Phd position on latent interactions in structural equation modeling

Project

Interaction effects are ubiquitous in social science research, and detecting them in data is an important goal for many researchers. In linear regression, where all variables are observed, we can represent an interaction effect simply by adding an interaction term that multiplies the two variables of interest. Unfortunately, when variables are latent, including interaction effects in the model is far from trivial. In this project, we exploit the two-stage nature of the structural-after-measurement (SAM) framework to easily include latent interaction and quadratic terms. The goal of the project is 1) to refine and simplify the expressions for the augmented summary statistics of the latent variables, 2) to derive new formulas to compute two-step corrected standard errors, 3) to test the method and to compare it to other methods in a large simulation study, and 4) to implement the technology in the open-source R package lavaan.

Reference paper:

Rosseel, Y., & Loh, W. W. (2023). A structural after measurement approach to structural equation modeling. Psychological Methods. https://doi.org/10.1037/met0000503

What we are looking for

- You have a Master degree that implies a profound knowledge of statistics, data analysis and scientific programming.
- For diplomas awarded outside the European Union, a certificate of equivalence (NARIC) must be submitted. The degree requirements need to be fulfilled at the start of your appointment.
- You have affinity with Psychology and Psychometrics.
- You are precise, creative, highly motivated and enthusiastic.
- You have excellent English communication and writing skills.
- You can work on your own, but also enjoy working in a research team.
- Knowledge of R is an asset.
- Familiarity with structural equation modeling and lavaan is an asset.

Your tasks

- At least 90% of your assignment will be spent on academic research in preparation of a doctoral dissertation
- You supervise students working on their master thesis.
- You will assist in the internal and external services of the department.

Offer

- We offer you a contract of definite duration with a maximum term of 4 years.

- You will be part of the structural equation modeling (SEM) research group (PI: Yves Rosseel) and the lavaan project.
- Your contract will start on 1/10/2023 at the earliest.
- You will receive a PhD grant for 4 years, with an evaluation after the first year (1+3 contract).
- You will have the opportunity to attend international conferences, publish your results in high-profile journals and visit relevant research institutes.
- Ghent University has a generous benefits package open to all its staff members, including a wide range of training and education opportunities in the Doctoral Schools and a wide range of sports and leisure facilities. Ghent is a vibrant, safe, cultural, and welcoming university city allowing great quality of life.

Interested?

For more information please contact Prof. dr. Yves Rosseel, mail: Yves.Rosseel@UGent.be. Applications should consist of a motivation letter and a CV (including copies of diploma certificates and transcripts at university level). You can e-mail your application to Yves.Rosseel@UGent.be.

The selection procedure consists of two steps. Firstly, a shortlist of the candidates will be made based on their motivation letter and CV. Secondly, the shortlisted candidates will be invited for an interview (possibly online) during which they will have to present a research paper we will provide.

As Ghent University maintains an equal opportunities and diversity policy, everyone is encouraged to apply for this position.