

Title: Introduction to Simulation Studies for Methodological Research

Instructors: Esther Ulitzsch, Florian Scharf & Mirka Henninger

Abstract:

Simulation studies are essential for evaluating the performance of statistical methods under controlled conditions and are arguably the most critical component of any methodological researcher's toolbox. This workshop will guide participants through the entire cycle of simulation studies, from best practices in planning and implementation in R to methods for evaluation and transparent reporting, using a mix of lectures, demonstrations, and hands-on exercises. In the first part of this workshop, we will go through common research questions that can be addressed with simulation studies, discuss key considerations in their design, demonstrate how to write and structure custom R functions for conducting simulation studies, and discuss common outcome variables investigated in simulation studies. In the second part of this workshop, we will go through a potpourri of techniques for programming simulations in R more efficiently and ensuring reproducibility.

Assignment: Active participation

Credits: 2 workshop days