



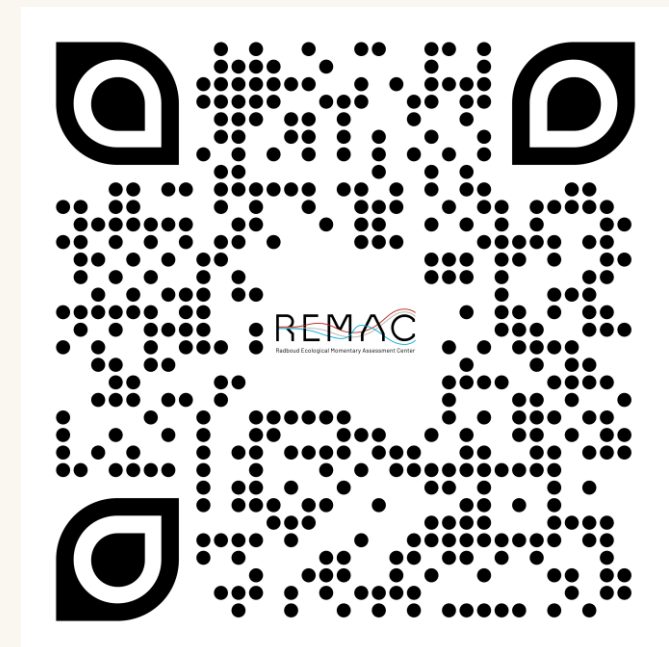
Radboud Ecological Momentary Assessment Center

The Radboud Ecological Momentary Assessment Center (REMAC) brings together researchers from across the Radboud campus (Donders Institute, Radboudumc, and Radboud University) working on intensive longitudinal data.



Introducing REMAC Radboud Ecological Momentary Assessment Center

Prof. Janna Vrijssen
Prof. Rogier Kievit



Who are we?

Radboudumc
university medical center

Radboud Universiteit



51 current members
7 professors
3 associate professors
7 assistant professors
16 postdocs
18 PhDs



Belgian-Dutch Network for
ESM Research in Mental Health

REMAC
Radboud Ecological Momentary Assessment Center

- Dementia
- Cognitive neuroscience
- Mental healthcare
- Neurotechnology
- Neuroscience
- Developmental psychology
- Computational psychiatry



Donders Institute for Brain, Cognition, and Behaviour

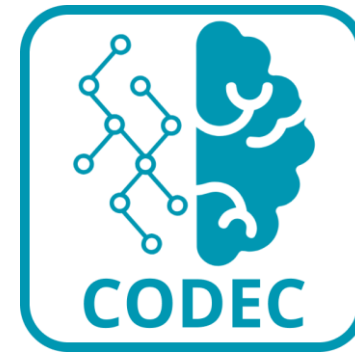
The Donders Institute explores the human brain, cognition, and behaviour across various disciplines, including medicine, physics, biology, psychology, AI, and language studies. Our researchers collaborate to enhance knowledge of the brain, aiming to benefit health, education, and technology.



Behavioural Science Institute

We believe that the challenges of tomorrow require an interdisciplinary and collaborative effort today. Our mission is to join forces in interdisciplinary research on the theme: Empowering the Young. We study young people's challenges in our current society and are dedicated to contributing to their empowerment by providing the knowledge, tools, and confidence to shape their future.

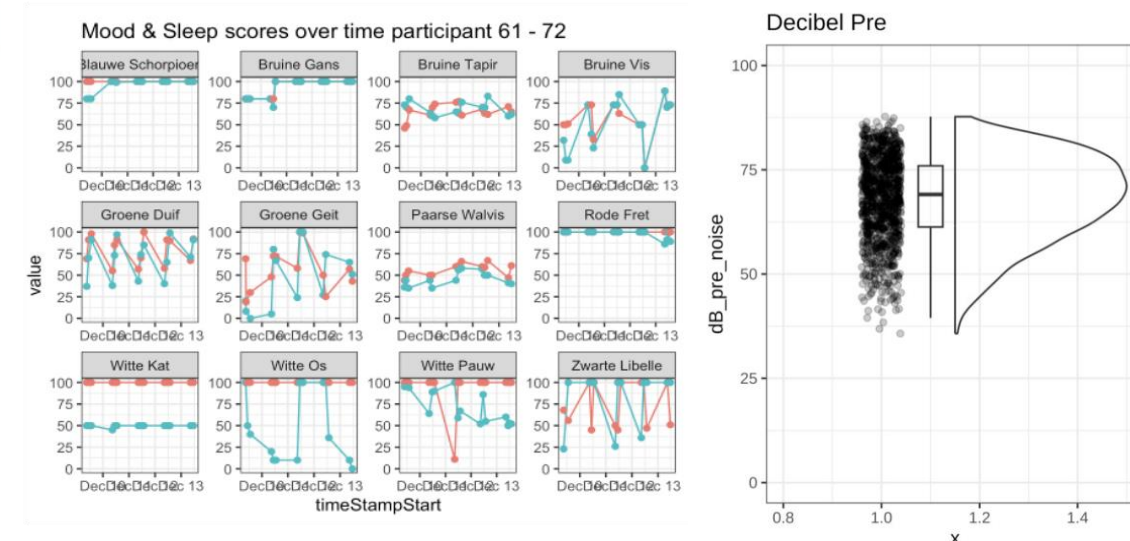
Cognitive performance in the wild



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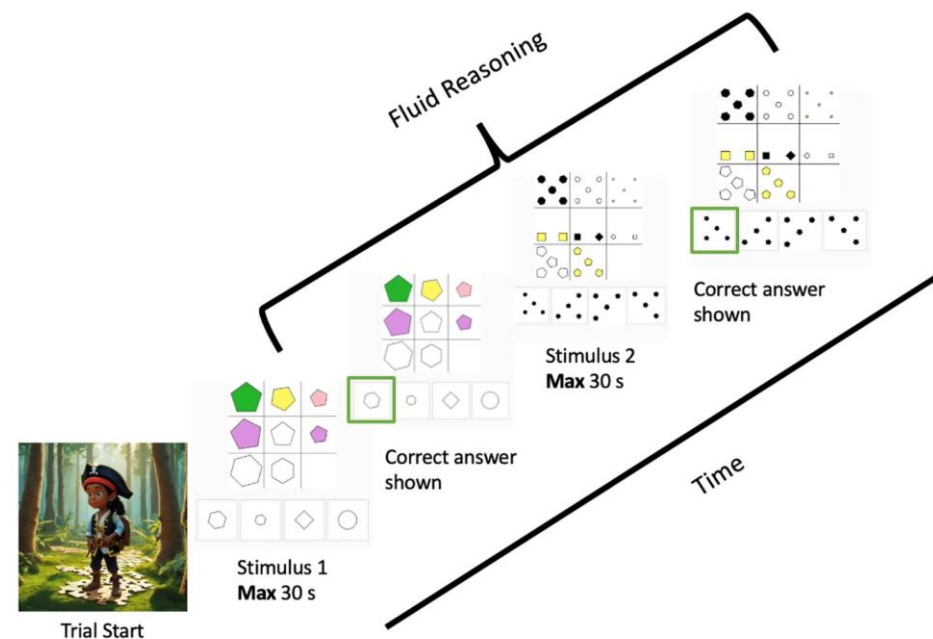
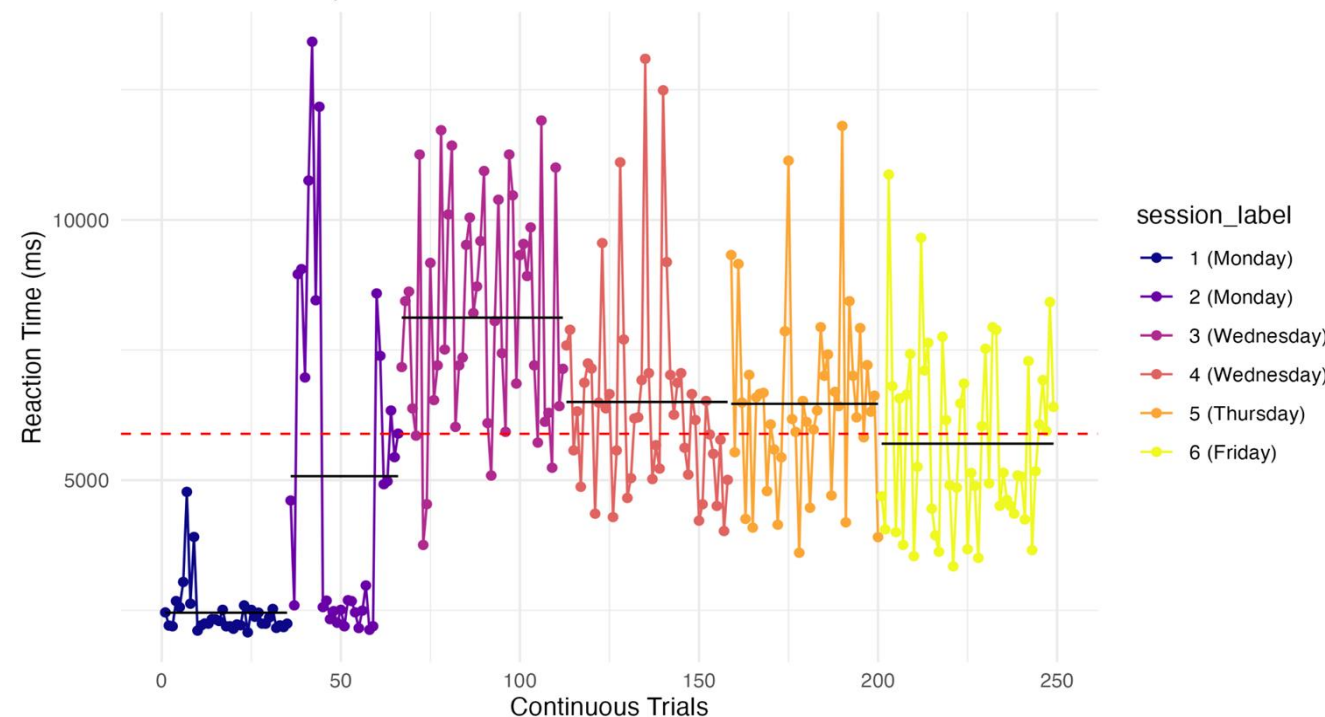


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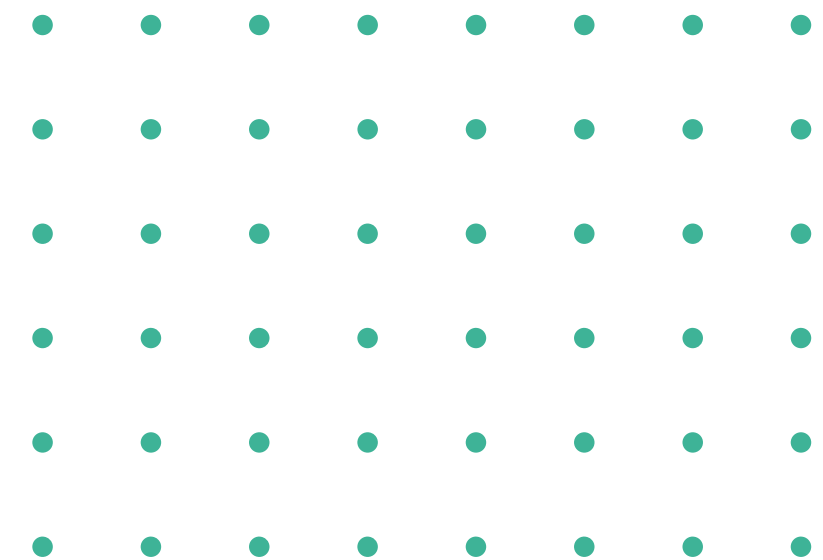


293 children
-3543 test
occasions
~200k trials

MRT - Raw Reaction Time - Subject 14
Red dashed = Subject Mean | Dark = Session Mean

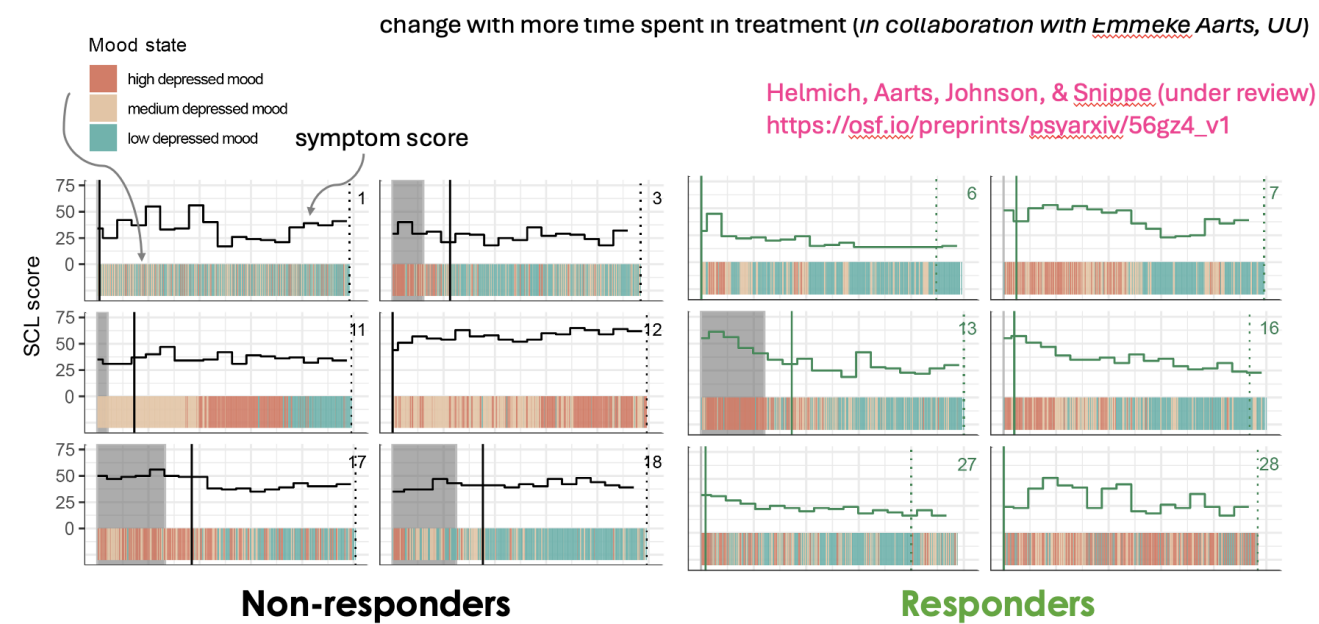


Jordy van Langen
Jessica Schaaf
Rogier Kievit



Methods innovation

Using Hidden Markov Models to identify latent states



Marieke Helmich

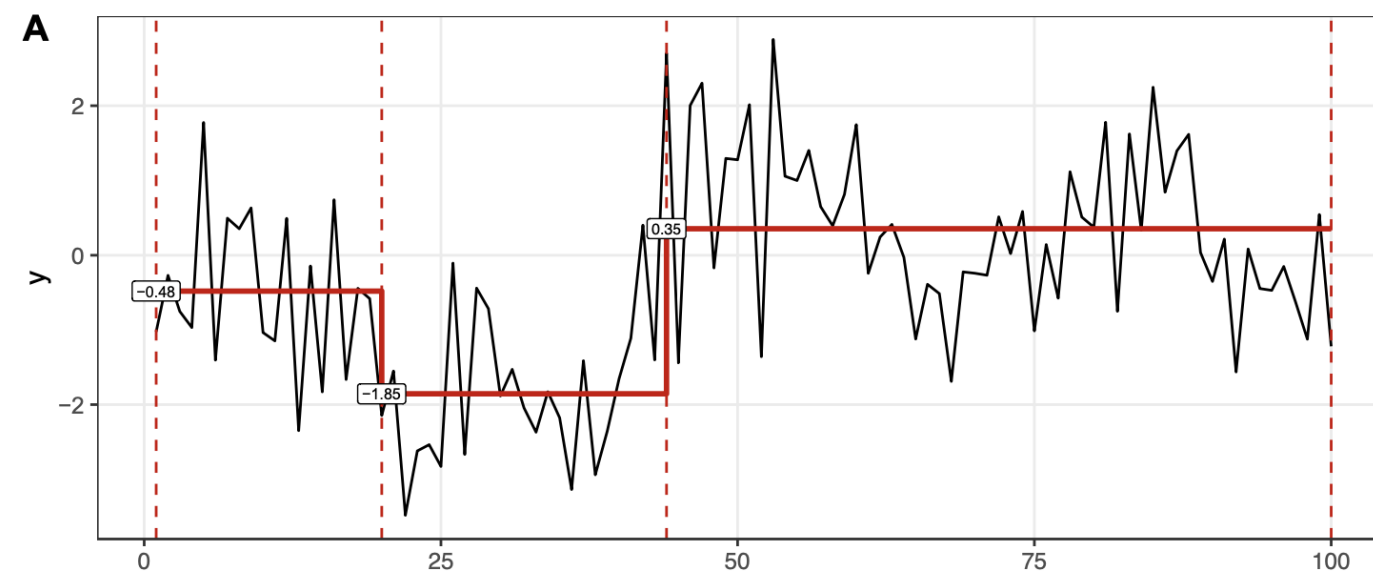


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$$\delta_{it} = \begin{cases} \phi_i^{\text{above}} \delta_{i,t-1} + \epsilon_{it} & \text{if } \delta_{i,t-1} > 0 \\ \phi_i^{\text{below}} \delta_{i,t-1} + \epsilon_{it} & \text{if } \delta_{i,t-1} \leq 0, \end{cases}$$

Idiographic analysis and individualized changepoint detection

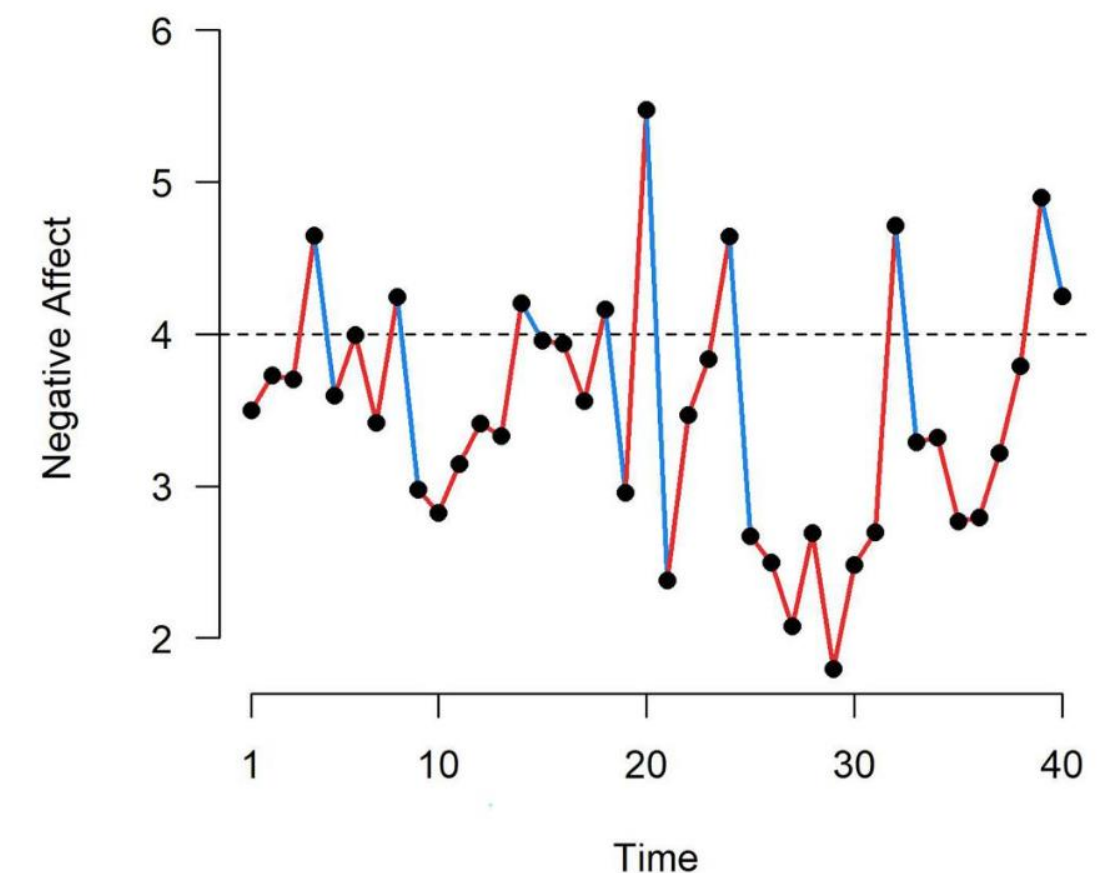


Fred Hasselman, Merlijn Olthof e.a.

Characterize
asymmetric
timeseries



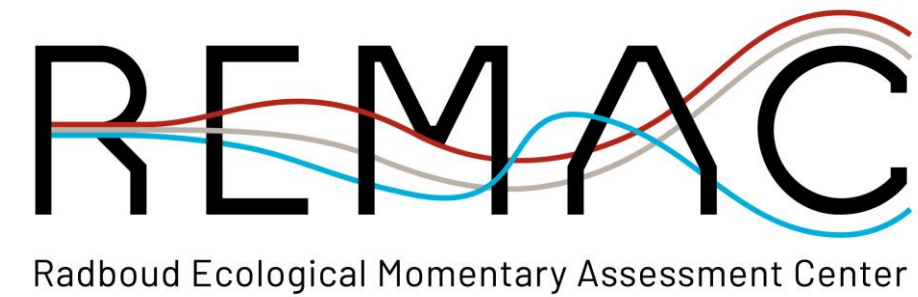
Jessica
Schaaf



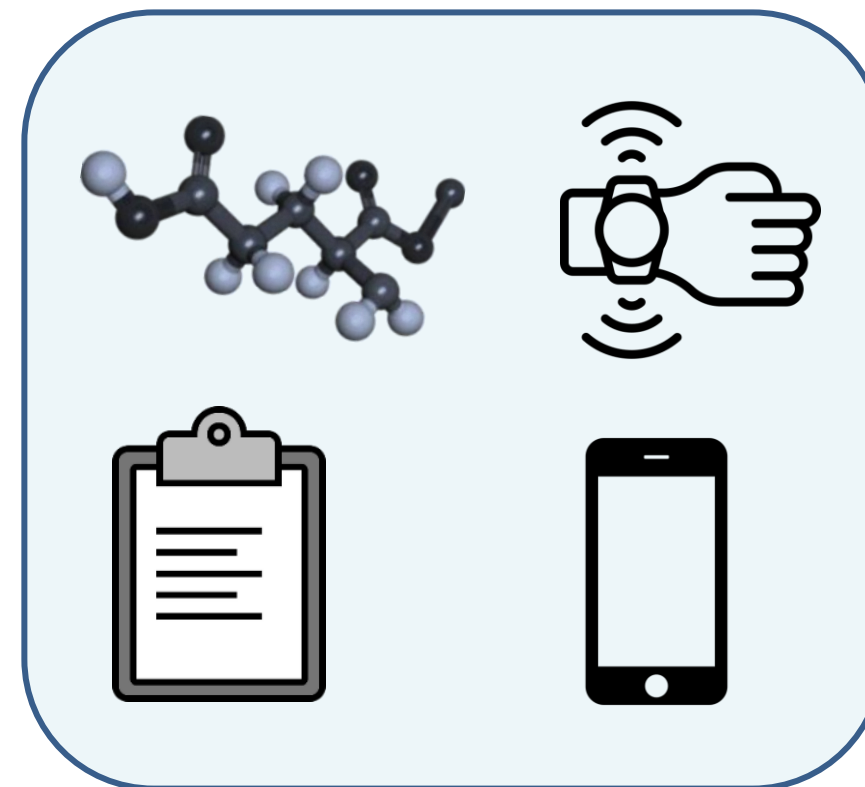
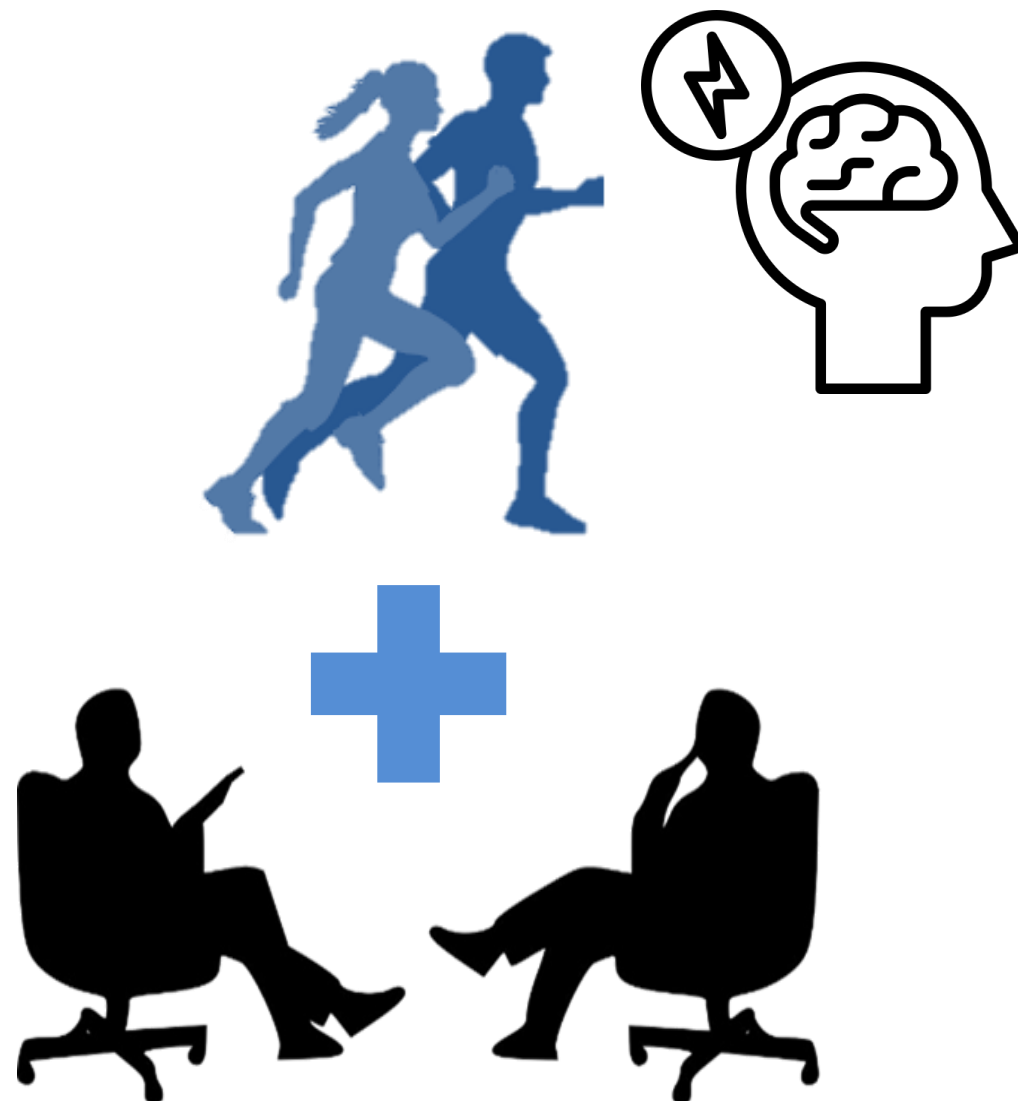
Modeling mental healthcare



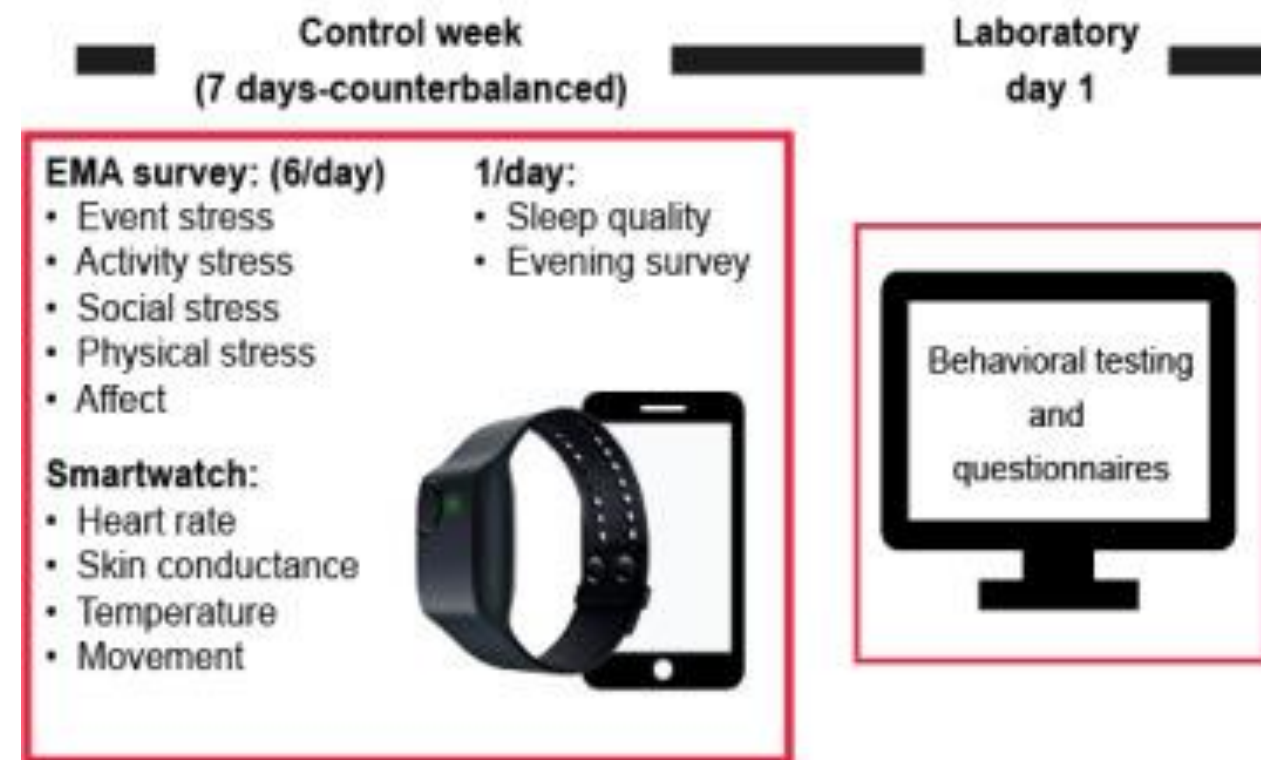
- Dynamics exercise (therapy)
- Personalisation specialized depression&anxiety care



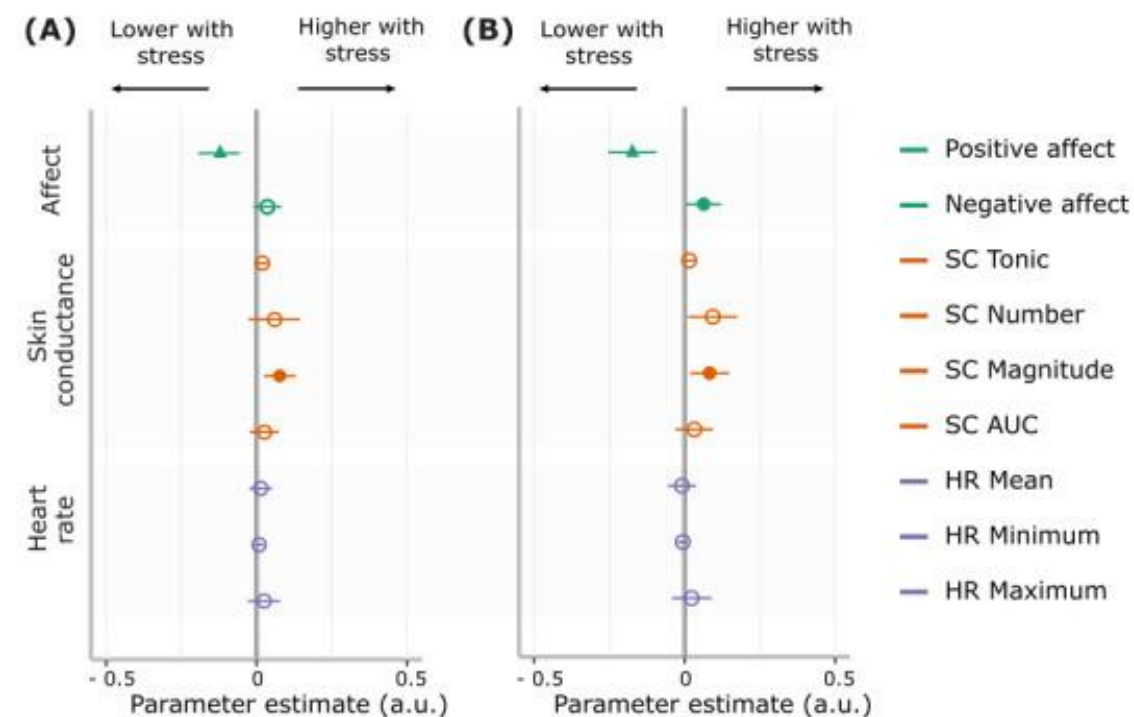
Anika Poppe
Marieke Helmich
Bob Baxendell
Renee Roosen
Michèle Schmitter
Marvin Dophemont
Iliana Liakea
Janna Vrijssen



Wearables and multimodal ESM



Identify (continuous) biomarkers

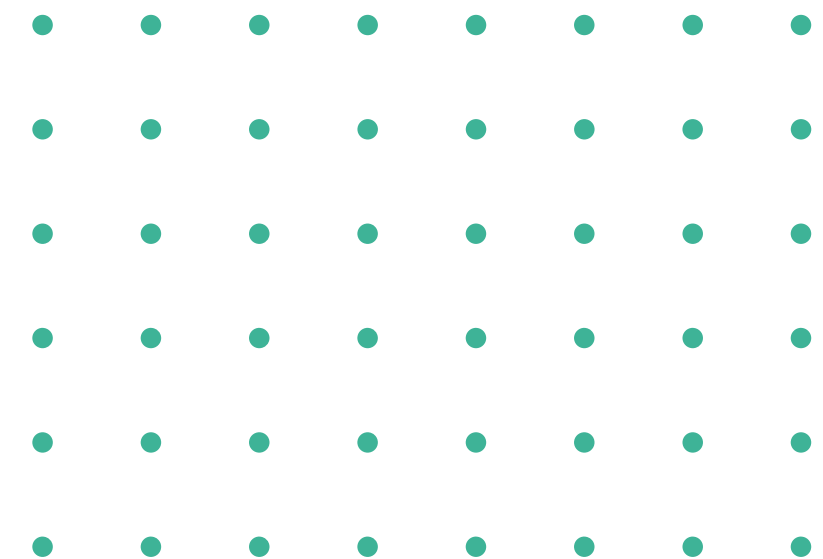


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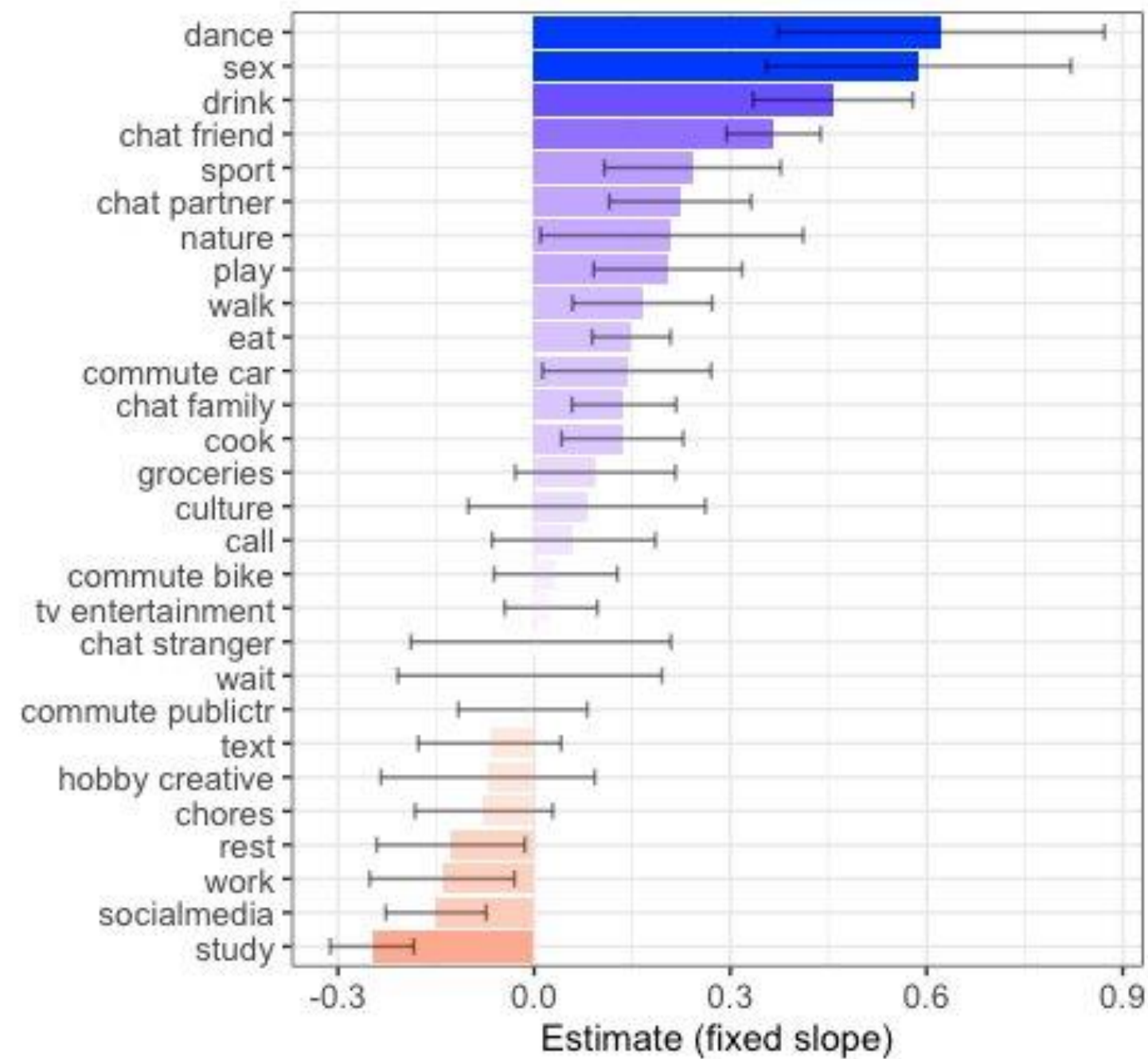
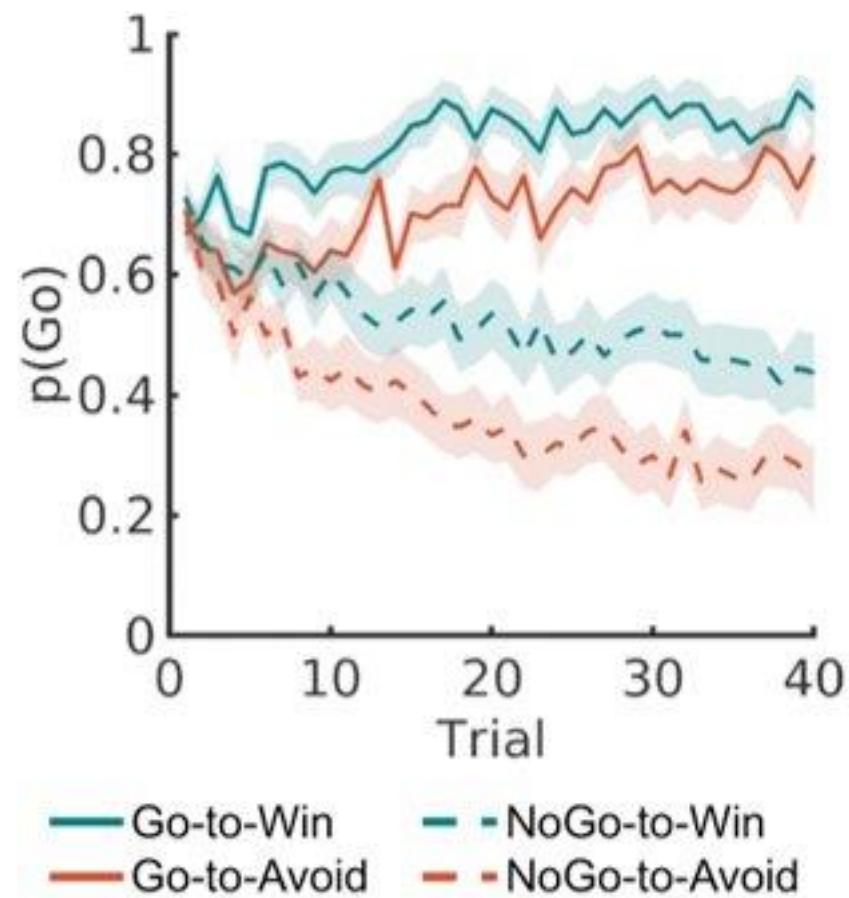
Sophie Bögemann
Florian Krause
Erno Hermans



Computational modeling



Formal models of learning & decision-making

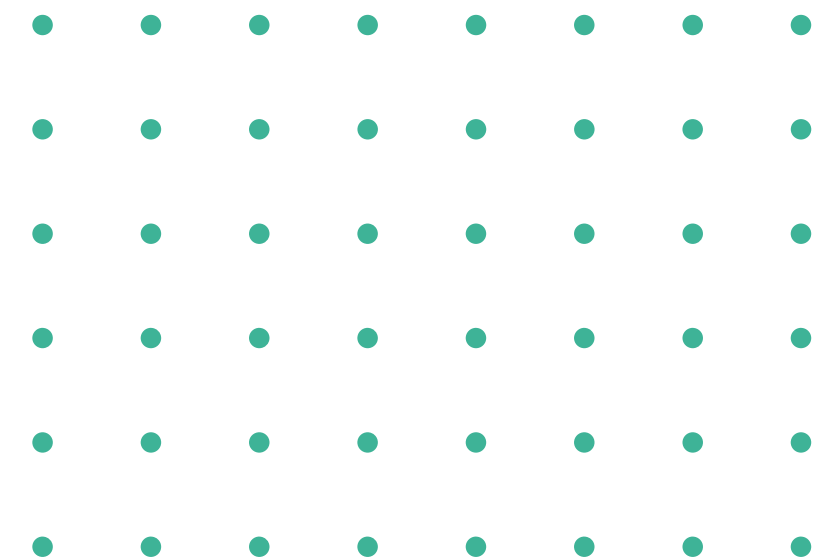


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Bertalan Polner
Hanneke den Ouden



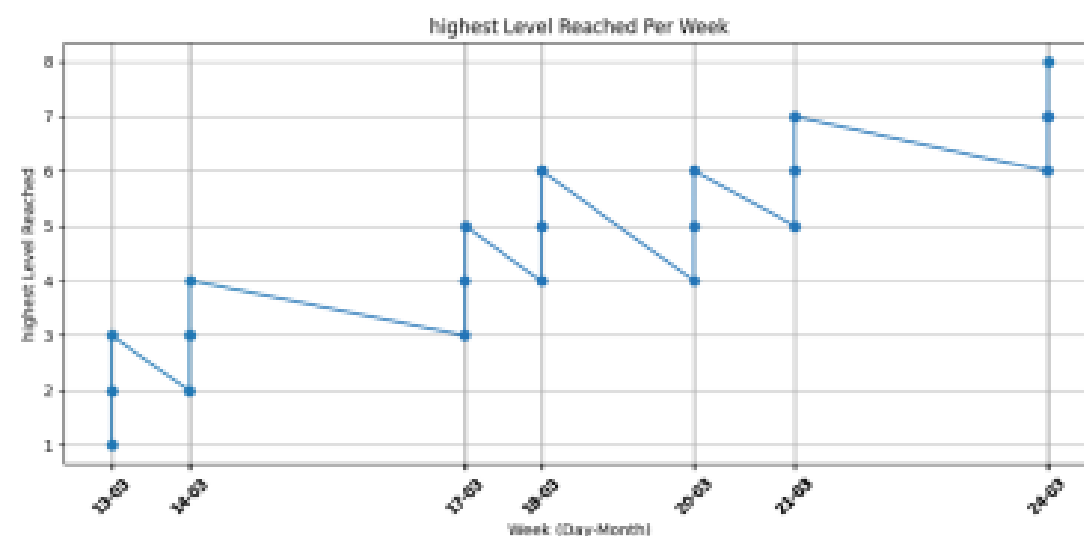
Aging and dementia

EMA rated health

Physically

Mentally

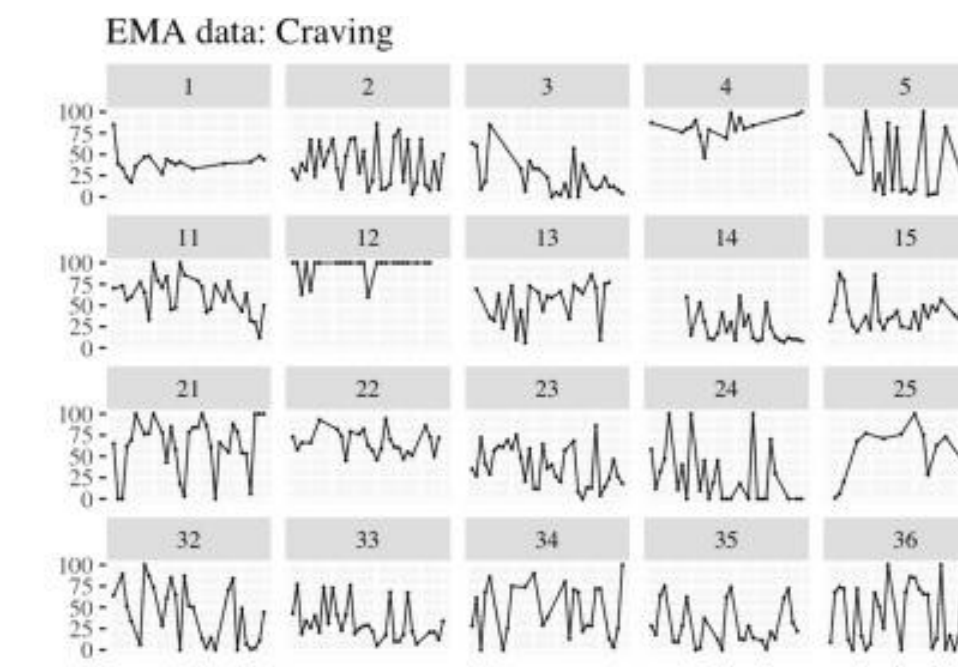
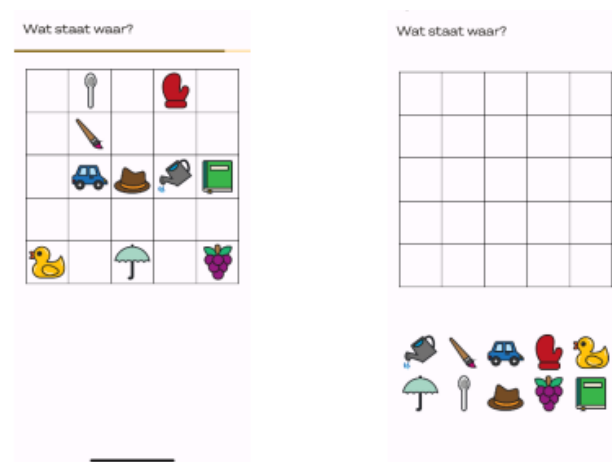
Socially



René Melis

Marcel Olde Rikkert

EMA measures can identify cognitively frail

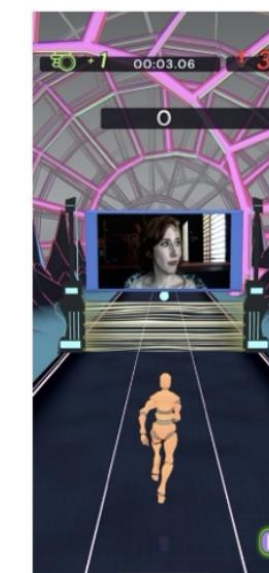
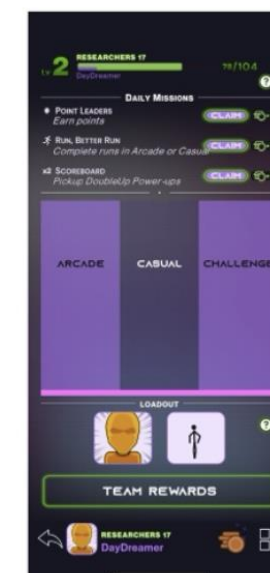


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Smoking cessation intervention



Suhaavi Kochhar



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What are we excited about?

Connecting with you! Collaboration, sharing pipelines, talent management, ...

Enhancing our methodology and psychometrics

Contributing to EMA/ESM open science practices

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Prof. Rogier Kievit



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