Multilevel Analysis of Group and Longitudinal Data: December 3 & 10 & 12, 2024

**Objectives:** Participants learn about the basic principles of multilevel analysis and how to perform this analysis (with a special focus on multilevel analysis of experience sampling data).

**Type of instruction:** Online and on campus lab sessions

**Course load**: 3-day workshop: 9:00-17:00 hrs. (including watching online material)

**Preparation**: Watch online videos covering the theoretical parts of the course. If desired, you can watch the online material a few days in advance, but you can also watch it in the mornings of the three workshop days (see schedule, including the provided self-study time, below).

**Enrollment**: Send an e-mail to Nicole Segers

**Lecturers**: Dr. Joran Jongerling (<https://www.tilburguniversity.edu/staff/j-jongerling>) and Dr. Leonie Vogelsmeier (<https://www.tilburguniversity.edu/staff/l-v-d-e-vogelsmeier>)

**Contents**: The aim of the workshop is to provide an introduction to multilevel analysis of data with units at different levels (e.g., pupils nested within schools, observations nested in individuals [repeated measures]). Multilevel analysis will be applied using R, and participants will get the opportunity to apply R to assignments and their own data as well.

**Instruction language**: English

**Compulsory reading**: None. However, open-source chapters will be shared after the course that can be used to dive deeper into the material and to refresh it.

**Required prerequisites**: Sound knowledge of regression analysis and R

**Other remarks**: Bring your own laptop

**Course schedule**: Biennial, 2024

**Schedule**:

December 3, 09:00-17:00 hrs, room MZ 20 Montesquieu building

* Self-study: 09:00-12:00 hrs
* Break: 12:00-13:00 hrs
* Lab session 1, including Q&A: 13:00-17:00 hrs

December 10, 09:00-17:00 hrs, room MZ 20

* Self-study: 09:00-12:00 hrs
* Break: 12:00-13:00 hrs
* Lab session 2, including Q&A: 13:00-17:00 hrs

December 12, 09:00-17:00 hrs, room MZ 20

* Self-study: 09:00-12:00 hrs
* Break: 12:00-13:00 hrs
* Lab session 3, including Q&A: 13:00-17:00 hrs

**Suggested reading material to recap the material**

* **Learning Statistical Models Through Simulation in R:** 
  + Chapter 5: <https://psyteachr.github.io/stat-models-v1/introducing-linear-mixed-effects-models.html>
  + Chapter 6: <https://psyteachr.github.io/stat-models-v1/linear-mixed-effects-models-with-one-random-factor.html>
  + Chapter 7: <https://psyteachr.github.io/stat-models-v1/linear-mixed-effects-models-with-crossed-random-factors.html>
  + Chapter 8: <https://psyteachr.github.io/stat-models-v1/generalized-linear-mixed-effects-models.html>
* **Beyond Multiple Linear Regression:**
  + Chapter 8 (excluding the optional sections and section 8.7.2): <https://bookdown.org/roback/bookdown-BeyondMLR/ch-multilevelintro.html>
  + Chapter 9: <https://bookdown.org/roback/bookdown-BeyondMLR/ch-lon.html>
  + Chapter 11 (excluding sections 11.5 and 11.6): <https://bookdown.org/roback/bookdown-BeyondMLR/ch-GLMM.html>