

Two steps forward, one step back

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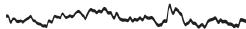
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PROPOSITIONS
TO ACCOMPANY THE DISSERTATION
TWO STEPS FORWARD, ONE STEP BACK
REPLICABILITY AND CLINICAL RELEVANCE OF
POTENTIAL BIOMARKERS IN DEPRESSION AND ADHD

by Noralie C. Krepel



1. In depression, the distance between the individual alpha frequency (IAF) and 10 Hz is related to response to 10 Hz rTMS treatment.
2. Anhedonia at baseline is significantly higher in depressed individuals who do not respond to rTMS treatment, yet this effect could not sufficiently predict rTMS treatment response and thus is not considered a clinically relevant finding.
3. QEEG-informed neurofeedback effectively reduces symptoms of Attention-Deficit/Hyperactivity Disorder (ADHD). IAF at baseline shows potential treatment stratification value.
4. Spindling excessive beta (SEB) is a transdiagnostic feature observed in the electroencephalogram (EEG) associated with impulse control problems. Heterogeneous samples can help to identify transdiagnostic biomarkers.
5. Some initially positive scientific findings could not be replicated, for a variety of reasons. It is important to understand why these non-replications occurred, as null-findings and non-replications help sculpt the body of scientific knowledge.
6. Scientific findings that are to be used in clinical practice need to be clinically relevant. Statistical significance does not necessarily imply clinical relevance.
7. Psychiatric treatment can be improved by moving from a one-size-fits-all approach to personalized medicine. Biomarkers can be used to stratify and personalize psychiatric treatment by predicting treatment outcome.
8. The research presented in this thesis aims to improve and optimize psychiatric treatment.
9. It is important to keep evaluating the effectiveness and fittingness of psychiatric systems of diagnoses and treatments. These should be assessed while keeping current research and the well-being of patients in mind.