicago, 2004-2005.
- ASPH/Pfizer Public Health Academy of Distinguished Teachers, 2007.
- 2nd place award for the Best Presentation of a Biopharmaceutical Contributed Paper, Joint Statistical Meetings, 2008.
- Member, Lambda Chapter of the Delta Omega Honor Society, 2013.
- Co-Chair, International Conference on Health Policy Statistics, 2013.
- Chair, Mental Health Statistics Section of the American Statistical Association, 2015.
- Member, Institute of Medicine's Committee "Multiple Sclerosis and Other Neurologic Disorders in Veterans of the Persian Gulf and Post 9/11 Wars," 2015.
- Long-Term Excellence Award, Health Policy Statistics Section, American Statistical Association, 2015.
- Elected Member, International Statistical Institute, 2015.
- Consultant, National Academies of Sciences Committee "Evaluating Approaches to Assessing Prevalence and Trends in Obesity," 2015-2016.
- Elected Member, Society of Multivariate Experimental Psychology, 2016.
- Panel Member, "Review of the Compliance, Safety, Accountability Program of the Federal Motor Carrier Safety Administration," Committee on National Statistics, Division of Behavioral and Social Sciences and Education, National Academies of Sciences, 2016-2018.

#### Courses Taught

- University of Chicago  
*Department of Public Health Sciences* : Multilevel Modeling (Spring 2015, 2018), Applied Longitudinal Data Analysis (Autumn 2015-2018).
- University of Illinois at Chicago  
*School of Public Health* : Biostatistics II (Spring 1994, Fall 1994-99, Spring 2003-09), Longitudinal Data Analysis (Spring 1995,1997,1999, Fall 2000-13).  
*Department of Psychology* : Advanced Statistics II (Spring 1993).  
*Department of Sociology* : Multilevel Analysis of Social Data (Spring 1992).

#### Doctoral Dissertation Advisor - University of Chicago - Biostatistics

- Xiaolei Lin, 2018 *Ecological Momentary Assessment (EMA) Data: Statistical Methods for Heterogeneous Variance, Missing Data and Latent State Classification*

#### Doctoral Dissertation Advisor - University of Illinois at Chicago - Biostatistics

- Weichun Xu, 1995, *Mixtures in Random-effects Regression Models*.
- Ohidul Siddiqui, 1996, *Modeling Clustered Count and Survival Data with an Application to a School-based Smoking Prevention Study*.
- Kwan Hur, 1999, *A Random-effects Zero-inflated Poisson Regression Model for Clustered Extra-zero Count Data*.
- Rema Raman, 2002, *Mixed-effects Regression Models for Three-level Ordinal Response Data with Heterogeneous Variances*.
- Li Qi, 2003, *A Mixed-Effects Model for Longitudinal Multivariate Ordinal Data*.
- Xue Li, 2010, *A Three-Level Mixed-Effects Location Scale Model with an Application in Ecological Momentary Assessment Data*
- John Cursio, 2012 *Latent Trait Pattern-Mixture Mixed-Models for Ecological Momentary Assessment Data*
- Oksana Pugach, 2012 *A Bivariate Location-Scale Mixed-Effects Model*
- Hong Li, 2014 *Three-Level Mixed-Effects Location Scale Model with Modeling Random Scale Variance*

#### Doctoral Dissertation Committee Member

- Served as a committee member on over 70 doctoral dissertations from fields including: Biostatistics, Community Health Sciences, Criminology Law and Justice, Disability Studies, Education, Environmental and Occupational Health Sciences, Epidemiology, Health Policy and Administration, Kinesiology, Pharmacy, Psychology, Social Work, Sociology, Statistics.

#### **RESEARCH SUPPORT - Methodological:**

2019-2023 *Novel Statistical Models for Intensive Longitudinal Analyses of Cancer Control Behaviors*. National Cancer Institute, grant R01 CA240713, \$595,865 (annual direct costs), **Hedeker, D.** & Dunton, G. (**PIs**).

2015-2019 *Statistical Quantification of the Impact of Missing data in EMA studies*. National Cancer Institute, grant R01 CA178061, \$46,412 (annual direct costs), Xie, H (PI), **Hedeker, D.** (**co-I**).

2014-2018 *Novel Statistical Models for EMA Studies*. National Heart, Lung, and Blood Institute, grant R01 HL121330, \$409,557 (direct costs), **Hedeker, D.** & Dunton, G. (**PIs**).

2009-2012 *Variance Modeling of Smoking-related EMA Data*. National Cancer Institute, grant R21 CA140696, \$150,000 (direct costs), **Hedeker, D.** (**PI**).

2005-2008 *Statistical Testing and Power for Mental Health*. National Institute of Mental Health, grant R01 MH69353, \$170,750 (annual direct costs), Bhaumik, D. (PI), **Hedeker, D.** (**co-I**).

- 2004-2007 *A Multivariate Probit Model for Health Services Research*. National Institute of Mental Health, grant R01 MH67198, \$135,000 (annual direct costs), Chen, H.Y. **Hedeker, D. (co-I)**.
- 2002-2006 *Mixed-Effects ZIP Models for Mental Health Research*. National Institute of Mental Health, grant R01 MH65556, \$150,000 (annual direct costs), Gibbons, R.D. (PI), **Hedeker, D. (co-I)**.
- 1999-2005 *Statistical Models for Nested Services Utilization Data*. National Institute of Mental Health, competitive renewal of grant R01 MH56146, \$768,729 (Direct Costs), **Hedeker, D. (PI)**.
- 1996-1999 *Statistical Models for Nested Services Utilization Data*. National Institute of Mental Health, grant R01 MH56146, \$218,048 (Direct Costs), **Hedeker, D. (PI)**.
- 1994-1997 *Random Regression Models for Longitudinal Psychiatric Data*. National Institute of Mental Health, grant R01 MH44826, \$473,081 (Direct Costs), Gibbons, R.G. (PI), **Hedeker, D. (co-PI)**.
- 1992-1993 *Ordinal Outcomes from Longitudinal Clustered Designs*. University of Illinois at Chicago Prevention Research Center Developmental Project, CDC grant R48/CCR505025, \$5,744 (Direct Costs), **Hedeker, D. (PI)**.
- 1991-1993 *Random Regression Models for Longitudinal Psychiatric Data*. National Institute of Mental Health, grant R01 MH44826, \$318,997 (Direct Costs), Gibbons, R.D. (PI), **Hedeker, D. (co-PI)**.
- 1991-1992 *Statistical Issues in Drug Prevention Research: Ordinal Outcomes*. University of Illinois at Chicago Prevention Research Center Developmental Project, CDC grant R48/CCR505025, \$8,944 (Direct Costs), **Hedeker, D. (PI)**.

#### **RESEARCH SUPPORT - Substantive:**

- 2015-2020 *Context and Subjective Experience Surrounding Dual Cigarette and E-Cigarette Use*. National Cancer Institute, grant R01 CA184681, Mermelstein, R.J. (PI), **Hedeker, D. (co-I)**.
- 2013-2015 *Characterizing Sleep Variability in Chronic Headaches*. National Institute of Neurological Disorders and Stroke, grant R21 NS081088, Ong, J. (PI), **Hedeker, D. (co-I)**.
- 2013-2018 *Cessation in Non-Daily Smokers: A RCT of NRT with Ecological Momentary Assessment*. National Institute of Drug Abuse, grant R01 DA034629, Tindle, H. (PI), **Hedeker, D. (co-I)**.
- 2012-2017 *CIT and Mental Health Service Accessibility in Police Encounters: Impact on Outcomes of Persons with SMI*. National Institute of Mental Health, grant R01 MH096744, \$471,371 (direct costs), Watson, A. (PI), **Hedeker, D. (co-I)**.
- 2010-2016 *Social-Emotional Contexts of Adolescent Smoking*. National Cancer Institute, renewal of program project PO1 CA098262, \$1,855,827 (annual direct costs), Mermelstein, R.J. (PI), **Hedeker, D. (PI of Data Management, Measurement, and Statistics core)**.

- 2009-2014 *Engineering Effective Interventions for Tobacco Use: A Translational Laboratory*. National Cancer Institute grant P50CA143188, Fiore, M. & Baker, T. (PI), **Hedeker, D. (co-I)**.
- 2009-2014 *Syndemic Development and HIV Risk Among Vulnerable Young Men*. National Institute of Drug Abuse, grant R01 DA025548, \$634,666 (direct costs), Mustanski, B. (PI), **Hedeker, D. (co-I)**.
- 2004-2010 *Social-Emotional Contexts of Adolescent Smoking Patterns*. National Cancer Institute, program project PO1 CA098262, \$2,049,920 (annual direct costs), Mermelstein, R.J. (PI), **Hedeker, D. (PI of Data Management, Measurement, and Statistics core)**.
- 2000-2003 *Mentoring and Education of Services Research*. National Institute of Mental Health, grant R25 MH60250, Horwitz, S. (PI, Yale University), **Hedeker, D. (PI of subcontract)**.
- 1999-2005 *Carbohydrate Craving: Behavioral and Psychobiological Features*. National Heart, Lung, and Blood Institute, grant R01 HL/DK63307, \$346,618 (annual direct costs), Spring B. (PI), **Hedeker, D. (co-I)**.
- 1998-2002 *Context and Subjective Experience of Early Smoking*. National Cancer Institute grant CA80266, \$1,256,886 (Direct Costs), Mermelstein, R.J. (PI), **Hedeker, D. (co-I)**.
- 1996-1999 *A Motor Test for Pediatric Rehabilitation*. National Institute of Child Health and Human Development grant R01 HD32567, Campbell, S.K. (PI), **Hedeker, D. (co-I)**.
- 1994-1998 *Skin Cancer Prevention for Children and Adolescents*. National Cancer Institute, grant NCI 62964, \$656,256 (Direct Costs), Mermelstein, R.J. (PI), **Hedeker, D. (co-I)**.
- 1993-1998 *Recycling Attempters and Relapsers in Smoking Cessation*. National Heart, Lung, and Blood Institute, grant R01 HL42485, \$1,083,265 (Direct Costs), Mermelstein, R.J. (PI), **Hedeker, D. (co-I)**.
- 1993-1997 *Strategies for Smoking Cessation among Low Educated Women, Core B: Methods and Statistics Core*. National Cancer Institute, grant PO1-CA-4270, \$4,807,918 (Direct Costs for entire program project), Warnecke, R. (PI), **Hedeker, D. (co-I and PI of developmental project)**.
- 1993-1998 *Health Promotion and Disease Prevention Research Center*. Centers for Disease Control, \$2,027,956 (Direct Costs for entire center), Levy, S. (PI), **Hedeker, D. (co-I)**.
- 1992-1995 *Transition to Parenthood: Gender roles and Distress*. Health Resources and Service Administration, grant MCJ 170618, \$448,146 (Direct Costs), Kelley, M. (PI), **Hedeker, D. (co-I)**.
- 1992-1998 *Chicago African-American Health Behavior Project*. National Institute for Child Health and Human Development, grant HD30078, \$3,383,072 (Direct Costs), Flay, B.R. (PI), **Hedeker, D. (co-I)**.
- 1991-1995 *Etiology of Drug Use and Abuse*. National Institute of Drug Abuse, grant DA 06307, \$1,950,000 (Direct Costs), Flay, B.R. (PI), **Hedeker, D. (co-I)**.

1990-1995 *Worksite Incentives for becoming a Nonsmoker*. National Heart, Lung, and Blood Institute, grant R18 HL42987, \$1,036,882 (Direct Costs), Jason, L.A. (PI), **Hedeker, D.** (co-PI).

#### **BOOKS:**

**Hedeker, D.** & Gibbons, R.D. (2006). *Longitudinal Data Analysis*. New York: Wiley.

#### **PUBLICATIONS - Journal Articles - Methodological:**

Gibbons, R. D., **Hedeker, D.**, & Davis, J. M. (1987). Regression toward the mean: more on the price of beer and the salaries of priests. *Psychoneuroendocrinology*, *12*, 185-192.

Gibbons, R. D., **Hedeker, D.**, Waternaux, C., & Davis, J. M. (1988). Random regression models: a comprehensive approach to the analysis of longitudinal psychiatric data. *Psychopharmacology Bulletin*, *24*, 438-443.

**Hedeker, D.**, Gibbons, R. D., Waternaux, C., & Davis, J. M. (1989). Investigating drug plasma levels and clinical response using random regression models. *Psychopharmacology Bulletin*, *25*, 227-231.

**Hedeker, D.**, Gibbons, R. D., & Davis, J. M. (1991). Random regression models for multi-center clinical trials data. *Psychopharmacology Bulletin*, *27*, 73-77.

Gibbons, R. D., & **Hedeker, D.** (1992). Full-information item bi-factor analysis. *Psychometrika*, *57*, 423-436.

Gibbons, R. D., **Hedeker, D.**, & Davis, J. M. (1993). Estimation of effect size from a series of experiments involving paired comparisons. *Journal of Educational Statistics*, *18*, 271-279.

Gibbons, R. D., **Hedeker, D.**, Elkin, I., Waternaux, C., Kraemer, H. C., Greenhouse, J. B., Shea, M. T., Imber, S. D., Sotsky, S. M., & Watkins, J. T. (1993). Some conceptual and statistical issues in analysis of longitudinal psychiatric data. *Archives of General Psychiatry*, *50*, 739-750.

Gibbons, R. D., & **Hedeker, D.** (1994). Application of random-effects probit regression models. *Journal of Consulting and Clinical Psychology*, *62*, 285-296.

**Hedeker, D.**, Gibbons, R. D., & Flay, B. R. (1994). Random-effects regression models for clustered data: with an example from smoking prevention research. *Journal of Consulting and Clinical Psychology*, *62*, 757-765.

Gibbons, R. D., **Hedeker, D.**, Charles, S. C., & Frisch, P. R. (1994). A random-effects probit model for predicting medical malpractice claims. *Journal of the American Statistical Association*, *89*, 760-767.

**Hedeker, D.** & Gibbons, R. D. (1994). A random-effects ordinal regression model for multilevel analysis. *Biometrics*, *50*, 933-944.

- Hedeker, D.**, McMahon, S. D., Jason, L. A., & Salina, D. (1994). Analysis of clustered data in community psychology: with an example from a worksite smoking cessation project. *American Journal of Community Psychology, 22*, 595-615.
- Hedeker, D.**, Flay, B. R., & Petraitis, J. (1996). Estimating individual influences of behavioral intentions: an application of random-effects modeling to the theory of reasoned action. *Journal of Consulting and Clinical Psychology, 64*, 109-120.
- Hedeker, D.** & Gibbons, R. D. (1996). MIXOR: a computer program for mixed-effects ordinal probit and logistic regression analysis. *Computer Methods and Programs in Biomedicine, 49*, 157-176.
- Hedeker, D.** & Gibbons, R. D. (1996). MIXREG: a computer program for mixed-effects regression analysis with autocorrelated errors. *Computer Methods and Programs in Biomedicine, 49*, 229-252.
- Siddiqui, O., **Hedeker, D.**, Flay, B. R., Hu, F. B. (1996). Intraclass correlation estimates in a school-based smoking prevention study: outcome and mediating variables, by gender and ethnicity. *American Journal of Epidemiology, 144*, 425-433.
- Hedeker, D.** & Mermelstein, R.J. (1996). Application of random-effects regression models in relapse research. *Addiction, 91 (Supplement)*, S211-S229.
- Hedeker, D.** & Gibbons, R. D. (1997). Application of random-effects pattern-mixture models for missing data in longitudinal studies. *Psychological Methods, 2*, 64-78.
- Gibbons, R. D. & **Hedeker, D.** (1997). Random-effects probit and logistic regression models for three-level data. *Biometrics, 53*, 1527-1537.
- Hu, F. B., Goldberg, J., **Hedeker, D.**, & Henderson, W. G. (1998). Modeling ordinal responses from co-twin control studies. *Statistics in Medicine, 17*, 957-970.
- Hu, F. B., Goldberg, J., **Hedeker, D.**, Flay, B. R., & Pentz, M. A. (1998). Comparison of population-averaged and subject-specific approaches for analyzing repeated binary outcomes. *American Journal of Epidemiology, 147*, 694-703.
- Hedeker, D.** & Mermelstein, R. J. (1998). A multivariate thresholds of change model for analysis of stages of change data. *Multivariate Behavioral Research, 33*, 427-455.
- Hedeker, D.**, Gibbons, R. D., & Waternaux, C. (1999). Sample size estimation for longitudinal designs with attrition. *Journal of Educational and Behavioral Statistics, 24*, 70-93.
- Hedeker, D.**, Mermelstein, R. J., & Weeks, K. A. (1999). The thresholds of change model: an approach to analyzing stages of change data. *Annals of Behavioral Medicine, 21*, 61-70.
- Hedeker, D.** (1999). MIXNO: a computer program for mixed-effects nominal logistic regression. *Journal of Statistical Software, 4*, (5):1-92.
- Gibbons, R. D. & **Hedeker, D.** (2000). Application of mixed-effects models in biostatistics. *Sankhya, Series B, 62*, 70-103.
- Hedeker, D.**, Siddiqui, O., & Hu, F. B. (2000). Random-effects regression analysis of correlated grouped-time survival data. *Statistical Methods in Medical Research, 9*, 161-179.

- Hedeker, D.** & Mermelstein, R. J. (2000). Analysis of longitudinal substance use outcomes using ordinal random-effects regression models. *Addiction, 95 (Supplement 3)*, S381-S394.
- Xie, H., McHugo, G., Sengupta, A., **Hedeker, D.**, & Drake, R. (2001). An application of the thresholds of change model to the analysis of mental health data. *Mental Health Services Research, 3*, 107-114.
- Xu, W., & **Hedeker, D.** (2001). A random-effects mixture model for classifying treatment response in longitudinal clinical trials. *Journal of Biopharmaceutical Statistics, 11*, 253-273.
- Hall, S.M., Delucchi, K., Velicer, W., Kahler, C., Ranger-Moore, J., **Hedeker, D.**, Tsoh, J., & Niaura, R. (2001). Statistical analysis of randomized trials in tobacco treatment. *Nicotine and Tobacco Research, 3*, 193-202.
- Hur, K., **Hedeker, D.**, Henderson, W.G., Khuri, S., & Daley, J. (2002). Modeling clustered count data with excess zeros in health care outcomes research. *Health Services and Outcomes Research Methodology, 3*, 5-20.
- Hedeker, D.** (2003). A mixed-effects multinomial logistic regression model. *Statistics in Medicine, 22*, 1433-1446.
- Levy, P.S., Jovanovic, B.D., & **Hedeker, D.** (2003). On post-hoc assessments of “disease cluster alarm rates.” *Journal of Probability and Statistical Science, 1*, 1-14.
- Leon, A.C. & **Hedeker, D.** (2005). A mixed-effects propensity adjustment for effectiveness analyses of ordered categorical doses. *Statistics in Medicine, 24*, 647-658.
- Raman, R. & **Hedeker, D.** (2005). Mixed-effects regression models for three-level ordinal response data. *Statistics in Medicine, 24*, 3331-3345.
- Hedeker, D.**, Berbaum, M., & Mermelstein, R.J. (2006). Location-scale models for multilevel ordinal data: between- and within-subjects variance modeling. *Journal of Probability and Statistical Science, 4*, 1-20.
- Liu, L.C. & **Hedeker, D.** (2006). A mixed-effects regression model for longitudinal multivariate ordinal data. *Biometrics, 62*, 261-268.
- Spring, B., Pagoto, S., Knatterud, G., Kozak, A., & **Hedeker, D.** (2007). Examination of the analytic quality of behavioral health randomized clinical trials. *Journal of Clinical Psychology, 63*, 53-71.
- Gibbons, R.D., Bock, R.D., **Hedeker, D.**, Weiss, D., Segawa, S., Bhaumik, D., Kupfer, D., Frank, E., Grochocinski, V., & Stover, A. (2007). Full-information item bi-factor analysis of graded response data. *Applied Psychological Measurement, 31*, 4-19.
- Leon, A.C., **Hedeker, D.**, & Teres, J.J. (2007). Bias reduction in effectiveness analyses of longitudinal ordinal doses with a mixed-effects propensity adjustment. *Statistics in Medicine, 26*, 110-123.
- Demirtas, H. & **Hedeker, D.** (2007). Gaussianization-based quasi-imputation and expansion strategies for incomplete correlated binary data. *Statistics in Medicine, 26*, 782-799.



- Demirtas, H., Arguelles, L.M., Chung, H., & **Hedeker, D.** (2007). On the performance of bias-reduction techniques for variance estimation in approximate Bayesian bootstrap imputation. *Computational Statistics and Data Analysis*, *51*, 4064-4068.
- Leon, A.C. & **Hedeker, D.** (2007). A comparison of mixed-effects quantile stratification propensity adjustment strategies for longitudinal treatment effectiveness analyses of continuous outcomes. *Statistics in Medicine*, *26*, 2650-2665.
- Hedeker, D.**, Mermelstein, R.J., & Demirtas, H. (2007). Analysis of binary outcomes with missing data: missing=smoking, last observation carried forward, and a little multiple imputation. *Addiction*, *102*, 1564-1573.
- Leon, A.C. & **Hedeker, D.** (2007). Quintile stratification based on a misspecified propensity score in longitudinal treatment effectiveness analyses of ordinal doses. *Computational Statistics and Data Analysis*, *51*, 6114-6122.
- Leon, A.C., **Hedeker, D.**, & Demirtas, H. (2007). Bias reduction with an adjustment for participants' intent to dropout of a randomized controlled clinical trial. *Clinical Trials*, *4*, 540-547.
- Demirtas, H. & **Hedeker, D.** (2008). Imputing continuous data under some non-Gaussian distributions. *Statistica Neerlandica*, *62*, 193-205.
- Hedeker, D.**, Mermelstein, R.J., & Demirtas, H. (2008). An application of a mixed-effects location scale model for analysis of Ecological Momentary Assessment (EMA) data. *Biometrics*, *64*, 627-634.
- Demirtas, H. & **Hedeker, D.** (2008). An imputation strategy for incomplete longitudinal ordinal data. *Statistics in Medicine*, *27*, 4086-4093.
- Demirtas, H. & **Hedeker, D.** (2008). Multiple imputation under power polynomials. *Communications in Statistics-Simulation and Computation*, *37*, 1682-1695.
- Siddique, J., Brown, C.H., **Hedeker, D.**, Duan, N., Gibbons, R.D., & Miranda, J. (2008). Missing data in longitudinal trials - Part B: Analytic issues. *Psychiatric Annals*, *38*, 793-801.
- Hedeker, D.**, Mermelstein, R.J., Berbaum, M.L., & Campbell, R.T. (2009). Modeling mood variation associated with smoking: An application of a heterogeneous mixed-effects model for analysis of ecological momentary assessment (EMA) data. *Addiction*, *104*, 297-307.
- Demirtas, H., **Hedeker, D.**, & Kapur, K. (2009). A comparative study on most commonly used correlated binary data generation methods. *Advances and Applications in Statistical Sciences*, *1*, 45-55.
- Hedeker, D.**, Demirtas, H. & Mermelstein, R.J. (2009). A mixed ordinal location scale model for analysis of ecological momentary assessment (EMA) data. *Statistics and Its Interface*, *2*, 391-402.
- Schneider, K.L. , **Hedeker, D.**, Bailey, K.C., Cook, J.W., & Spring, B. (2010). A comment on analyzing addictive behaviors over time. *Nicotine & Tobacco Research*, *12*, 445-448.

- Liu, L.C., **Hedeker, D.**, Segawa, E., & Flay, B.R. (2010). Evaluation of longitudinal intervention effects: An example of latent growth mixture models for ordinal drug-use outcomes. *Journal of Drug Issues*, *40*, 27-44.
- Gibbons, R.D., **Hedeker, D.**, & du Toit, S.H.C. (2010). Advances in analysis of longitudinal data. *Annual Review of Clinical Psychology*, *6*, 79-107.
- Demirtas, H. & **Hedeker, D.** (2011). Generating multivariate continuous data via the notion of nearest neighbors. *Journal of Applied Statistics*, *38*, 47-55.
- Demirtas, H. & **Hedeker, D.** (2011). A practical way for computing approximate lower and upper correlation bounds. *The American Statistician*, *65*, 104-109.
- Leon, A.C. & **Hedeker, D.** (2011). Propensity score stratification for observational comparison of repeated binary outcomes. *Statistics and Its Interface*, *4*, 489-498.
- Selya, A.S., Rose, J.S., Dierker, L.C., **Hedeker, D.**, & Mermelstein, R.J. (2012). A practical guide to calculating Cohen's  $f^2$ , a measure of local effect size, from PROC MIXED. *Frontiers in Psychology*, *3*, 111.
- Leon, A.C., **Hedeker, D.**, Li, C., & Demirtas, H. (2012). Performance of a propensity score adjustment in longitudinal studies with covariate-dependent representation. *Statistics in Medicine*, *31*, 2262-2274.
- Hedeker, D.**, Mermelstein, R.J., & Demirtas, H. (2012). Modeling between- and within-subject variance in Ecological Momentary Assessment (EMA) data using mixed-effects location scale models. *Statistics in Medicine*, *31*, 3328-3336.
- Leon, A.C., Demirtas, H., Li, C., & **Hedeker, D.** (2012). Two propensity score-based strategies for a three decade observational study: Investigating psychotropic medications and suicide risk. *Statistics in Medicine*, *31*, 3255-3260.
- Demirtas, H., **Hedeker, D.**, & Mermelstein, R.J. (2012). Simulation of massive public health data by power polynomials. *Statistics in Medicine*, *31*, 3337-3346.
- Li, X. & **Hedeker, D.** (2012). A three-level mixed-effects location scale model with an application to ecological momentary assessment (EMA) data. *Statistics in Medicine*, *31*, 3192-3210.
- Liu, L., **Hedeker, D.**, & Mermelstein, R.J. (2013). Modeling nicotine dependence: An application of a longitudinal IRT model for the analysis of adolescent Nicotine Dependence Syndrome Scale. *Nicotine & Tobacco Research*, *15(2)*, 326-333.
- Rose, J.S., Dierker, L.C., **Hedeker, D.**, & Mermelstein, R.J. (2013). An integrative data analysis approach to investigating measurement equivalence of DSM nicotine dependence symptoms. *Drug and Alcohol Dependence*, *129*, 2532.
- Hedeker, D.** & Nordgren, R. (2013). MIXREGLS: A program for mixed-effects location scale analysis. *Journal of Statistical Software*, *52(12)*, 1-38.
- Leon, A.C., Demirtas, H., Li, C. & **Hedeker, D.** (2013). Subject-level matching for imbalance in cluster randomized trials with a small number of clusters. *Pharmaceutical Statistics*, *12(5)*, 268-274.

- Pugach, O., **Hedeker, D.**, Richmond, M.J., Sokolovsky, A., & Mermelstein, R.J. (2014). Modeling mood variation and covariation among adolescent smokers: Application of a bivariate location-scale mixed-effects model. *Nicotine and Tobacco Research*, *16*, Supplement 2, S151-S158.
- Pugach, O., **Hedeker, D.**, & Mermelstein, R.J. (2014). A bivariate mixed-effects location-scale model with application to ecological momentary assessment (EMA) data. *Health Services and Outcomes Research Methodology*, *14*(4):194-212
- Siddique, J., Harel, O., Crespi, C. M. & **Hedeker, D.** (2014). Binary variable multiple-model multiple imputation to address missing data mechanism uncertainty: Application to a smoking cessation trial. *Statistics in Medicine*, *33*(17), 3013-3028.
- Wang, K.-C., **Hedeker, D.**, Chang, H.-L., & Lin, Y.-C. (2014). Multilevel logistic regression modeling with correlated random effects: Application to the choice of mode for the leisure traveler. *Journal of the Chinese Institute of Transportation*, *26*(4), 497-528.
- Hedeker, D.** (2015). Methods for multilevel ordinal data in prevention research. *Prevention Science*, *16*, 997-1006.
- Kapur, K., Li, X., Blood, E.A., & **Hedeker, D.** (2015). Bayesian mixed-effects location and scale models for multivariate longitudinal outcomes: An application to ecological momentary assessment data. *Statistics in Medicine*, *34*, 2312-2324.
- McGinley, J.S., Curran, P.J., & **Hedeker, D.** (2015). A novel modeling framework for ordinal data defined by collapsed counts. *Statistics in Medicine*, *34*(4), 630-651.
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#### OTHER PUBLICATIONS:

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## INVITED PRESENTATIONS & WORKSHOPS:

(2019, June) *Two-day Workshop on Variability in Intensive Longitudinal Data: Mixed-Effects Location Scale Modeling*. Summer Institute on Longitudinal Methods, The Methodology Center, Penn State University, State College, Pennsylvania.

(2019, February) *Modeling of Between- and Within-Subject Variances using Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Rush University Alzheimers Disease Center, Neuroepidemiology Seminar, Chicago, IL.

(2019, January) *Variance Modeling of Intensive Longitudinal Data*. Department of Psychiatry and Biomedical Data Science Grand Rounds, Dartmouth University, Lebanon, NH.

(2019, January) *Five-day workshop on Multilevel Data Analysis*. Faculty of Sport, University of Porto, Portugal.

(2018, November) *Two-day workshop on Intensive Longitudinal Methods*. Statistical Horizons, Chicago, IL.

(2018, August) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.

(2018, August) *Applying Item Response Theory Models to Estimate Motor Carrier Safety*. Invited Panelist, Joint Statistical Meetings, Vancouver, Canada.

(2018, June) *Advances in Longitudinal Data Analysis*. Global Symposium of Innovation in Trauma Research Methods, Nationwide Children's Hospital, Columbus, OH.

(2017, June) *Two-day workshop on Multilevel Modeling of Non-Normal Data*. Statistical Horizons, Philadelphia, PA.

(2018, March) *Mixed Models for Intensive Longitudinal Data*. Webinar speaker for the Mental Health Statistics Section, American Statistical Association.

(2018, March) *Investigating Mood Regulation and Smoking: Applications of Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Webinar speaker for the Prevention Science and Methodology Group, Center for Prevention Implementation Methodology, Northwestern University.

(2018, January) *Evening Workshop on Mixed Models for Multilevel Data Analysis: An Applied Introduction*. Graham School, University of Chicago.

- (2017, December) *One-day workshop on Variance Modeling for Intensive Longitudinal Data*. Department of Educational Psychology, University of Connecticut, Storrs, CT.
- (2017, November) *Investigating Mood Regulation and Smoking: Applications of Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Michael M. Davis Lecture, Center for Health Administration Studies (CHAS), University of Chicago.
- (2017, November) *Two-day workshop on Intensive Longitudinal Methods*. Statistical Horizons, Chicago, IL.
- (2017, September) *Modeling of Between- and Within-Subject Variances using Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Conference on Biostatistics in the Modern Computing Era, Milwaukee, WI.
- (2017, August) *Half-day Workshops on Introduction to Mixed Models for Longitudinal Data, and Modeling Ecological Momentary Assessment (EMA) Data*. CALDAR Summer Institute on Longitudinal Research, Los Angeles, CA.
- (2017, August) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2017, June) *Modeling of Between- and Within-Subject Variances using Mixed Effects Location Scale Models*. International Chinese Statistical Association Applied Statistics Symposium, Chicago, IL.
- (2017, June) *Approaches to Multilevel Modeling*. Seminar speaker for the Prevention Research Center for Health Neighborhoods, Case Western Reserve University, Cleveland, OH.
- (2017, May) *Two-day workshop on Multilevel Modeling of Non-Normal Data*. Statistical Horizons, Chicago, IL.
- (2017, May) *Investigating Mood Regulation and Smoking: An Introduction to Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Keynote speaker for the International Conference on Risk Analysis, Chicago.
- (2017, April) *Investigating Mood Regulation and Smoking: An Introduction to Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Seminar speaker for the American Statistical Association Student Chapter at Loyola University Chicago.
- (2017, January) *Five-day workshop on Multilevel Data Analysis*. Faculty of Sport, University of Porto, Portugal.
- (2016, August) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2016, August) *Modeling Means and Variances Using Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Luncheon speaker at Joint Statistical Meetings for the Statistical Partnerships Among Academe, Industry & Government Committee, Chicago, IL.
- (2016, June) *Two-day workshop on Multilevel Modeling of Non-Normal Data*. Statistical Horizons, Chicago, IL.

- (2016, March) *Modeling Between and Within-Subject Variances Using Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Seminar speaker for the Department of Mathematics, Statistics, and Computer Science, University of Illinois at Chicago.
- (2016, February) *Five-day workshop on Longitudinal Data Analysis*. Faculty of Sport, University of Porto, Portugal.
- (2015, December) *One-day workshop on Longitudinal Data Analysis*. Alcohol Research Group, Emeryville, CA.
- (2015, November) *Missing data in Smoking Cessation Randomized Clinical Trials: Some MAR and MNAR examples*. Food and Drug Administration workshop “A Statistics Public Workshop - Planning for and Analysis of Randomized Controlled Clinical Trials and Observational Studies,” Silver Springs, MD.
- (2015, October) *A Shared Parameter Location Scale Item Response Theory (IRT) Model for Repeated Ordinal Questionnaire Data*. International Conference on Health Policy Statistics, Providence, RI.
- (2015, July) *Two-day workshop on Multilevel Modeling of Non-Normal Data*. Statistical Horizons, Philadelphia, PA.
- (2015, July) *Mixed Models for Longitudinal Categorical Outcomes*. Webinar speaker for the Mental Health Statistics Section, American Statistical Association.
- (2015, June) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2015, May) *Modeling Between and Within-Subject Variances Using Mixed Effects Location Scale Models for Intensive Longitudinal Data*. Keynote Address, Modern Modeling Methods Conference, University of Connecticut, Storrs, CT.
- (2015, March) *Mood Changes Associated with Smoking in Adolescents: Application of Mixed-Effects Location Scale Models for Cross-Sectional and Longitudinal Ecological Momentary Assessment (EMA) Data*. Seminar speaker for the Department of Preventive Medicine, University of Southern California., Los Angeles, CA.
- (2015, March) *Modeling between and within-subject variances using mixed effects location scale models for intensive longitudinal data*. “Methodological Frontiers in CER Studies,” PCORP & PHEnOM, University of Washington, Seattle, WA.
- (2015, February) *Five-day workshop on Longitudinal Data Analysis*. Faculty of Sport, University of Porto, Portugal.
- (2015, January) *”Missing Data in Smoking Cessation Trials*. Webinar speaker for the Society for Research on Nicotine and Tobacco Treatment Network.
- (2014, December) *Mood Changes Associated with Smoking in Adolescents: Applications of Mixed-Effects Location Scale Models for Ecological Momentary Assessment (EMA) Data*. Department of Mathematics and Statistics Colloquia, Loyola University, Chicago, IL.

- (2014, November) *Mixed-Effects Models For Longitudinal Ordinal Data and Mood Changes Associated with Smoking in Adolescents: Applications of Mixed-Effects Location Scale Models for Ecological Momentary Assessment (EMA) Data*. Division of Statistics Colloquia, Northern Illinois University, DeKalb, IL.
- (2014, July) *Marginalization of Regression Parameters from Multilevel Models of Categorical Outcomes*. VI European Congress of Methodology, Utrecht, NL.
- (2014, June) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2014, April) *A Location Scale Item Response Theory (IRT) Model for Analysis of Ordinal Questionnaire Data*. Annual meeting of the National Council on Measurement in Education, Philadelphia, PA.
- (2014, March) *Two-day Workshop on Multilevel Data Analysis*. The Center for Work, Technology & Organization, Department of Management Science and Engineering, Stanford University, Palo Alto, CA.
- (2014, January) *Mood Changes Associated with Smoking in Adolescents: Application of Mixed-Effects Location Scale Models for Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Department of Behavioral Sciences, Rush University, Chicago, IL.
- (2013, July) *Longitudinal Data Analysis with Missing Data*. OBSSR/NIH Summer Training Institute on Randomized Clinical Trials Involving Behavioral Interventions, Airlie Conference Center, Warrenton, VA.
- (2013, June) *Half-day workshop on Introduction to Multilevel Modeling*. Congress on Positive Psychology Annual Meetings, Los Angeles, CA.
- (2013, June) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2013, April) *Mixed Models for Longitudinal Categorical Outcomes*. Webinar speaker for the Section for Statistical Programmers and Analysts, American Statistical Association.
- (2013, April) *Mood Changes Associated with Smoking in Adolescents: Applications of Mixed-Effects Location Scale Models for Cross-Sectional and Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Department of Biostatistics, Virginia Commonwealth University, Richmond, VA.
- (2013, April) *One-day Workshop on Longitudinal Data Analysis of Categorical Outcomes*. Department of Methodology & Statistics, Faculty of Social and Behavioral Sciences, Utrecht University, Utrecht, NL.
- (2013, March) *A Location Scale Item Response Theory (IRT) Model for Analysis of Ordinal Questionnaire Data*. Annual meeting of the International Biometric Society, Eastern North American Region (ENAR), Orlando, FL.

- (2013, February) *Two-day Workshop on Multilevel Modeling for Longitudinal Data, including Categorical, Count, and Survival Outcomes*. Centre for Multilevel Modeling, University of Bristol, Bristol, UK.
- (2013, February) *Mood Changes Associated with Smoking in Adolescents: Applications of Mixed-Effects Location Scale Models for Cross-Sectional and Longitudinal Ecological Momentary Assessment (EMA) Data*. Joint Meeting of the Royal Statistical Society Avon local group and LEMMA node of the National Centre for Research Methods, Bristol, UK.
- (2013, February) *Mood Changes Associated with Smoking in Adolescents: Applications of Mixed-Effects Location Scale Models for Cross-Sectional and Longitudinal Ecological Momentary Assessment (EMA) Data*. New Challenges for Longitudinal Data Analysis at the Royal Statistical Society, London, UK.
- (2012, November) *Longitudinal Data Analysis with Missing Data*. Colloquium speaker for the Rehabilitation Institute of Chicago, Chicago, IL.
- (2012, November) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Center for Research Methods and Data Analysis, University of Kansas, Lawrence, KS.
- (2012, October) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Grand Rounds speaker for the Department of Preventive Medicine, Rush University Medical Center, Chicago, IL.
- (2012, September) *An Introduction to Hierarchical Linear Models for Clustered Data*. The Doris Duke Fellowships for the Promotion of Child Well-Being Annual Meeting, Chapin Hall at the University of Chicago, Chicago, IL.
- (2012, August) *Half-day Workshops on Introduction to Modeling Ecological Momentary Assessment (EMA) Data, and Advanced Topics in Modeling EMA Data*. CALDAR Summer Institute on Longitudinal Research, Los Angeles, CA.
- (2012, August) *A Mixed Effects Location Scale Model for Ordinal Data*. Joint Statistical Meetings, San Diego CA.
- (2012, July) *Longitudinal Data Analysis with Missing Data*. OBSSR/NIH Summer Training Institute on Randomized Clinical Trials Involving Behavioral Interventions, Airlie Conference Center, Warrenton, VA.
- (2012, June) *Five-day workshop on Longitudinal Data Analysis, including Categorical Outcomes*. Inter-University Consortium for Political and Social Research, Summer Program in Quantitative Methods of Social Research, University of Michigan, Ann Arbor, MI.
- (2012, May) *Mixed-effects Models for Longitudinal Ordinal Data*. Society for Prevention Research pre-conference workshop “Tools for Conducting Intervention Research with Small Samples,” Washington, DC.
- (2012, April) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment*

- (*EMA*) Data. Colloquium speaker for the Department of Psychology, University of North Carolina, Chapel Hill, NC.
- (2012, April) *Modeling Between- and Within-Subject Mood Variance in Ecological Momentary Assessment (EMA) data using Mixed-Effects Location-Scale Models* Annual meeting of the International Biometric Society, Eastern North American Region (ENAR), Washington, DC.
- (2012, March) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Society for Research on Nicotine and Tobacco pre-conference workshop “New Methods for Advancing Research on Tobacco Dependence,” Houston, TX.
- (2012, February) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the School of Mathematical & Statistical Sciences, Arizona State University, Tempe, AZ.
- (2012, January) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Department of Preventive Medicine, Northwestern University, Chicago, IL.
- (2011, December) *Modeling Between- and Within-Subject Mood Variance in Ecological Momentary Assessment (EMA) data using Mixed-Effects Location-Scale Models* Colloquium speaker for the Division of Biostatistics & Epidemiology, College of Medicine, Medical University of South Carolina, Charleston, SC.
- (2011, November) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Department of Health Studies, University of Chicago, Chicago, IL.
- (2011, October) *Session Discussant: Recent Developments in Modeling Random Effects in Health Outcomes Data*. International Conference on Health Policy Statistics, Cleveland, OH.
- (2011, October) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) data*. International Conference on Health Policy Statistics, Cleveland, OH.
- (2011, August) *Modeling Between- and Within-Subject Variance of mHealth Data*. mHealth Evidence Workshop, Office of Behavioral and Social Sciences Research, NIH, Bethesda, MD.
- (2011, July) *Longitudinal Data Analysis with Missing Data*. OBSSR/NIH Summer Training Institute on Randomized Clinical Trials Involving Behavioral Interventions, Airlie Conference Center, Warrenton, VA.
- (2011, April) *Two-day Workshop on Sample Size Determination and Missing Data in Longitudinal Studies, and Mixed Models for Ecological Momentary Assessment Data*. Rady Children’s Hospital, San Diego, CA.
- (2011, March) *Two-day Workshop on Applied Mixed Modeling for Longitudinal Data*. Biostatistics Group, University of Missouri School of Medicine, Columbia, MO.



- (2010, December) *Two-day Workshop on Applied Multilevel Modeling*. Association of Maternal and Child Health Programs Annual Meeting, San Antonio, TX.
- (2010, November) *Two-day Workshop on Longitudinal Data Analysis: Multilevel Modeling for Longitudinal Categorical Outcomes and Multilevel Modeling for Missing Data in Longitudinal Studies*. Department of Maths and Statistics, Lancaster University, Lancaster, England.
- (2010, October) *Mixed Models For Longitudinal Ordinal And Nominal Data*. Fall meeting of the Northeastern Illinois Chapter of the American Statistical Association, Northbrook, IL.
- (2010, August) *One-day Workshop on Longitudinal Data Analysis: Multilevel Discrete/Grouped Time Survival Analysis and Models for Ecological Momentary Assessment Data*. CALDAR Summer Institute on Longitudinal Research, Los Angeles, CA.
- (2010, August) *Modeling Mood Variation Associated with Smoking using a Mixed-Effects Location Scale Model for Analysis of Ecological Momentary Assessment Data*. Joint Statistical Meetings, Vancouver, Canada.
- (2010, July) *Two-day Workshop on Applied Multilevel Modeling for Social Science and Public Health Research*. Center for Addiction and Behavioral Health Research, University of Wisconsin-Milwaukee.
- (2010, July) *Longitudinal Data Analysis with Missing Data*. OBSSR/NIH Summer Training Institute on Randomized Clinical Trials Involving Behavioral Interventions, Airlie Conference Center, Warrenton, VA.
- (2010, June) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Colloquium speaker for the Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.
- (2010, June) *Mood Changes Associated with Smoking in Adolescents: An Application of a Mixed-Effects Location Scale Model for Longitudinal Ecological Momentary Assessment (EMA) Data*. Conference on “Advances in Longitudinal Methods in the Social and Behavioral Sciences,” The Center for Integrated Latent Variable Research, University of Maryland, College Park, MD.
- (2010, June) *Half-day Workshop on Mixed Models for Survival Data*. Institute for Health Research and Policy, University of Illinois at Chicago, Chicago, IL.
- (2010, April) *Two-day Workshop on Mixed Models for Survival Data and Counts*. Rady Children’s Hospital, San Diego, CA.
- (2009, November) *Half-day Workshop on Mixed Models for Ecological Momentary Assessment (EMA) Data*. Pittsburgh Mind-Body Center, University of Pittsburgh and Carnegie Mellon University, Pittsburgh, PA.
- (2009, November) *Multilevel Models for Ecological Momentary Assessment (EMA) Data: An Application of a Mixed-Effects Location Scale Model*. Colloquium speaker for the Department of Statistics, Northwestern University, Evanston, IL.

- 2009, October *Modeling Longitudinal Data Containing Missing Observations*. Grand Rounds speaker for the Department of Preventive Medicine, Rush University Medical Center, Chicago, IL.
- (2009, July) *Two-day Workshop on Applied Multilevel Modeling for Social Science and Public Health Research*. Center for Addiction and Behavioral Health Research, University of Wisconsin-Milwaukee.
- (2009, June) *Two-day Workshop on Mixed Models for Continuous and Dichotomous Data*. Rady Children's Hospital, San Diego, CA.
- (2009, May) *Half-day Preconference Workshop on Mixed Models for Longitudinal Data Analysis*. Annual Meeting of the Association for Psychological Science, San Francisco, CA.
- (2009, April) *Half-day Preconference Workshop on Mixed Models for Longitudinal Data Analysis*. Annual Meeting of the Society of Behavioral Medicine, Montreal, Canada.
- (2009, April) *Multilevel Analysis of Longitudinal Data*. One-day course, as part of the Amsterdam Conference on Multilevel Analysis, Amsterdam, The Netherlands.
- (2009, April) *Multilevel Models for Ecological Momentary Assessment (EMA) Data*. Amsterdam Conference on Multilevel Analysis, Amsterdam, The Netherlands.
- (2009, March) *Mixed-Effects Models for Longitudinal Ordinal and Nominal Outcomes*. Colloquium speaker for the Alcohol Research Group, Emeryville, CA.
- (2009, March) *One-day Short Course on Longitudinal Data Analysis*. Chicago Chapter of the American Statistical Association, Chicago, IL.
- (2009, March) *Half-day Preconference Workshop on Mixed Models for Longitudinal Data Analysis*. Annual Meeting of the American Psychosomatic Society, Chicago, IL.
- (2008, December) *Two-day Workshop on Mixed Models for Clustered and Longitudinal Data*. Deming Conference on Applied Statistics, Atlantic City, New Jersey.
- (2008, December) *Half-day Workshop on Mixed Models for Longitudinal Ordinal and Nominal Data*. Deming Conference on Applied Statistics, Atlantic City, New Jersey.
- (2008, October) *An Introduction to Mixed Models for Longitudinal Data*. Bipolar Statistical Summit, National Library of Medicine, Bethesda, Maryland.
- (2008, August) *One-day Workshop on Longitudinal Data Analysis: Categorical Outcomes and Missing Data*. CALDAR Summer Institute on Longitudinal Research, Los Angeles, California.
- (2008, May) *Half-day Preconference Workshop on Mixed Models for Longitudinal Data Analysis*. Annual Meeting of the Association for Psychological Science, Chicago, IL.
- (2008, May) *One-day Workshop on Mixed-effects Modeling*. Department of Psychology, DePaul University, Chicago, IL.
- (2008, May) *Mixed-Effects Models for Categorical Outcomes*. Colloquium speaker for the Department of Biostatistics, University of Kansas Medical Center, Kansas City, KS.

- (2008, February) *One and a half-day Workshop on Analysis of Multilevel and Longitudinal Data*. Department of Psychology, University of Nevada, Reno.
- (2008, January) *An Application of a Mixed-Effects Location Scale Model*. Colloquium speaker for the Department of Preventive Medicine, Feinberg School of Medicine, Northwestern University, Chicago, IL.
- (2007, December) *Two-day Workshop on Analysis of Multilevel and Longitudinal Data*. The Pittsburgh Mind-Body Center and the Center for Interdisciplinary Research on Teams, Tepper School of Business, Carnegie Mellon University, Pittsburgh, PA.
- (2007, October) *An Application of a Mixed-Effects Location Scale Model*. Colloquium speaker for the Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD.
- (2007, July) *Mixed-Effects Models for Categorical Outcomes*. Colloquium speaker for the “Key Statistical Methods for Clinical Trials” seminar series, Harvard Clinical Research Institute and Department of Health Care Policy at Harvard Medical School, Boston, MA.
- (2007, June) *One and a half-day Workshop on Mixed-effects Modeling*. Summer Institute on Longitudinal Methods, The Methodology Center, Penn State University, State College, Pennsylvania.
- (2007, May) *Half-day Preconference Workshop on Multilevel Analysis for Continuous and Categorical Data*. Annual Meeting of the Society for Prevention Research, Washington, DC.
- (2007, March) *Heterogeneous Between- and Within-Subjects Variance Models for Longitudinal Behavioral Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Atlanta, GA. Eastern North American Region, Atlanta, Georgia.
- (2007, February) *Modeling Effectiveness Trial Data with Missing Observations*. Annual meeting of the International Society for CNS Clinical Trials and Methodology, Washington, DC.
- (2007, January) *Half-day Workshop on Longitudinal Data Analysis*. Shire Pharmaceuticals, Wayne, PA.
- (2006, December) *Half-day Workshop on Longitudinal Data Analysis*. Deming Conference on Applied Statistics, Atlantic City, NJ.
- (2006, November) *Half-day Workshop on Longitudinal Data Analysis*. Annual meeting of the Association for Behavioral and Cognitive Therapies, Chicago.
- (2006, October) *An Introduction to Mixed Models for Categorical Outcomes*. Annual Meeting of the Milwaukee Chapter of the American Statistical Association, Milwaukee, Wisconsin.
- (2006, August) *Half-day Workshop on Longitudinal Data Analysis: Overview and Mixed Effects Models*. CALDAR Summer Institute on Longitudinal Research, Los Angeles, California.
- (2006, August) *Modeling Variation in the Effects of Smoking using Intensive Longitudinal Data*. Joint Statistical Meetings, Seattle, Washington.
- (2006, June) *One-day Workshop on Longitudinal Data Analysis*. University of California Los Angeles, Integrated Substance Abuse Programs, Los Angeles, California.

- (2005, November) *Half-day Workshop on Longitudinal Data Analysis*. Annual meeting of the Association for Behavioral and Cognitive Therapies, Washington, DC.
- (2005, November) *Mixed-Effects Models for Ordinal Data with Scaling Terms*. Colloquium speaker, Memorial Sloan-Kettering Cancer Center, New York, New York.
- (2005, June) *Half-day Workshop on Longitudinal Analysis: Growth Modeling*. Part of the Advanced Training Institute on Health Behavior Theory, sponsored by the Behavioral Research Program for the National Cancer Institute, the Society for Behavioral Medicine, and the American Psychological Association, Division 38, Madison, Wisconsin.
- (2005, April) *An Introduction to Mixed Models for Longitudinal Data Analysis*. Colloquium speaker for the Department of Mathematics and Statistics, Loyola University, Chicago.
- (2005, April) *Mixed-Effects Regression Models with Heterogeneous Variance: Analyzing Ecological Momentary Assessment (EMA) Data of Smoking*. Colloquium speaker for the Department of Psychology, Washington University, St. Louis, Missouri.
- (2005, February) *Mixed-Effects Models for Ordinal Data with Scaling Terms*. Colloquium speaker for the Division of Biostatistics, Department of Epidemiology and Public Health, Yale University School of Medicine, New Haven, Connecticut.
- (2004, December) *Two-day Workshop on Mixed Models for Multilevel and Longitudinal Data*. University of Kansas, Lawrence, Kansas.
- (2004, November) *Mixed-Effects Models for Ordinal Data with Scaling Terms*. Colloquium speaker for the Department of Statistics, Northern Illinois University, DeKalb, Illinois.
- (2004, October) *Mixed-Effects Models for Ordinal Data with Scaling Terms*. Colloquium speaker for the Department of Biostatistics and Computational Biology, University of Rochester Medical Center, Rochester, New York.
- (2004, July) *Half-day Workshop on Longitudinal Analysis: Growth Modeling*. Part of the Advanced Training Institute on Health Behavior Theory, sponsored by the Behavioral Research Program for the National Cancer Institute, the Society for Behavioral Medicine, and the American Psychological Association, Division 38, San Diego, California.
- (2004, June) *One-day Workshop on Mixed Models for Longitudinal Data: An Applied Introduction*. Northeastern Illinois Chapter of the American Statistical Association, Northbrook, Illinois.
- (2004, March) *Mixed-Effects Regression Models with Heterogeneous Variance: Analyzing Ecological Momentary Assessment (EMA) Data of Smoking*. Conference on “Modeling Developmental Processes in Ecological Context,” sponsored by the Merrill Advanced Studies Center, the National Science Foundation, and the Society of Multivariate Experimental Psychology, Tempe, Arizona.
- (2003, September) *Mixed-Effects Models for Ordinal Data with Scaling Terms*. Colloquium speaker for the Department of Statistics, University of Illinois, Urbana-Champaign, Illinois.
- (2003, May) *An Introduction to Mixed Models for Longitudinal Data Analysis*. The Center on Outcomes, Research and Education, Evanston Northwestern Healthcare, Evanston, Illinois.

- (2003, April) *Location-Scale Models for Hierarchical Categorical Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Tampa, FL. Eastern North American Region, Tampa, Florida.
- (2002, September) *Linear Regression Analysis and Beyond*. A half-day workshop sponsored by the Northeastern Chapter of the American Statistical Association for Local High School Advanced Placement Statistics Teachers, Chicago, Illinois.
- (2002, July) *Two-day Workshop on Multilevel Modeling*. The Pittsburgh Mind-Body Center, Department of Psychiatry, University of Pittsburgh, Pittsburgh, Pennsylvania.
- (2001, December) *Covariate Effects in Mixed Models for Longitudinal Categorical Outcomes*. International Conference on Health Policy Statistics, Boston, Massachusetts.
- (2001, December) *Multilevel Models for Categorical Outcomes*. Evening Lecture Series, Boston Chapter of the American Statistical Association, Boston, Massachusetts.
- (2001, July) *Mixed Models for Longitudinal Categorical Outcomes*. Annual Graduate Student Summer Methodology Workshop, Population Research Institute, Penn State University, State College, Pennsylvania.
- (2001, May) *One-day Preconference Workshop on Multilevel Analysis for Discrete and Time-to-Event Data in Prevention Research*. Annual Meeting of the Society for Prevention Research, Washington, DC.
- (2001, January) *One-day Preconference Workshop on Mixed Models for Longitudinal Data: An Applied Introduction*. Biennial CDC and ATSDR Symposium on Statistical Methods, Atlanta, Georgia.
- (2001, January) *Mixed-effects Modeling of Longitudinal Nominal Outcomes*. Biennial CDC and ATSDR Symposium on Statistical Methods, Atlanta, Georgia.
- (2001, January) *One-day Workshop on Longitudinal Data Analysis of Categorical Outcomes*. National Development and Research Institutes, New York, New York.
- (2000, June) *Mixed-effects Modeling of Data from Group Randomized Trials*. Annual Meeting of the Society for Prevention Research, Montreal Canada.
- (2000, May) *One and a half-day Workshop on Mixed-effects Modeling*. Summer Institute on Longitudinal Methods, The Methodology Center, Penn State University, State College, Pennsylvania.
- (2000, February) *One-day Workshop on Longitudinal Data Analysis*. National Development and Research Institutes, New York, New York.
- (1999, December) *Half-day Workshop on Multilevel Analysis*. Annual Meeting of the Maternal, Infant, and Child Health Epidemiology Workshop, Centers for Disease Control, Atlanta, Georgia.
- (1999, November) *A Multilevel Thresholds of Change Model*. Colloquium speaker for the Department of Psychology, University of Illinois, Urbana-Champaign, Illinois.
- (1999, November) *Analysis of Longitudinal Mental Health Data*. Colloquium speaker for the Missouri Institute of Mental Health, St. Louis, Missouri.

- (1999, November) *Mixed-Effects Models for Longitudinal Categorical Data*. Colloquium speaker for the Department of Health Studies, University of Chicago, Chicago, Illinois.
- (1999, November) *Mixed-Effects Models for Longitudinal Categorical Data*. Colloquium speaker for Biostatistics Interest Group, Rush Presbyterian St. Lukes Medical Center, Chicago, Illinois.
- (1999, October) *Mixed-Effects Models for Longitudinal Categorical Data*. Colloquium speaker for the Center for Statistical Sciences, Brown University, Providence, Rhode Island.
- (1999, May) *Reveling in Multilevel Models: An Applied Introduction*. “Multilevel Mayhem” conference, sponsored by the Chicago Chapter of the American Statistical Association, Chicago, Illinois.
- (1999, April) *Analysis of Longitudinal Alcohol and Smoking Outcomes*. Conference on the State-of-the-Art Methodologies in Health Services Research, National Institute on Alcohol Abuse and Alcoholism, Rockville, Maryland.
- (1998, November) *Multilevel Analysis of Ordinal Outcomes*. Colloquium speaker for the Department of Epidemiology, College of Human Medicine, Michigan State University, East Lansing, Michigan.
- (1998, October) *Missing Data in Longitudinal Studies*. Workgroup and Interviewers Meeting, Center for Substance Abuse Treatment, Division of Practice and Systems Development, Systems Development and Integration Branch, New Orleans, Louisiana
- (1998, July) *Two-day Workshop on Hierarchical Linear Modeling*. Kennedy Center Summer Research Design and Data Analysis Seminar, Vanderbilt University, Nashville, Tennessee.
- (1998, May) *Random-effects Regression Analysis of Correlated Group-Time Survival Data and Application of Random-effects Pattern-Mixture Models for Missing Data*. John Hopkins University Prevention Research Conference on Integrating Statistical Methods with Prevention Research and Programs, Baltimore, Maryland.
- (1998, May) *Two-day Workshop on Longitudinal Data Analysis*. Psychiatric Research Center, Dartmouth College, Lebanon, New Hampshire.
- (1998, April) *Half-day Workshop on Mixed-effects Modeling*. School of Social Service Administration, University of Chicago, Chicago, Illinois.
- (1997, May) *A Generalized Mixed Effects Ordinal Regression Model*. Colloquium speaker for the Department of Preventive Medicine, University of Iowa, Iowa City, Iowa.
- (1997, April) *Multilevel Analysis of Categorical Outcomes*. One-day course, as part of the Amsterdam Conference on Multilevel Analysis, Amsterdam, The Netherlands.
- (1997, April) *A Partial Proportional Odds Model for Multilevel Ordinal Responses*. Amsterdam Conference on Multilevel Analysis, Amsterdam, The Netherlands.
- (1997, January) *A Generalized Mixed Effects Ordinal Regression Model*. Colloquium speaker for the Department of Biostatistics, School of Public Health, University of Michigan, Ann Arbor, MI.

- (1997, January) *Application of Random-Effects Pattern-Mixture Models for Missing Data in Longitudinal Studies*. Colloquium speaker for The Methodology Center and The Center for the Study of Prevention Through Innovative Methodology, Penn State University, University Park, PA.
- (1997, January) *A Generalized Mixed Effects Ordinal Regression Model*. Colloquium speaker for the Department of Statistics, Penn State University, University Park, PA.
- (1997, January) *Multilevel Models: An Applied Introduction*. Monthly meeting of the Chicago Chapter of the American Statistical Association, Chicago, IL.
- (1996, July) *Two-day Workshop on Longitudinal Data Analysis*. Homeless Research Project, San Diego State University, San Diego, California.
- (1996, April) *Random Effects Models in Longitudinal Data with Ordinal Outcomes*. Annual Conference sponsored by The Delaware Chapter of the American Statistical Association, University of Delaware, Newark, DE.
- (1996, January) *Two-day Workshop on Longitudinal Data Analysis*. Medical University of South Carolina, Charleston, SC.
- (1995, November) *One-day Workshop on Longitudinal Data Analysis*. Medical University of South Carolina, Charleston, SC.
- (1995, October) *Invited Speaker for Two-day Workshop on Data Analysis Issues*. Centers for Disease Control, Division of Adolescent and School Health, Atlanta, GA.
- (1995, September) *Random-effects models for ordinal and dichotomous response data*. Speaker for the One-day Workshop “Missing Data in the Social Sciences,” jointly sponsored by the Departments of Statistics and Operations Research, Psychology, Sociology, and Teaching and Learning, New York University, New York, NY.
- (1995, August) *Two-day Workshop on Longitudinal Data Analysis*. Sponsored by The National Association of State Mental Health Program Directors Research Institute, Inc. in collaboration with Mental Health Policy Workgroup, John F. Kennedy School of Government, Harvard University, Boston, MA.
- (1995, May) *One-day Workshop on Longitudinal Data Analysis*. Schizophrenic Disorders Program, Department of Psychiatry and Behavioral Sciences, Emory University School of Medicine, Atlanta, GA.
- (1995, May) *One-day Workshop on Longitudinal Data Analysis*. Department of Medical Affairs, Medical Center, West Haven, CT.
- (1995, April) *Panelist, Two-day Workshop on New Directions in Psychosocial Intervention Research in Geriatric Mental Health*. Cosponsored by the NIMH Mental Disorders of the Aging Research Branch and the MacArthur Foundation Research Network for Psychopathology and Development, Washington, D.C.
- (1994, December) *Half-day Workshop on Longitudinal Data Analysis*. Psychiatric Research Center, Dartmouth College, Lebanon, NH.

- (1994, October) *Half-day Workshop on Longitudinal Data Analysis*. National Association of State Mental Health Program Directors Research Fellows' Meeting, Grand Lake, CO.
- (1994, May) *One-day Workshop on Longitudinal Data Analysis*. State of Connecticut Department of Mental Health Research Division, Middletown, CT.
- (1994, July) *Statistical Approaches to Longitudinal Analysis of Psychiatric Data*. Presentation and workshop, University of Limburg, Maastricht, The Netherlands.
- (1993, October) *Longitudinal Analysis of Mental Health Data: Some Recent Statistical Advances*. National Conference on State Mental Health Agency Services Research and Program Evaluation. Annapolis, MD.
- (1993, June) *Multilevel Regression Models*. International Meeting of the Society for Psychotherapy Research, Pittsburgh, PA.
- (1993, March) *One-day Workshop on Multilevel Data Analysis*. Center for Urban Affairs and Policy Research, Northwestern University.
- (1993, March) *One-day Workshop on Multilevel Data Analysis*. Department of Psychology, Memphis State University.
- (1993, February) *Multilevel Analysis of Ordinal Data*. Centers for Disease Control and Prevention Annual Conference for National Prevention Centers, Tucson, AZ.
- (1993, January) *Multilevel Analysis using Random-effects Models: Applications to Relapse Research*. National Institute on Alcohol Abuse and Alcoholism Division of Clinical and Prevention Research Treatment Research Branch, Methodologies for Relapse Research Workshop, Santa Fe, NM.
- (1992, September) *Uses of Random Regression Models in Psychiatry*. MacArthur Foundation Research Network on the Psychobiology of Depression and Other Affective Disorders: Random Regression Workshop, Chicago, IL.
- (1991, November) *Random Regression Models for Clustered Data*. National Institute of Mental Health and American Public Health Association Continuing Education Institute, Atlanta, GA.

#### **CONTRIBUTED PRESENTATIONS AND POSTERS:**

- Hedeker, D. & Mermelstein, R.J. (2016, October). *A Mixed-effects Location-Scale Item Response Theory (IRT) Model for Ordinal Questionnaire Data*. Annual meeting of the Society of Multivariate Experimental Psychology, Richmond, VA.
- Hedeker, D., Mermelstein, R.J., & Lin, X. (2016, August). *Bayesian Modeling of Between- and Within-Subject Variances using Mixed-effects Location Scale Models for Intensive Longitudinal Data*. Joint Statistical Meetings, Chicago, IL.
- Hedeker, D. & Leckie, G. (2016, July). *Running MIXREGLS from within Stata: the runmixregls command*. Stata Conference, Chicago, IL.



- Hedeker, D., Mermelstein, R.J., & Lin, X. (2016, June). *Bayesian Modeling of Between- and Within-Subject Variances using Mixed-effects Location Scale Models for Intensive Longitudinal Data*. World Meeting of the International Society for Bayesian Analysis, Sardinia, Italy.
- Hedeker, D. & Mermelstein, R.J. (2016, March). *Modeling Intensive Longitudinal Data using a Mixed-effects Location Scale Model: Examining the Mean and Within-Subject Variance of Time to First Cigarette*. Annual Meeting of the Society for Behavioral Medicine, Washington, DC.
- Hedeker, D., Mermelstein, R., Demirtas, H., & Berbaum, M. (2013, October). *A Location Scale Item Response Theory (IRT) Model for Ordinal Data*. International Conference on Health Policy Statistics, Chicago, IL.
- Hedeker, D., Mermelstein, R., & Demirtas, H. (2013, August). *A Location Scale Item Response Theory (IRT) Model for Analysis of Ordinal Questionnaire Data*. Annual meeting of the American Statistical Association, Montreal, Canada.
- Hedeker, D. (2011, May) *Modeling Between- and Within-Subject Variance in Ecological Momentary Assessment (EMA) Data using Mixed-effects Location Scale Models*. Biennial CDC and ATSDR Symposium on Statistical Methods, Decatur, GA.
- Li, X. & Hedeker, D. (2011, March). *A 3-Level Mixed-Effects Location Scale Model With An Application In Ecological Momentary Assessment Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Miami, FL.
- Hedeker, D., Mermelstein, R., & Flay, B. (2008, September). *Application of item response theory models for intensive longitudinal data*. Annual Meeting of the International Conference on Outcomes Measurement. Bethesda, MD.
- Hedeker, D. (2008, August). *Joint modeling of a longitudinal outcome and early study discontinuation*. Annual Meeting of the American Statistical Association. Denver, CO.
- Demirtas, H., & Hedeker, D. (2006, March). *An Imputation Strategy for Binary Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Tampa, FL.
- Mermelstein, R., Hedeker, D., Flay, B.R., & Shiffman, S. (2004, May). *The development of nicotine dependence: Understanding the contributors of patterns of behavior*. Annual Meeting of the Society for Prevention Research, Montreal, Quebec.
- Hedeker, D. (2004, March). *A Latent Class Regression Model for Longitudinal Ordinal Outcomes*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Pittsburgh, PA.
- Liu, L.C., & Hedeker, D. (2004, March). *A Mixed-Effects Regression Model for Longitudinal Multivariate Ordinal Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Pittsburgh, PA.
- Leon, A.C., Hedeker, D., & Teres, J. (2004, March). *A Mixed-Effect Propensity Adjustment for Treatment Effectiveness Analyses of Ordinal Doses*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Pittsburgh, PA.

- Spring, B., Schneider, K., Pagoto, S., Smith, M., Corsica, J., & Hedeker, D. (2004, March). *Abuse potential of carbohydrate snacks for overweight carbohydrate cravers*. Annual Meeting of the Society for Behavioral Medicine, Baltimore, MD.
- Spring, B., Werth, J., Schneider, K., Pagoto, S., Bailey, K., Doran, N. & Hedeker, D. (2004, March). *Progressing Towards Evidence-Based Behavioral Medicine*. Annual Meeting of the Society for Behavioral Medicine, Baltimore, MD.
- Mermelstein, R., Hedeker, D., Flay, B.R., & Shiffman, S. (2003, March). *Trajectories and predictors of adolescent smoking*. Annual Meeting of the Society for Behavioral Medicine, Salt Lake City, Utah.
- Mermelstein, R., Hedeker, D., Flay, B.R., & Shiffman, S. (2003, February). *Do changes in mood following smoking predict longitudinal changes in adolescent smoking patterns*. Annual Meeting of the Society for Research on Nicotine and Tobacco, New Orleans, Louisiana.
- Spring, B., Doran, N., Pagoto, S., Schneider, K., Pingitore, R., & Hedeker, D. (2003, February). *Conjoint Behavior Change Intervention for Smoking and Weight Control: Effects on Smoking Cessation and Weight*. Annual Meeting of the Society for Research on Nicotine and Tobacco, New Orleans, Louisiana.
- Hedeker, D. (2001, June). *Comparing Ordinal and Nominal Mixed-effects Regression Models for Longitudinal Data*. Annual Meeting of the Psychometric Society, Valley Forge, PA.
- Hedeker, D. (2001, March). *Mixed-effects Multinomial Regression Models for Ordinal Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Charlotte, NC.
- Raman, R., & Hedeker, D. (2001, March). *Random-effects Regression Models for Three-level Ordinal Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Charlotte, NC.
- Hedeker, D. (2000, August). *A Fully Semi-Parametric Mixed-effects Regression Model for Categorical Responses*. Annual Meeting of the American Statistical Association. Indianapolis, IN.
- Hedeker, D. (2000, March). *A Semi-Parametric Mixed-effects Regression Model*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Chicago, IL.
- Hur, K., & Hedeker, D. (2000, March). *A Random-effects Zero-inflated Poisson Regression Model for Clustered Extra-zero Count Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Chicago, IL.
- Hedeker, D. (1999, November). *Multilevel Models for Longitudinal Categorical Data*. Annual Meeting of the American Public Health Association. Chicago, IL.
- Hedeker, D. (1999, August). *Mixed-Effects Models for Longitudinal Categorical Data*. Annual Meeting of the American Statistical Association. Baltimore, MD.
- Hedeker, D. (1999, July). *MIXOR: A Software Program for Mixed-Effects Ordinal Regression*. Annual Meeting of the European Psychometric Society, Lueneburg, Germany.

- Flay, B.R., Campbell, R., Colder, C., Mehta, P., Anderson, T., Ruel, E., Hedeker, D., & Richardson, J. (1999, June). *Etiology of adolescent substance use: Statistical and theoretical advancements from secondary analysis of longitudinal data*. Annual Meeting of the Society for Prevention Research, New Orleans, LA.
- Hedeker, D. (1998, June). *A Multilevel Thresholds of Change Model for Analysis of Stages of Change Data*. Annual Meeting of the Society for Prevention Research, Park City, UT.
- Hedeker, D. (1998, March). *A Mixed Effects Multinomial Regression Model*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Pittsburgh, PA.
- Hedeker, D. (1997, November). *Multilevel Analysis of Ordinal Data*. Annual Meeting of the American Public Health Association, Indianapolis, IN.
- Hedeker, D., Mermelstein, R.J., & Weeks, K. (1997, April). *The Thresholds of Change Model: An Approach to Analyzing Stages of Change Data*. Annual Meeting of the Society of Behavioral Medicine, San Francisco, CA.
- Hedeker, D. (1997, March). *A Mixed Effects Partial Proportional Odds Model*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR), Memphis, TN.
- Hu, F.B., Hedeker, D., & Flay, B.R. (1996, November). *Assessing missing data mechanisms in longitudinal studies with binary responses*. Annual Meeting of the American Public Health Association, New York, NY.
- Hedeker, D., Siddiqui, O., Campbell, R.T., & Flay, B.R. (1996, August). *A Random-effects Model for Correlated Discrete-Time Survival Data*. Annual Meeting of the American Statistical Association, Chicago, IL.
- Hu, F.B., Hedeker, D., Siddiqui, O., & Flay, B.R. (1996, August). *Application fo random-effects pattern-mixture models in analyzing incomplete binary outcomes in longitudinal studies*. Annual Meeting of the American Statistical Association, Chicago, IL.
- Siddiqui, O., & Hedeker, D., (1996, August). *Poisson random-effects regression models for clustered count data with an application*. Annual Meeting of the American Statistical Association, Chicago, IL.
- Hu, F.B., Goldberg, J., Hedeker, D., & Flay, B.R. (1996, June). *Modeling missing binary outcomes in longitudinal studies: incorporating pattern-mixture models into random-effects logistic regression*. Annual Meeting of the Society for Epidemiologic Research, Boston, MA.
- Hedeker, D., Siddiqui, O., Campbell, R.T., & Flay, B.R. (1996, March). *Random-effects Regression for Discrete-Time Survival Data*. Annual Meeting of the International Biometric Society, Eastern North American Region (ENAR) Richmond, VA.
- Day, L.E., Hu, F.B., Flay, B.R., Hedeker, D., Siddiqui, O., & Sussman, S. (1994, November). *Changes in the influence of parents and friends at different stages of cigarette smoking during adolescence*. Annual Meeting of the American Society of Criminology, Miami, FL.
- Hedeker, D., & Gibbons, R.D. (1994, August). *A Random-effects Ordinal Regression Model*. Annual Meeting of the American Statistical Association, Toronto, Canada.

- Hedeker, D. (1992, July). *A Random-effects Ordinal Probit Model for Multilevel Analysis*. Annual Meeting of the Psychometric Society, Columbus, OH.
- Hedeker, D. (1990, June). *Applications of Random Regression Models in Psychiatric Research*. Annual Meeting of the Psychometric Society, Princeton, NJ.
- Hedeker, D., Gibbons, R.D., & Davis, J.M. (1990, May). *Random Regression Models for Multi-Center Clinical Trials data*. Poster presented at the Annual Meeting of the New Clinical Drug Evaluation Unit, Key Biscayne, FL.
- Hedeker, D. (1989, June). *Multilevel Linear Models with Autocorrelated Errors*. Annual Meeting of the Psychometric Society, Los Angeles, CA.
- Hedeker, D., Gibbons, R.D., & Waternaux, C. (1988, June). *Random Regression Models for Longitudinal Psychiatric Data*. Annual Meeting of the Psychometric Society, Los Angeles, CA.
- Hedeker, D., Gibbons, R.D., Waternaux, C., & Davis, J.M. (1988, May). *Investigating Drug Plasma levels and Clinical Response using Random Regression Models*. Poster presented at the Annual Meeting of the New Clinical Drug Evaluation Unit, Key Biscayne, FL.

#### **REVIEW ACTIVITIES:**

- Member, Interventions Research Review Committee, National Institute of Mental Health, 1999-2003.
- Member, Clinical Centers and Special Projects Review Committee, National Institute of Mental Health, 1997-1998.
- Ad-hoc Grant Reviewer for National Heart, Lung, and Blood Institute, 1990-1997.
- Ad-hoc Grant Reviewer for National Institute of Mental Health, 1996, 1999, 2003-2005.
- Grant Reviewer for The National Science Foundation, 2009.
- Grant Reviewer for The Dutch Social Science Research Council of the Netherlands Organisation for Scientific Research, 2003.
- Grant Reviewer for the Research Council of the Katholieke Universiteit Leuven, 2004.
- Grant Reviewer for The Wellcome Trust, United Kingdom, 1997.
- Grant Reviewer for the Medical Research Council, United Kingdom, 2009, 2013.
- Grant Reviewer for the UCLA Center for Advancing Longitudinal Drug Abuse Research Pilot Study Support Program for Emerging Investigators, 2011.
- Member, University Scholars Review Committee, University of Illinois at Chicago, 2002.
- Panel Member, National Institutes of Health Consensus Development Conference on Effective Medical Treatment of Heroin Addiction, November 1997.
- Member, Scientific Advisory Committee, Healthy Passages: A Community-based Longitudinal Study of Adolescent Health, Centers for Disease Control, 2002.

- Member, External Study Group, Community Intervention Trial for Youth, Centers for Disease Control, 2000-2003.
- Member, Expert Panel, National Survey of Knowledge, Attitudes and Beliefs Regarding the Anthrax Vaccine Among Military Personnel, Centers for Disease Control, 2001-2002.
- Member, External Advisory Committee, San Francisco Treatment Research Center, Department of Psychiatry, University of California, San Francisco, 2005.
- Member, External Advisory Committee, The Methodology Center, Institute for Social Research, University of Michigan, Ann Arbor, 2006.
- Member, Scientific Advisory Board, INTRuST: Clinical Consortium in Posttraumatic Stress Disorder (PTSD) and Traumatic Brain Injury (TBI), University of California San Diego, 2009-2011.
- Member, Vice Chancellor for Research: Areas of Excellence Review Committee, University of Illinois at Chicago, 2012.
- Associate Editor, Journal of Educational and Behavioral Statistics, 1994 to 2001.
- Associate Editor, Statistics in Medicine, 2006 to present.
- Associate Editor, Journal of Statistical Software, 2006 to present.
- Consulting Editor for Statistics, Bipolar Disorders, 1998 to 2009.
- Manuscript and/or Book Reviewer:
  - Abnormal Psychology, Addiction, American Journal of Medical Genetics, American Journal of Psychiatry, Annals of Applied Statistics, Applied Statistics, Archives of General Psychiatry, Behavior Research Methods, Behavior Therapy, Biometrical Journal, Biometrics, Biometrika, Biostatistics, Bipolar Disorders, BMC Medical Research Methodology, British Journal of Mathematical and Statistical Psychology, Circulation: Cardiovascular Quality and Outcomes, Clinical Trials, Communications in Statistics, Computational Statistics and Data Analysis, Drug and Alcohol Dependence, Evaluation Review, GeroPsych, Health Psychology, Health Services and Outcomes Research Methodology, Institute of Education Services, Journal of Abnormal Psychology, Journal of the American Statistical Association, Journal of Classification, Journal of Consulting and Clinical Psychology, Journal of Drug Issues, Journal of Educational and Behavioral Statistics, Journal of Family Psychology, Journal of the Royal Statistical Society, Journal of Statistical Computation and Simulation, Journal of Statistical Software, Methodology, Multivariate Behavioral Research, Nicotine and Tobacco Research, PLOS ONE, Prevention Science, Psychological Bulletin, Psychological Methods, Psychometrika, Psychopharmacology, Statistical Methods in Medical Research, Statistical Modelling, Statistics in Medicine, Survey Methodology, The American Statistician, Tobacco Control, Trials.

**DATA SAFETY MONITORING BOARD AND STUDY MONITORING COMMITTEE MEMBERSHIP:**

- Improving Functioning in Peripheral Arterial Disease (NHLBI), McDermott (PI), Northwestern University, 2004 to 2008.
- Chicago Initiative to Raise Asthma Health Equity (NHLBI), Weiss (PI), Northwestern University, 2003 to 2008.
- A Randomized Clinical Trial of Cognitive-Behavioral Treatment for PTSD in Women (VA Cooperative Study # 494), Department of Veteran Affairs, 2002 to 2005.
- Increasing Activity in Peripheral Arterial Disease (NHLBI), McDermott (PI), Northwestern University, 2008 to present.
- Risperidone Treatment for Military Service Related Chronic Post Traumatic Stress Disorder (VA Cooperative Study # 504), Department of Veteran Affairs, 2007 to present.
- Progenitor Cell Release Plus Exercise to Improve Functional Performance in Peripheral Arterial Disease (NHLBI), McDermott (PI), Northwestern University, 2011 to present.
- The Rush Center for Urban Health Equity (NHLBI), Powell (PI), Rush University Medical Center, 2011 to present.
- Exploratory Study of Different Doses of Endurance Exercise in People with Parkinson Disease (NINDS), Schenkman (PI), University of Colorado, 2012-2017.

#### **PROFESSIONAL AFFILIATIONS AND SERVICE:**

- American Statistical Association
- American Statistical Association, Development Committee Member, 2007-2013.
- American Statistical Association, Chicago Chapter, Vice President for Luncheons, 1998-99
- American Statistical Association, Chicago Chapter, Vice President for Conferences, 1997-98
- American Statistical Association, Health Policy Statistics Section, Section Representative, 2017-present.
- International Biometric Society
- International Biometric Society, Program Committee Member for 2005 Meeting of the Eastern North American Region (ENAR)
- International Society for Bayesian Analysis
- Psychometric Society