**PhD Program in Psychology**

**Seminar “Introduction to Longitudinal Data Modelling with Mplus and R”**

**Prof. Stefanos Mastrotheodoros**

Department of Psychology, University of Crete, Greece

Department of Youth and Family, Utrecht University, the Netherlands

06/06/2025, 9:00 – 13:00

Aula E - Piazza Aldo Moro 90, Cesena

**Abstract**

Longitudinal data is often of utmost importance to developmental scientists. Analyzing longitudinal data not only allows us to better understand how young people develop, but also to better comprehend within-person processes controlling for between-person differences. In this way, longitudinal data can help distinguish developmental processes from individual differences. Furthermore, longitudinal data can inform us about individual differences in developmental processes. Therefore, applying techniques to analyze longitudinal data is a necessary skill for researchers studying development and developmental processes.

In this seminar, you will acquire hands-on knowledge on conducting advanced SEM analyses to study developmental order and processes controlling for individual differences (Random-Intercept Cross Lagged Panel Models), growth (Latent Growth Curve Models), and individual differences in developmental processes (Latent Class Growth Analysis/Growth Mixture Models). We will use both Mplus and R. In light of recent critical discourses, we will discuss between-person and within-person models, and how to choose the right analyses for your research questions. We will further provide a glimpse into the modelling of intense longitudinal data (e.g., DSEM).

This seminar is aimed at researchers who want to extend their knowledge about SEM modelling techniques, and learn how to use these models in their own analyses. Participants should be familiar with basic SEM models (e.g., path analysis, growth models) and should have experience with running analyses in Mplus and/or R. To follow the course and practical exercises, at least one of these programs should be installed on your computer.

**Reading**:

Grimm, K. J., Ram, N., & Estabrook, R. (2017). *Growth modeling: Structural equation and multilevel modeling approaches*. Guilford Press.

Little, T. D. (2024). *Longitudinal structural equation modeling*. Guilford Publications