

**RESEARCH****KU Leuven****Post Doc @ Methodology of Educational Sciences Research Group (MESRG)**

18.05.05 - 27.07.05

*Evaluation of bootstrap procedures for Meta-Analysis on Single Case data**Development of User Interface for the analysis of Single Case data***Post Doc @ Centre for Educational Effectiveness and Evaluation (CE&O)**

multiple contracts

*Statistical analyses of test data on mathematics and languages*

13.10.13 - 20.12.13

19.05.14 - 08.06.14

15.12.14 - 31.12.14

**Post Doc @ Interactive Technology (ITEC)**

multiple contracts

*Adaptive Learning Environments for Second Language Learning: Methodology and Statistics*

01.06.10 - 31.10.11

*Specific contributions (internal<sup>1</sup> and external<sup>2</sup>)*

01.02.12 - 14.02.12

Consultancy on statistics and methodology <sup>1/2</sup>Managing exercise sessions in statistics <sup>1</sup>

10.12.12 - 15.03.13

Support in data analyses –and management <sup>1/2</sup>Leading and assisting workshops <sup>2</sup>

05.06.13 - 04.09.13

**Post Doc @ Research Group Quantitative Psychology and Individual Differences (OKP)**

01.11.08 - 31.12.09

*Modeling the inter individually different evolution of naturalistically observed emotions: a dynamic systems approach***PhD student @ Methodology of Educational Sciences Research Group (MESRG)**

01.10.04 - 30.09.08

*Study of Multilevel Design Efficiency using simulation (W. Van den Noortgate & P. Onghena)**defense* 06/10/08**Research Fellow @ Centre for Sociology of Education**

01.01.00 - 31.08.01

*Survey research on the perceived effectiveness of high-school mergers by the teaching staff.***CONSULTING in Methodology and Statistics***Development of an automatic scoring tool*

05.12

*Development of procedures for representing and statistically analyzing data*

06.12

*Data Analyses for scale development and IRT item calibration*

02.12

**STUDY****KU Leuven****Phd. in Methodology of Educational Research**

04-08

**Master in Statistics**

Social &amp; Behavioral Statistics

\*\* 01-03

**Master in Artificial Intelligence**

Cognitive Sciences

98-99

**Licentiate in Psychology**

Theoretical Psychology

93-98

with **Teacher Training****SKILLS****Statistical Software** : R / SAS, with additional experience in Statistica & MLwiN**Data Management**: R, with first experience in SQL**Programming** : R, with first experience in Java, Python & a general theoretical background**Languages** : Dutch, English (expert), French (intermediate), Spanish & German (basic)

\*\* 1 year program of Statistics spread over two years, combined with traveling.

Note: gaps are due to traveling / unemployment

## OUTPUT

### Articles:

- Cools, W., Van den Noortgate, W., & Onghena, P. (2009). Design efficiency for imbalanced multilevel data. *Behavior Research Methods*, 41, pp. 192-203. DOI: 10.3758/BRM.41.1.192
- Cools, W., De Fraine, B., Van den Noortgate, W., & Onghena, P. (2009). Multilevel design efficiency in educational effectiveness research. *School effectiveness and school improvement*, 3, 357-373. DOI: 10.1080/09243450902850176
- Cools, W., Van den Noortgate, W., & Onghena, P. (2008). ML-DEs: Multilevel design efficiency using simulation. *Behavior Research Methods*, 40, pp. 236-249. DOI: 10.3758/BRM.40.1.236
- Kadengye, D.T., Cools, W., Ceulemans, E., & Van den Noortgate, W. (2011). Simple Imputation Methods versus Direct Likelihood Analysis for Missing Item Scores in Multilevel Educational Data. *Behavior Research Methods*, 44, pp. 516-531, DOI: 10.3758/s13428-011-0157-x.

### Tool:

- Cools, W., Van den Noortgate, W., & Onghena, P. (2006). *ML-DEs: MultiLevel Design Efficiency using simulation*. [<http://ppw.kuleuven.be/cmcs/ML-DEs.html>] (scripts and manual).

### Presentations:

- Cools, W., Tuerlinckx, F., Kuppens, P. (2009, July). *Modeling the individual specific oscillatory evolution of emotion in continuous time*. Paper presented at the 9<sup>th</sup> International Meeting of the Psychometric Society, Cambridge, United Kingdom.
- Cools, W., Van den Noortgate, W., & Onghena, P. (2007, August). *Power and Accuracy in Multilevel Designs: An Application to Educational Research*. Paper presented at the 56th meeting of the International Statistical Institute, Lisbon, Portugal.
- Cools, W., Van den Noortgate, W., & Onghena, P. (2007, October). *Design efficiency in estimation and statistical testing of multilevel variance parameters: A simulation study*. Paper presented at the 15th meeting of the Belgian Statistical Society, Antwerp, Belgium.
- Cools, W., & Van den Noortgate, W. (2008, July). *Multilevel Design Efficiency using Simulation: Two Exemplary Studies*. Paper presented at the 3rd European Congress of Methodology, Oviedo, Spain.
- Van den Noortgate, W., & Cools, W. (2008, July). *Sample-size requirements for a three-level meta-analysis*. Paper presented at the 3th European Congress of Methodology, Oviedo, Spain.
- Van den Noortgate, W., & Cools, W. (2009, May). *Three level meta-analyses*. Paper presented at The Campbell Collaboration Colloquium, Oslo, Norway.

### Poster:

- Cools, W., Desmet, P., & Van den Noortgate, W. (2012, June). *Learning to Conjugate Verbs in a Second Language, how to analyze it*. Poster presented at the Leuven Statistics Day, Leuven, Belgium.

### External Workshops:

- Cools, W. & Van den Noortgate W. (2012, May) *Statistics for testing*. A four day workshop on a wide variety of methodological and statistical issues related to the testing of ability.
- Van den Noortgate W. & Cools, W. (2011, June) *The use of R for doing meta analyses*. Campbell workshop in KU Leuven.