

Jury Report

KHMW Jan Brouwer Thesis Award 2024 – Behavioural Sciences

Yong Zhang MSc, University of Groningen

Sample size optimization for person-specific temporal networks using power analysis and predictive accuracy analysis

The jury consisting of Prof. Carsten de Dreu, Prof. Beatrice van der Heijden, Prof. Paul van Lange, and Prof. Iris Sommer has selected the Master Thesis of Yong Zhang, entitled ‘Sample size optimization for person-specific temporal networks using power analysis and predictive accuracy analysis’ for the KHMW Jan Brouwer Thesis Award 2024 in the category Behavioural Sciences.

There were 32 nominations, and the jury has decided unanimously that his Master thesis deserves the prize. Zhang’s Master thesis fills an important gap in clinical psychological research, and according to the jury members even in psychological research in a broader sense, by further developing the technique of predictive accuracy testing, which originates from machine learning literature, and applying it to psychological networks. This type of testing enables scholars to determine when a network model is overfitting, herewith endangering its psychometric qualities, i.e., its validity and reliability, and therefore not being a sound basis for interpretation.

The jury is very much impressed by the ability of Yong Zhang to undertake such a challenging and technical Master thesis research. His supervisor Dr. Laura Bringmann, in her supporting letter, shared that Yong started this thesis project with no hesitation, and was able to learn highly technical methodology independently in only half a year.

Besides, he appeared to be able to write with exceptional clarity, which is no sinecure in this field, and highly important for a broader audience to understand its merits.

Given the growing importance of the role of person-specific temporal psychological network models for both scientists and practitioners dealing with the phenomenon of mental health disorders, shaping the very course of their therapy, a sound method to determine optimal sample size is key.

We have high expectations of Zhang’s future career, and it is very promising to know that he has already started a PhD trajectory, which undoubtedly implies that he will keep contributing to the scholarly literature in this field in a meaningful way.

Our heartiest congratulations go to both Yong Zhang and his supervisor Dr. Laura Bringmann.

Prof. dr. C.K.W. (Carsten) de Dreu, hoogleraar sociale en organisatiepsychologie Universiteit Leiden

Prof. dr. B.I.J.M. (Beatrice) van der Heijden, hoogleraar Strategisch Human Resource Management Radboud Universiteit

Prof. dr. P.A.M. (Paul) van Lange, hoogleraar psychologie Vrije Universiteit Amsterdam, distinguished research fellow University of Oxford

Prof. dr. I.E.C. (Iris) Sommer, hoogleraar psychiatrie en neurowetenschapper UMC Groningen



The meeting of the jury, chaired by KHMW social member mr. M. (Mieke) Zaanen, took place on December 14th, 2023 via Zoom. Also present at the meeting was Prof. W.B. (Wim) Drees, academic secretary for the social sciences and humanities of the KHMW.