

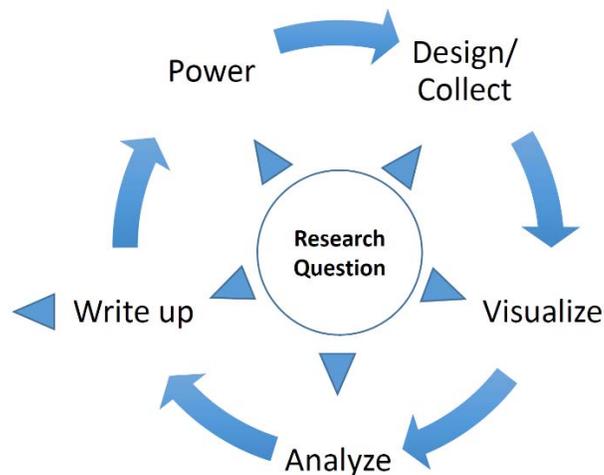
Introduction to Intensive Longitudinal Methods: A Full-Cycle Approach to Studying Within-Person Change

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OVERVIEW

Intensive longitudinal methods, often called experience sampling, daily diary, or ecological momentary assessment methods, allow researchers to study people's thoughts, emotions, and behaviors in their natural contexts. Typically, they involve self-reports from individuals, dyads, families or other small groups over the course of hours, days, and weeks. Such data can reveal life as it is actually lived and provide insights that are not possible using conventional experimental or survey research methods. Intensive longitudinal data, however, present data analytic challenges stemming from the multiple levels of analysis and temporal dependencies in the data.

The goal of this workshop is to provide a full-cycle treatment of two fundamental research questions that can be addressed using intensive longitudinal methods: (a) What is the time course of the outcome variable, and (b) what is the within-person causal process that underlies the time course? A full-cycle treatment will take workshop participants through five stages of answering each research question: (1) Design study & collect data, (2) Visualize, (3) Analyze, (4) Write up results, and (5) Power the next study.



Material for this workshop will be drawn from introductory sections of the presenter's 2013 Guilford Press book *Intensive Longitudinal Methods: An Introduction to Diary and Experience Sampling Research* (www.intensivelongitudinal.com).

WHO SHOULD ATTEND?

Workshop participants are assumed to be familiar with basic linear regression analysis and looking for a practical introduction to intensive longitudinal methods. Participants are also assumed to have collected, or be interested in collecting, intensive longitudinal data to answer research questions. An emphasis will be placed on interpretation and presentation of intensive longitudinal findings for publication purposes and planning a future intensive longitudinal study for replication and/or grant applications. Note that this workshop will not cover the more advanced topics in the instructor's book (i.e., categorical outcomes, mediation, dyadic data, psychometrics).

COMPUTING

The course will include lectures, software demonstrations, and data analysis practice with example datasets. Two software packages will be used: SPSS and Mplus. We will be doing a brief Mplus tutorial for the purposes of this workshop. We will also show participants where they can find equivalent code for conducting the analyses (where possible) in R, Stata, and SAS. We assume workshop participants will bring laptops on which they can have installed full or trial versions of these packages. Attendees can follow along with the examples in the workshop handout or conduct analyses on their own laptops.

COURSE OUTLINE

Day 1:

- Essential guidelines for modeling intensive longitudinal data
 - How longitudinal data are different from multilevel data
 - Why you should always consider random effects
 - Multiple ways to take the influence of time into account
 - Within- and between-person levels of analysis should always be distinguished
 - How to choose the right degrees of freedom for inferential tests
- Modeling the time course of continuous outcomes
 - (1) Design study (number of persons and time points) & collect data
 - (2) Visualize using person-by-person panel plots of time course
 - (3) Analyze using multilevel model for longitudinal data
 - (4) Write up for publication: prepare tables and figures (e.g., spaghetti plots); provide statistical and conceptual interpretation of results
 - (5) Power a replication study: revise the number of persons and/or time points

Day 2:

- Modeling within-person causal processes for continuous outcomes
 - (1) Design study (number of persons and time points) & collect data
 - (2) Visualize using scatterplots and panel plots
 - (3) Analyze: distinguish between- and within-person levels of analysis in multilevel model for longitudinal data; center predictor variables; adjust for confounding factors (such as time)

- (4) Write up for publication: prepare tables and figures (e.g., spaghetti plots); provide statistical and conceptual interpretation of results
- (5) Power a replication study: revise the number of persons and/or time points

BIOGRAPHY

Dr. Jean-Philippe Laurenceau is Professor of Psychological & Brain Sciences at the University of Delaware and Senior Research Scientist at the Helen F. Graham Cancer Center and Research Institute. He completed his B.A. *cum laude* at Cornell University and received his master's and doctorate degrees from The Pennsylvania State University. His research interests focus on understanding the processes by which partners in marital and romantic relationships develop and maintain intimacy within the context of everyday life. More recently, Dr. Laurenceau has been studying how couples cope with and maintain connection amid health-related adversity, including breast cancer and diabetes. His methodological interests include intensive longitudinal methods for studying close relationship processes and applications of modern methods for the analysis of change in individuals and dyads. He was an appointed member of the Social, Personality, and Interpersonal Processes grant review panel of the National Institutes of Health, and has served on the editorial boards of *Journal of Consulting and Clinical Psychology*, *Journal of Personality and Social Psychology*, and *Journal of Family Psychology*. Dr. Laurenceau has been principal investigator or co-investigator on several research projects funded by the National Institute of Mental Health, National Institute of Child Health and Human Development, and the National Cancer Institute. He has taught methodological workshops at the University of Michigan's ICPSR Summer Program in Quantitative Methods of Social Research and at the Penn State Summer Institute for Longitudinal Methods. Dr. Laurenceau's website at University of Delaware can be found here www.psych.udel.edu/people/faculty/jlaurenc.

Drs. Bolger and Laurenceau are the authors of *Intensive Longitudinal Methods: An Introduction to Diary and Experience Sampling Research* (2013, Guilford Press). A complete, practical guide to planning and executing an intensive longitudinal study, this book provides the tools for understanding within-subject social, behavioral, and psychological processes in everyday contexts. Several end-of-chapter write-ups illustrate effective ways to present study findings for publication. Datasets and output for the examples are available for readers' use at the companion website: www.intensivelongitudinal.com.