

## NOVEL FRAMEWORK TO EVALUATE SINGLE-CASE DATA: BAYESIAN AND INFORMATION CRITERIA EVALUATION OF INFORMATIVE HYPOTHESES

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Researchers frequently encounter situations where recruiting a sufficiently large group of participants is difficult due to small populations or logistical constraints. Single-case analyses are an alternative that allows researchers to obtain detailed information on specific participants and their progress over time. However, single-case data (SCD) sets may be small in size, which considerably limits the options for appropriate analytical methods. Additionally, Null Hypothesis Significance Testing performs poorly with small longitudinal datasets and, more importantly, cannot quantify the support for substantively meaningful informative hypotheses.

We propose a novel analytical workflow which combines Bayesian and Information Criteria (IC) measures for the analysis of small-scale SCD. This approach allows direct evaluation of competing informative hypotheses for each participant and leverages two distinct approaches to yield method-independent, robust results.

The workshop presents this framework in an accessible way. Participants learn through a 1-hour tutorial plus hands-on exercises. The learning objectives include: 1) translating research questions into hypotheses, 2) evaluating hypotheses using Bayesian and IC measures, 3) interpreting results to answer research questions, and 4) critically assessing suitability in research and applied settings. Target audience includes researchers and clinicians.

This half-day workshop is intended for max. 40 beginners who previously conducted analyses in SPSS/JASP. More experienced attendees can also benefit from the hands-on section, during which participants practice the analyses in JASP or R on their laptop (independently or as a small group). After the workshop, participants will be able to evaluate informative hypotheses and answer research questions using single-case data.

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