***What is psychometrics?***

***The Corona-proof edition***

Program 2020

**Organizer:** Denny Borsboom ([dennyborsboom@gmail.com](mailto:dennyborsboom@gmail.com))

**Location:** Online

The literature for the course can be downloaded from: <https://bit.ly/2FaZMEH>

**Abstract:**

This course is designed to give an overview of psychometrics as a field. Because of COVID-19, the course will be delivered online and the structure of the course has been adapted to accommodate this. Instead of a series of lectures, the course will be built around a series of interviews in which the participants will investigate themes like the history, philosophy, and social function of psychometrics in relation to their own Ph.D. project.

By interviewing IOPS members, the participants gather information that allows them to form a better perspective of psychometrics as a whole and the relation their own project has to the field. Participants use this information to write an essay about the content of their own research project, in which the position this project in terms of content, historical background, philosophical foundations, and social relevance. Ideally, this essay can serve as ground material for a dissertation introduction.

Participants will be given access to a Slack workspace where they can work together on the preparation interviews in groups and can solicit feedback. Importantly, the preparation of the interviews is done in Slack at the time the course runs. Therefore, participants should count on this course being full time. Participants are also stimulated to work on their essays during the course, while the material is still fresh in their minds.

**Program:**

*Wednesday 23 September, Zoom*

09:00-10:00: Denny Borsboom, University of Amsterdam: Course introduction

10:00-12:00: Prepare interviews in groups/work on essay

13:00-14:00: Prepare interviews in groups/work on essay

14:00-15:00: Interview Denny Borsboom, University of Amsterdam

Theme:The Philosophy of Psychometrics

*Literature*:

Michell, J. (1997). Quantitative science and the definition of measurement in psychology. *British Journal of Psychology*, *88*, 355-383.

Markus, K. A., & Borsboom, D. (2013). *Philosophical theories of measurement*. In: Markus, K. A., & Borsboom, D. Frontiers of validity theory: Measurement, causation, and meaning. New York: Routledge.

Video material: Denny Borsboom, The philosophy of psychometrics, <https://vimeo.com/256145513>

15:00-17:00: Prepare interviews in groups

*Thursday 24 September, Zoom*

09:00-11:00: Prepare interviews in groups/work on essay

11:00-12:00: Interview Rob Meijer, Groningen University

Theme: Psychometrics in Practice

# *Literature:*

# Evers, A., Sijtsma, K., Lucassen, W. I., Meijer, R.R. (2010). The Dutch review process for establishing the quality of psychological tests:  History, procedure, and results. *International Journal of Testing*, *10*, 295-317.

# Niessen, A. S. M, & Meijer, R. R. (2017). On the use of broadened selection criteria in higher education. *Perspectives on Psychological Science.*

13:00-14:00: Prepare interviews in groups/work on essay

14:00-15:00: Interview Ellen Hamaker, Utrecht University

Theme: Psychometrics and the individual

*Literature*:

Hamaker, E. L. (2012). Why researchers should think “within-person”: A paradigmatic rationale. In M. R. Mehl & T. S. Conner (Eds.). Handbook of Research Methods for Studying Daily Life, 43-61, New York, NY: Guilford.

Conner, T. S., Tennen, H., Fleeson, W., & Barrett, L. F. (2009). Experience sampling methods: A modern idiographic approach to personality research. *Social and personality psychology compass*, *3*, 292-313.

Video material: Ellen Hamaker, Choices in design and analysis to study change: <https://www.youtube.com/watch?time_continue=1&v=eCEX7AaX2bk&feature=emb_logo>

15:00-17:00: Prepare interviews in groups

*Friday 25 September*, *Zoom*

09:00-11:00: Prepare interviews in groups/work on essay

11:00-12:00: Willem Heiser, Leiden University and Lisa Wijsen, University of Amsterdam

Theme: The History of Psychometrics

*Literature:*

Jones, L., & Thissen, D. (2007). A history and overview of psychometrics. *Handbook of Statistics*, *26*, 1-28.

Van der Heijden, P. G. M., & Sijtsma, K. (1996), Fifty years of measurement and scaling in the Dutch social sciences. *Statistica Neerlandica*, *50*, 111-135.

Wijsen, L. D., Borsboom, D., Cabaço, T., & Heiser, W. J. (2019). An Academic Genealogy of Psychometric Society Presidents. Psychometrika, 84(2), 562-588.

Video material: Willem Heiser, The evolution of psychometrics, <https://vimeo.com/256146044>

13:00-14:00: Prepare interviews in groups

14:00-15:00: Katrijn van Deun, Tilburg University

*Theme*: Psychometric Modeling in a Time of Big Data

*Literature*:

Breiman, L. (2001). Statistical Modeling: The Two Cultures (with comments and a rejoinder by the author). *Statistical Science, 16,* 199-231.

Markowetz, A., Błaszkiewicz, K., Montag, C., Switala, C., & Schlaepfer, T.E.  (2014). Psycho-Informatics: Big Data shaping modern psychometrics. *Medical Hypotheses , 82,* 405-411.

Video material: Brian Caffo, Machine learning versus traditional statistics 1: <https://www.coursera.org/lecture/real-life-data-science/machine-learning-vs-traditional-statistics-part-1-nR3sM>

Video material: Brian Caffo, Machine learning versus traditional statistics 2: <https://www.coursera.org/lecture/real-life-data-science/machine-learning-vs-traditional-statistics-part-2-pVHLY>

15:00-17:00: Work on essay

17:00: Closing with online drinks