Understanding Novel Models for Repeated Measures of Continuous Outcomes Including Cognitive Function

July 29, 2022
Hilton San Diego Bayfront, Sapphire Ballroom CD
All times are in Pacific Time (North America)
In-person attendance only
Laptops are required for this workshop.

Overview

This course's main goal is to provide researchers and health professionals with a practical review of advanced analytical methods commonly in scientific articles to model change of continuous outcomes (i.e. cognitive scores, some measure of physical function) over time.

This applied workshop will use real data examples to review advanced modern methods used to evaluate change in cognition over time. These models are used to ascertain: 1. Linear change over time depending on predictors at baseline and time-varying; 2. Linear change over time before and after a known event (i.e. new medication intake or diagnosis of a condition that may be associated with the function of interest); 3. The onset of accelerated change (i.e. fixed and random change point models commonly used to study terminal decline); 4. Half-decline of nonlinear curves through the sigmoidal model (such as the sigmoidal curves postulated in Jack's model); 5. The shape of the trajectory using the sigmoidal model and other strategies.

Each module will include a discussion of the concepts and analytical models and their limitations and data requirements and will also include a demonstration of code and output interpretation. The material will be distributed to all participants with annotated code.

This workshop was organized by leading scientists in this field and by the ISTAART Design and Data Analytics PIA.

Organizing Committee

Workshop Organizer

- Ana W. Capuano, Rush University, United States

Course Instructors

- Donald Hedeker, University of Chicago, United States
- Ana W. Capuano, Rush University, United States
- Graciela Muniz-Terrera, University of Edinburgh, United Kingdom
- Maude Wagner, Rush University, United States

Target Audience

This workshop requires a good working knowledge of multiple regression models and is open to researchers and health professionals.

Registration

Educational workshops are offered for in-person attendance only. Workshops require a separate registration fee in addition to AAIC full conference registration, or they may be purchased as stand-alone events.

Register today for Understanding Novel Models for Repeated Measures of Continuous Outcomes Including Cognitive Function.

Agenda

Time	Session	Speakers
8 – 8:10 a.m.	**Introduction of Instructors and Description of Aims of Activity**	Ana Capuano
8:10 – 8:40 a.m.	**Longitudinal Data in Global Cognition and Sample Data**	Ana Capuano
8:40 – 10:40 a.m.	**Linear Mixed-Effects Models and Time-Varying Predictors**	Donald Hedeker
10:40 – 10:55 a.m.	**Coffee Break**	
10:55 a.m. – noon	**Fixed Change-Point Models**	Graciela Muniz-Terrera
Noon – 1 p.m.	**Lunch**	
1 – 2 p.m.	**Random Change-Point Models (Abrupt and Smooth Change Point)**	Graciela Muniz-Terrera
2 – 2:15 p.m.	**Coffee Break**	
2:15 – 4:15 p.m.	**Smooth Nonlinear Models (Sigmoidal Model and Spline-Based Models)**	Ana Capuano
4:15 – 4:50 p.m.	**Hands-on Computer Applications**	Ana Capuano Donald Hedeker Graciela Muniz-Terrera, Maude Wagner
4:50 - 5 p.m.	**Discussion and Closing Remarks**	