

**Prevention Science and Methodology Group Meeting  
Johns Hopkins Bloomberg School of Public Health  
March 19-21, 2008**

This meeting of the Prevention Science and Methodology Group (PSMG) brings together leading prevention and early intervention scientists and methodologists to advance the field of prevention science. PSMG works in partnership with research centers to address the design and analytical challenges faced in conducting prevention field trials.

Sponsored by

National Institute of Mental Health

National Institute on Drug Abuse

Prevention Science and Methodology Group, University of South Florida

Johns Hopkins Bloomberg School of Public Health, Department of Mental Health

American Institutes for Research

Arizona State University Prevention Research Center

Center for Research to Practice

University of Miami Center for Family Research

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Director                    C Hendricks Brown, PhD, University of South Florida  
Co-Directors            Bengt Muthén, PhD, Muthén and Muthén and UCLA  
                                  Getachew Dagne, PhD, University of South Florida

Project Officers        Amy Goldstein, National Institute of Mental Health  
                                  Belinda Sims, National Institute on Drug Abuse

#### Organizing Committees

Joseph Brinales, MA, University of South Florida  
Getachew Dagne, PhD, University of South Florida  
Amy Goldstein, PhD, National Institute of Mental Health  
George Howe, PhD, George Washington University  
Nicholas Ialongo, PhD, Johns Hopkins Bloomberg School of Public Health  
Sheppard Kellam, MD, American Institutes for Research  
Hyungtae Kim, MA, University of South Florida  
Dave MacKinnon, PhD, Arizona State University  
Katherine Masyn, PhD, UC Davis  
Hanno Petras, PhD, University of Maryland College Park  
Jeanne Poduska, PhD, American Institutes for Research  
Donna Rodandello, University of South Florida  
Deborah Skillman, Johns Hopkins Bloomberg School of Public Health  
Liz Stuart, PhD, PhD. Johns Hopkins Bloomberg School of Public Health  
Peter Wyman, PhD, University of Rochester

**PSMG Meeting Sessions for Wednesday, March 19**  
**8:30 AM – 5:30 PM**  
**Johns Hopkins Bloomberg School of Public Health**  
**W2030 Lecture Hall, 2<sup>nd</sup> Floor**  
**615 N. Wolfe Street**  
**Baltimore, MD 21205**

**INTRODUCTION**

8:30 – 8:45

C Hendricks Brown, PhD  
University of South Florida

Nicholas Ialongo, PhD  
Johns Hopkins Bloomberg School of Public Health

8:45 – 10:30

**Session Title:**

**When and Whom to Follow Up: Efficient Long-Term Designs for  
Randomized Preventive Field Trials**

Session Chair

Amy Goldstein, PhD.  
Chief, Child and Adolescent Preventive Intervention Program  
National Institute of Mental Health

**Background:** A number of preventive interventions are now showing long-term impact across multiple stages of life based on extensive longitudinal follow-up studies that continue to be funded well beyond the time that the original trial period has ended. It is just as important to examining the long-term impact for more recent, promising prevention programs, yet the high cost of follow-up forces prevention scientists, biostatisticians, and institute program staff to find alternative, efficient strategies for follow-up and analysis. The main question is: **When and Whom to Follow?** Does the entire original cohort need to be followed for the entire duration of the longitudinal follow-up period; can comparison groups from other studies be used?

How is statistical power affected by follow-up that is limited to, say, major times of transition?

Can matching methods be used efficiently to follow-up a select sample for follow-up?

How does this affect future analyses, identification of sleeper effects, mediational modeling, and causal inference?

**Objective:** Use both developmental and methodologic perspectives to inform our choices of when and whom to follow throughout a trial to increase efficiency in follow-up and minimize the chance of failing to find impact when present; use empirical data from recent trials to examine the impact of modifying the times of follow-up, the subjects who are followed, and the use of external controls in evaluations. This discussion will be used to plan for publishing a collaborative paper with guidance for the field.

## **PRESENTATIONS**

### A. Review of Designs to Increase Efficiency of Follow-Up

Liz Stuart PhD,  
Department of Mental Health  
Johns Hopkins Bloomberg School of Public Health

### B. Empirical Findings on Alternative Designs for Follow-Up Using the First Baltimore Prevention Program.

Hanno Petras PhD,  
Department of Criminology and Criminal Justice  
University of Maryland College Park

C Hendricks Brown PhD, Getachew Dagne PhD  
Department of Epidemiology and Biostatistics  
University of South Florida

### C. Implications of Mediation Modeling for Proximal and Distal Outcomes for the Follow-Up Design.

Dave MacKinnon, PhD.  
Department of Psychology  
Arizona State University

### D. A Developmental Perspective on Selecting Subjects and Times for Follow-Up

Sheppard Kellam, MD  
American Institutes for Research

10:30 – 10:45

**Break**

10:45 – 12:15

## **Moving Research to Practice: Research Designs for the Real World Part I**

### **Session Title:**

**Conceptual models and evaluation designs in linking from studies of efficacy to effectiveness: Examples from research with high stress families**

### **Session Chair**

Amy Goldstein, Ph.D.  
Chief, Child and Adolescent Preventive Intervention Program  
National Institute of Mental Health

**TITLE:** Conceptual models, evaluation designs and analysis issues in linking from studies of efficacy to implementation in community settings: Examples from research with the family court.

**Background:** In this session, we examine conceptual issues in linking from research on the transition between efficacy and effectiveness and present an innovative research design in the evaluation of a prevention program embedded in the family courts. The first presentation presents an overview of a hybrid model in which programs that are tested in efficacy trials are adapted to fit the ecology of community settings, and randomized trials are used to test their effects in those settings. The presentation first presents data on long term efficacy of interventions for children of divorce and bereaved children. Then presents specific studies to adapt programs to the ecology of the settings in which they will eventually be delivered as an ongoing service.

In the second presentation, we detail the development of a two part intervention we developed in collaboration with the court to meet needs that are high priority for the courts. A key purpose of the first part, which is mandatory, is to elicit voluntary participation in the second, more extensive, part of the program. The evaluation design thus needs to assess BOTH participation rates and program effects, either of the first step alone or the combined two-step program

In the third presentation, we will discuss analytic issues arising in study designs to improve participation in these hybrid intervention trials and to improve statistical power to detect intervention effects. Possible complications and strategies in identifying causally interpretable intervention effects will also be discussed.

## PRESENTATIONS

A. A Planned Adaptation Model for Transition from Efficacy to Effectiveness to Services.

Irwin Sandler, PhD  
Director, ASU Prevention Research Center  
Department of Psychology  
Arizona State University

B. A two-step, mandatory-then-voluntary, intervention program: Evaluation design issues

Sanford Braver, PhD  
Department of Psychology  
Arizona State University

C. Randomized Trials to Test Strategies for Increasing Participation in a Preventive Intervention Embedded in Divorce Courts: Statistical Power, Analysis, and Design Issues

Booil Jo, Ph.D.  
Department of Psychiatry & Behavioral Science  
Stanford University

### **Discussant:**

Nick Ialongo, Ph.D.  
Johns Hopkins Bloomberg School of Public Health

12:15 – 1:30 **Lunch Break**

1:30 – 4:00

### **Session Title:**

**Advances in Analyses of Growth Modeling, Part I**

Session Chair:

Katherine Masyn, Ph.D.  
Department of Human and Community Development  
University of California, Davis

**Background:** We often find that broad-based prevention programs have differential impact across individuals, across time, and across context. Evaluating impact in the presence of such complex changes with unsophisticated growth models will lead to incorrect inferences and inadequate testing of theory. There has been a greatly expanded set of models developed recently that allow one to take into account both continuous variation and discrete variation in longitudinal patterns of change across individuals and contexts.

**Objective:** Identify the boundaries that now exist in examining intervention impact with longitudinal models, taking in to account changes in context and individuals, as well a variation in these multilevel patterns. Determine what new models need to be developed to address research questions in the field. Identify new opportunities for prevention science applications of extant and emerging methodologies.

### **Topics for Break-out Sessions**

1. Longitudinal mixture models  
Facilitated by Shaunna Clark & Mildred M. Maldonado-Molina
2. Multivariate multilevel models  
Facilitated by Getachew Dagne and George Howe
3. Event history and transition models  
Facilitated by Katherine Masyn and Hanno Petras
4. Longitudinal mediation models  
Facilitated by Dave MacKinnon and Pat Malone

### **Format:**

1:30 – 2:30: Overview presentations by topic facilitators and break-out group charge

2:30 – 3:15: Break-out group discussions

3:15 – 4:00: Break-out group presentations and whole-group discussion

4:00- 4:15 **Break**

4:15 – 5:30

### **Moving Research to Practice: Research Designs for the Real World Part II**

#### **Session Chair**

**Aria Crump, Sc.D.**  
**Health Science Administrator**  
**Prevention Research Branch**  
**Division of Epidemiology, Services, and Prevention Research**

**Session Title:**

**Familias Unidas: Findings and Challenges from a Program of Research**

**Background:** The objective of this presentation will be to discuss findings and challenges associated with a program of research involving Familias Unidas, an intervention aimed at preventing substance use and unsafe sexual behavior among Hispanic youth. We will present findings from the Familias Unidas efficacy studies and discuss the challenges in planning the future trajectory of this research in the move from efficacy to effectiveness. The trajectory of this research involves embedding Familias Unidas in numerous sites and contexts. Systematically studying the effects of these contexts will require different research approaches than those used in the past, and may require analyses that will only be possible if data from different but related studies are combined.

**PRESENTATIONS**

A. Familias Unidas - A Program of Research aimed at Preventing Drug Use and Unsafe Sexual Behavior among Hispanic Youth: From basic science, to efficacy, to effectiveness

Guillermo Prado, PhD  
Center for Family Studies  
University of Miami

B. Design Issues in Systematically Modeling Context in Effectiveness Trials

Dan Feaster, PhD  
Center for Family Studies  
University of Miami

Discussant

Irwin Sandler, PhD  
Department of Psychology  
Arizona State University

**PSMG Meeting Sessions for Thursday, March 20**  
**8:30AM – 6:30PM**  
**Johns Hopkins Bloomberg School of Public Health**  
**Sommer Hall**  
**615 N. Wolfe Street**  
**Baltimore, MD 21205**

**Session I**

8:30 – Noon

Genes, Social Context, and Life Course Development

**Session II**

1:30 – 5:00 PM

Going from Research to Practice with High Fidelity

**Reception 5:00 – 6:30 PM**

NOTE: This is the Festschrift for Dr. Sheppard Kellam. This Festschrift Agenda is listed on

<http://www.jhsph.edu/prevention/Conferences/KellamFestschrift2008>

And attendance requires pre-registration at the following site:

[http://commprojects.jhsph.edu/communications/Event\\_Signup.cfm?event\\_id=221](http://commprojects.jhsph.edu/communications/Event_Signup.cfm?event_id=221)

**PSMG Meeting Sessions for Friday, March 21**  
**8:30 – 12:00**  
**Johns Hopkins Bloomberg School of Public Health**  
**W2030 Lecture Hall, 2<sup>nd</sup> Floor**  
**615 N. Wolfe Street**  
**Baltimore, MD 21205**

8:30 – 10:45

**Moving Research to Practice: Research Designs for the Real World Part III**

Session Chair

Belinda Sims, PhD  
Health Scientist Administrator  
Prevention Research Branch  
National Institute on Drug Abuse

**Session Title:**  
**Integrating Education and Prevention in Schools: The Whole Day First Grade Program**

**Background:** This NIDA funded classroom-based trial tests a full program aimed at reducing aggressive and disruptive behavior, improving reading, and connecting parents to schools to support the child. To address questions of program effectiveness, sustainability, and moving to scale, both children and first grade classroom teachers are followed in three cohorts. Since this trial involves a sequence of tests of effectiveness, sustainability, and moving to scale, lessons from the successes and challenges of this project should inform the field about the scientific, practical, and methodologic challenges of implementing prevention programs in school and community settings.

**Objectives:** Present the rationale and design of the trial, discuss impact results on child classroom behavior, and examine the multilevel mediation model involving teacher and child behavior over time.

**PRESENTATIONS**

A. The Whole Day Intervention and Trial: Conceptual Foundation, Design, and Measurement

Jeanne Poduska, Sc.D.  
American Institutes for Research

B. A Multilevel Framework of Impact on Behavior in the Whole Day Trial: An Initial Examination

Wei Wang, Ph.D.  
Department of Epidemiology and Biostatistics  
University of South Florida

C. The Whole Day Program as The Third Generation of a Three-Stage Strategy, What Have We Learned and Where Do We Go From Here?

Sheppard Kellam, M.D.  
American Institutes for Research

10:45 – 11:00      **Break**

11:00 – 12:00

**Advances in Growth Modeling II**

**Session Title:**  
**The Use of Hybrid Models in Prevention and Genetics**

**Session Chair:**

**Joel Sherill, Ph.D.**  
**Program Chief**  
**Child and Adolescent Psychosocial Intervention Program**  
**National Institute of Mental Health**

**Background:** New modeling is now available that combines both discrete and continuous latent variables to account for unobserved heterogeneity among subjects. This allows for both latent categories (groups of individuals) and dimensions (severity variation among individuals) to be uncovered, e.g. corresponding to mental health problems. In addition, multilevel aspects of the data, such as influence of classroom environment, can be incorporated in the new modeling framework. Implications for prevention studies as well as gene-environment studies are discussed.

**PRESENTATION**

Bengt Muthén, Ph.D.  
Muthén & Muthén and Emeritus Professor, UCLA

**CONCLUSION OF PSMG Meeting**

**1:30 – 5:30 PSMG-2 Meeting**

**NOTE:** The PSMG-2 meeting held from 1:30-5:30 on Friday is a closed meeting only for PSMG-2 members.