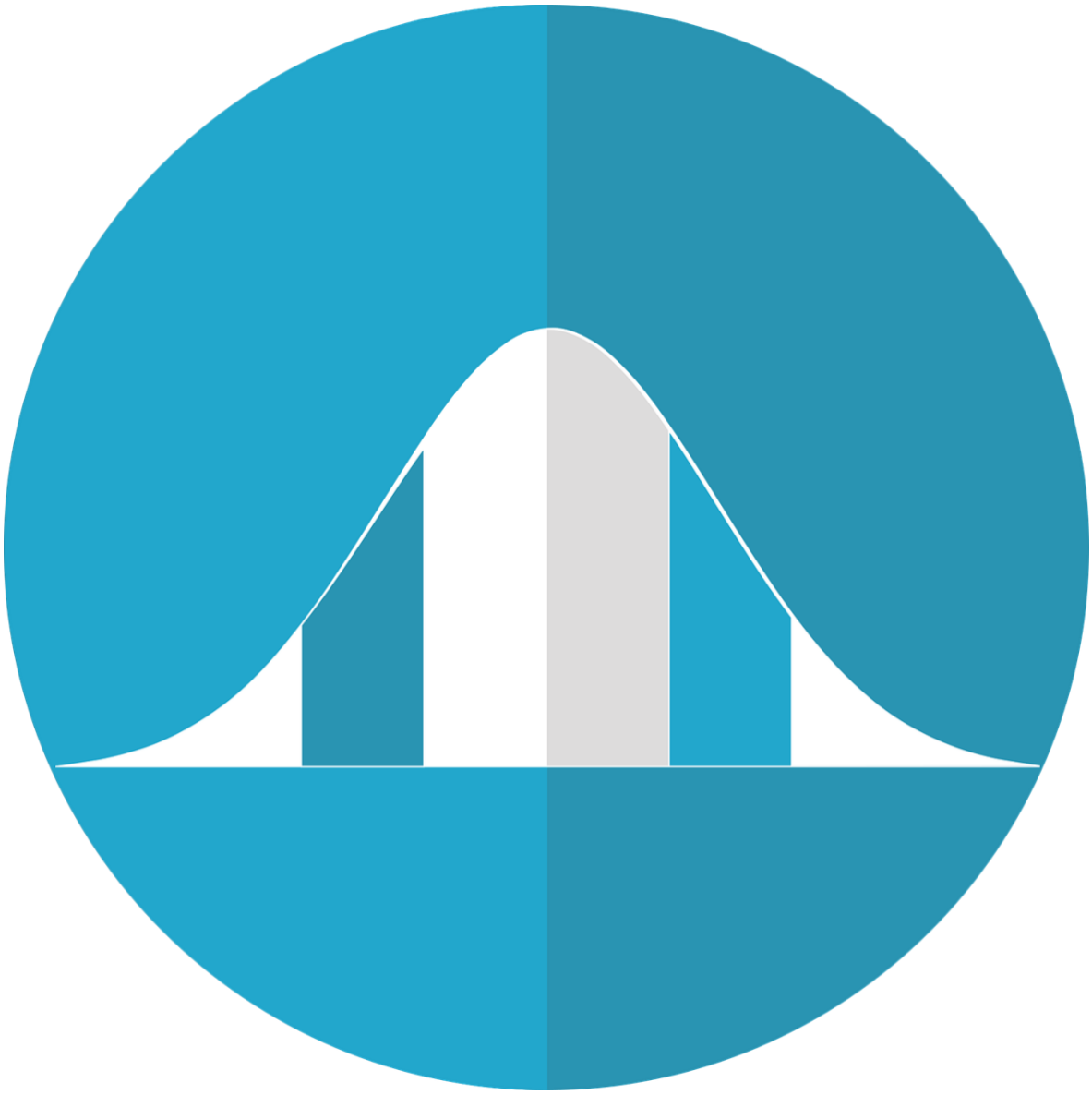
Testing the Tests

Conference organized by the Nederlandse Vereniging voor Neuropsychologie (NVN) and the Neuropsychology section of the Nederlands Instituut van Psychologen (NIP)



Date: Friday October 14th, 2022

Location: Crown Plaza Hotel in Maastricht

Program overview

10.00 - 10.15	Welcome
10.15 - 11.00	**Prof. Dr. Marieke Timmerman,** University of Groningen - *Strict offers space: On meaningful requirements for reliability, standards and validity*
11.00 - 11.45	**Dr. Marjolein Luman,** Vrije Universiteit Amsterdam - *Challenges and chances in the development of a neurocognitive test: A balance between methodological properties and clinical utility*
11.45 - 12.15	Coffee break
12.15 - 13.00	Panel discussion with **Prof dr. Rudolf Ponds**, Amsterdam UMC; **Dr. Marc Hendriks**, Radboud University; **Dr. Sietske Sikkes**, Amsterdam UMC. N.B. The panel discussion will be in Dutch.
13.00 - 14.15	Lunch and poster session
14.15 - 14.45	**Dr. Joost Agelink van Rentergem**, Netherlands Cancer Institute - *Constructing process models to better understand cognitive problems using online neuropsychological tests*
14.45 - 15.15	**Dr. Anne Fleur Domensino**, Maastricht University – *Cognitive tests: A Neuropsychologist's holy grail? An exploration of different approaches to measuring cognition*
15.15 - 15.45	Tea break and poster session
15.45 - 16.30	Early Career Award ceremory and pitches
16.30 - 17.15	**Prof. dr. Jennie Ponsford,** Monash University, Australia - *Challenges in implementing evidence-based practice*
17.15 - 18.30	Drinks

Prof. Dr. Marieke Timmerman - Strict offers space: On meaningful requirements for reliability, standards and validity

Abstract: The psychometric quality of a psychological test is judged on the basis of its reliability, norms and validity. This sounds simpler than it is, as there are multiple ways to look at these aspects. In this presentation I give an overview of indicators and their meaningful applications. I intend to provide an overview that is useful for both test developers (which indicators are important for my test?), and test users (are the indicators used for this test appropriate, and what do they imply for my intended applications?). Key issues for the reliability are the assumptions of the model used, and for the norms and validity the purpose of test application. I will elaborate on relative norms, which are commonly used for neuropsychological tests, and discuss matters such as the appropriate reference population(s), the structure of the normative sample, and the calculation of the norms using continuous norming methods. I also discuss the implications of choices for the interpretation of the normed scores.

Biography: Marieke Timmerman is a professor at the department of Psychometrics & Statistics of the University of Groningen. Her research focus is on the development, evaluation and application of statistical models to data from psychological research. She is strongly interested in the development of high-quality psychological tests. This involves research on statistical models for continuous norming. She contributed to their application in the calculation of recently issued test norms (including COTAPP, FEEST and SDQ). She serves as a member of COTAN.

Dr. Marjolein Luman - Challenges and chances in the development of a neurocognitive test: A balance between methodological properties and clinical utility

Abstract: In developing a neuropsychological tests that is usable in clinical practice, we face various challenges and chances. Ideally, within a single test different neurocognitive domains are covered that would enable us to get insight into a strengths and weaknesses profile. This would allow us to disentangle basic information processing capacities from more complex neurocognitive functions. Also, the impact of the test environment should be minimal, including the influence of the test leader and/or test stimuli. On the other hand, to make a test usable for clinical practice, test duration should be limited, test administration should be easy and interpretation straightforward – at least when the test is used by those with a basic level of clinical and methodological expertise. In this presentation, COTAPP (cognitive task application) will be used as an example of how these factors are taken into account in when developing a neurocognitive test for children, to be used in clinical practice. The balance between methodological properties and clinical utility will be discussed, and some suggestions are made that may help the field forwards.

Biography: Marjolein Luman (Vrije Universiteit Amsterdam/Levvel) is an associate professor at the Clinical Neuropsychology division, Vrije Universiteit Amsterdam, and works as a psychologist at Levvel, specialists in child and family care. She studies the etiology, assessment and treatment of children with ADHD and disruptive behavior, and has developed and lead several trials into the effectiveness of (behavioral) interventions for these groups and is member of the Psychosocial ADHD and behavioral interventions (PAINT) consortium (www.paint-studies.nl). Marjolein is interested in the interplay between (child and parent) neurocognitive functioning and intervention outcomes, and is co-developer of COTAPP (cognitive task application), a neuropsychological test battery for children, which has been developed for use in clinical practice.

Dr. Joost Agelink van Rentergem - Constructing process models to better understand cognitive problems using online neuropsychological tests

Abstract: Cognitive problems after cancer treatment have to be formally assessed to investigate potential cognitive side-effects of cancer treatments, identify patients in need of support and to develop interventions to remediate these side-effects. The Amsterdam Cognition Scan —an online neuropsychological test battery developed at the NKI— records data on every response with millisecond precision. This high-resolution data allows us to disentangle cognitive processes using computational models. In this presentation, we will discuss this new line of research and show first results on how computational modeling leads to more precise measurement of the processes of interest.

Biography: Joost Agelink van Rentergem (1987) studied Psychological Methods at the University of Amsterdam, and obtained his doctorate there with distinction in 2018 with the dissertation “Statistical Advances in Clinical Neuropsychology”. In this dissertation the statistical basis is described of the Advanced Neuropsychological Diagnostics Infrastructure (ANDI). From 2017 to 2021, he was a postdoc in the lab of Hilde Geurts at the University of Amsterdam, where he researched heterogeneity within the autism spectrum, in cognition and other characteristics. Also since 2017 he does research on cognitive problems in cancer patients, at the Netherlands Cancer Institute in the group of Sanne Schagen. In 2021, he received a Young Investigator Grant from the KWF Dutch Cancer Society, to use the next four years to start a new line of research into using Bayesian cognitive process models in neuropsychological diagnostics.

Dr. Anne Fleur Domensino - Cognitive tests: A Neuropsychologist's holy grail? An exploration of different approaches to measuring cognition

Abstract: Cognitive deficits are a potential consequence of a wide number of brain disorders, and are an important predictor of functional independence. Oftentimes, valid and reliable cognitive tests are considered the golden standard for objectifying these deficits in specific cognitive domains. Despite being indispensable for conducting thorough neuropsychological assessment (NPA), cognitive tests also have limitations; they are conducted in a controlled setting and therefore, the results only limitedly translate to daily life situations. Given the substantial impact of cognitive deficits on everyday life, neuropsychologists should aim to measure cognition with various types of instruments to complete the picture of cognition, and be able to design their treatments accordingly. In this presentation, a variety of approaches to measuring cognition and their applications to clinical practice will be discussed.

Biography: Dr. Anne-Fleur Domensino studied psychology at Utrecht University and Maastricht University. She recently obtained her PhD with her dissertation entitled 'The whole is greater than the sum of its parts: Assessment after acquired brain injury'. She now works as a postdoctoral researcher at the department of psychiatry and neuropsychology (Faculty of Health, Medicine and Lifestyle) of Maastricht University. Her research is aimed at measuring the consequences of acquired brain injury (ABI), and appropriately evaluating the effectiveness of (rehabilitation) interventions aimed at compensating for these consequences.

Prof. dr. Jennie Ponsford - Challenges in implementing evidence-based practice

Abstract: There are so many challenges in the conduct of randomized controlled trials, but, having created the evidence, there is no greater challenge than getting therapists to implement it! I will share some experiences of attempts to implement clinical interventions following randomized controlled trials, including training of activities of daily living in post-traumatic amnesia after traumatic brain injury, adapted cognitive behavioural therapy for anxiety and depression after traumatic brain injury and a positive behavior support intervention for challenging behaviours after brain injury, discussing the methods used and evaluation.

Biography: Jennie Ponsford, AO, BA (Hons), MA (Clin Neuropsych), PhD, MAPsS, is a Professor of Neuropsychology and Director of Clinical Programs in the School of Psychological Sciences at Monash University and Director of the Monash-Epworth Rehabilitation Research Centre at Epworth Healthcare in Melbourne. Over 42 years she has engaged in clinical work and research with individuals with mild, moderate and severe traumatic brain injury, investigating outcomes and the efficacy of rehabilitative interventions, and publishing 2 books and over 430 journal articles and book chapters. She is Past-President of the INS, IASTBI and ASSBI. In 2013 she was awarded the Robert L. Moody prize for Distinguished Initiatives in Brain Injury and Rehabilitation, in 2015 the INS Paul Satz Career Mentoring Award and in 2017 was made Officer of the Order of Australia for her distinguished contributions to neuropsychology and seminal advances in diagnosis, treatment and rehabilitation of patients with traumatic brain injury.

Panel discussion: Prof dr. Rudolf Ponds, Dr. Marc Hendriks, Dr. Sietske Sikkes

Prof. dr. Rudolf Ponds (registered clinical neuropsychologist) works as a clinician, researcher and lecturer in the field of neuropsychology and medical psychology. Main research interest and projects involve diagnosis and treatment of cognitive, behavioral and emotional problems in acquired brain injury, medical conditions affecting brain functioning and dementia. He was co-editor of several Dutch handbooks in the field of neuropsychology. At present he is professor and head of the department of Medical Psychology - Amsterdam University Medical Center.

Dr. Marc Hendriks is a registered clinical neuropsychologist working in the Behavioural Science Department of the Epilepsy Centre Kempenhaeghe in Heeze and the Academic Medical Center in Maastricht. He is an assistant professor within the research group Neuropsychology and Rehabilitation Psychology at the Donders Institute for Brain, Cognition and Behaviour. For the postgraduate training to become a registered clinical psychologist, he is senior lecturer 'Hersenen en Gedrag' for RCSW in Nijmegen and senior lecturer in 'Psychodiagnosttiek' for RinoZuid in Eindhoven. As registered clinical neuropsychologist, Dr. Hendriks is a member of expert TeamNL and the medical staff PSV-Eindhoven, for the diagnosis and treatment of sports-related concussions. He is a member of the editorial board of Hendriks et al (2014) 'Neuropsychologische Diagnostiek; de klinische praktijk en GZ-Psychologie'. He is involved in several projects on neuropsychological assessment in the Netherlands and Indonesia.

Dr. Sietske Sikkes is an associate professor at the Department of Clinical, Neuro and Developmental Psychology of the VU University, and the Alzheimer Center Amsterdam of the Amsterdam University Medical Centers. With a background in neuropsychology and epidemiology, she completed her PhD at the VU University in 2011, focusing on the measurement of everyday cognition in early-onset dementia. As part of this research, she developed and validated the Amsterdam IADL Questionnaire, which has been translated in >40 languages, and was adapted for different target populations, including multiple

sclerosis. Dr. Sikkes performed research fellowships at the Salpetriere Hopital in Paris, and the University of Melbourne focusing on the cross-cultural measurement of everyday cognition. Her main research themes include novel (digital) measurement techniques for subtle objective and subjective cognitive impairment in the context of aging and dementia. She serves as principle investigator of 'Capturing changes in cognition' (ZonMW), 'Making the Subjective Objective' (ZonMW), as well as public-private partnerships including 'Deep and Frequent Monitoring in Alzheimer's disease' (Health Holland) and 'Remote Monitoring of Dementia's Early Warning Signs' (Health Holland). Other research themes in which dr. Sikkes is involved include diversity in measurement, non-pharmacological interventions with a focus on lifestyle prevention, and the implementation of novel instrumentation in clinical practice. Dr. Sikkes currently serves on the ISTAART (Alzheimer's Association International Society to Advance Alzheimer's Research and Treatment) Program Committee and advisory council.