provided by participants during a semi-structured dialogue with a virtual avatar.

Methods: We use data from a subset of the DAICWOZ dataset consisting in 142 dialogues between participants and a virtual avatar during which the avatar uses several prompts to maintain a conversation with the participant. The avatar uses prompts involving the topics of travel, dream jobs, and memorable experiences. From the speech generated from the dialogue, we extract participant utterances separated by prompt and extract features from the three sets of transcripts. We extract content features from the transcript and acoustic features from the excerpt corresponding to the speech from the participant for the prompt in question. We perform regression experiments on the PHQ8 items using the features extracted from each set of transcripts. Furthermore, we combine the features extracted from each set of transcripts and compute partial spearman correlations between them and the PHQ8 items using gender as a covariate.

Results: With our best regression model we obtain an R2 of 0.1, explaining 10% of the variance in the PHQ total score. Additionally, we obtain a mean absolute error of 1.25, suggesting that the regressor can detect with more or less precision clinically meaningful differences in depression severity between participants. Partial correlations between the total score and the features show significant correlations between features dependent on the amount of speech generated by each participant, along with the complexity of syntactic structures used.

Conclusions: Automatic analysis of spontaneous speech could help with the detection and monitoring of signs of depression. By combining the use of this technology with timely intervention strategies for instance provided by a virtual agent it could contribute to timely prevention.

Disclosure of Interest: A. König: None Declared, M. Mina Employee of: ki:elements GmbH, S. Schäfer Employee of: ki:elements GmbH, N. Linz Shareolder of: ki:elements GmbH, Employee of: ki:elements GmbH, J. Tröger Shareolder of: ki:elements GmbH, Employee of: ki:elements GmbH

EPP0045

The Neural Basis of Major Depressive Disorder in Adults: A Meta-Analysis of Functional Magnetic Resonance Imaging Activation Studies

A. M. Klassen[1]*, C. Baten[1], J. H. Shepherd[1], G. Zamora[1], S. Saravia[1], E. Pritchard[1], Z. Ali[1], J. Jordan[1], S. K. Kahlon[1], G. Maly[1], M. Duran[1], S. L. Santos[1], A. F. Nimarko[2], D. W. Hedges[3], J. P. Hamilton[4], I. H. Gotlib[2], M. D. Sacchet[5] and C. H. Miller[1]

[1]Psychology, California State University, Fresno; [2]Psychology, Stanford University, Stanford; [3]Psychology, Brigham Young University, Provo, United States; [4]Biomedical and Clinical Sciences, Linköping University, Linköping, Sweden and [5]Meditation Research Program, Psychiatry, Massachusetts General Hospital, Harvard Medical School, Boston, United States
*Corresponding author.
doi: 10.1192/j.eurpsy.2023.388

Introduction: Major depressive disorder (MDD) is a highly prevalent mental illness that often first occurs or persists into adulthood and is considered the leading cause of disability and disease burden worldwide. Unfortunately, individuals diagnosed with MDD who seek treatment often experience limited symptom relief and may not achieve long-term remission, which is due in part to our limited understanding of its underlying pathophysiology. Many studies that use task-based functional magnetic resonance imaging (fMRI) have found abnormal activation in brain regions in adults diagnosed with MDD, but those findings are often inconsistent; in addition, previous meta-analyses that quantitatively integrate this large body literature have found conflicting results.

Objectives: This meta-analysis aims to advance our understanding of the neural basis of MDD in adults, as measured by fMRI activation studies, and address inconsistencies and discrepancies in the empirical literature.

Methods: We employed multilevel kernel density analysis (MKDA) with ensemble thresholding, a well-established method for voxel-wise, whole-brain meta-analyses, to conduct a quantitative comparison of all relevant primary fMRI activation studies of adult patients with MDD compared to age-matched healthy controls.

Results: We found that adults with MDD exhibited a reliable pattern of statistically significant ($p<0.05$; FWE-corrected) hyperactivation and hypoactivation in several brain regions compared to age-matched healthy controls across a variety of experimental tasks.

Conclusions: This study supports previous findings that there is reliable neural basis of MDD that can be detected across heterogenous fMRI studies. These results can be used to inform development of promising treatments for MDD, including protocols for personalized interventions. They also provide the opportunity for additional studies to examine the specificity of these effects among various populations-of-interest, including youth vs. adults with depression as well as other related mood and anxiety disorders.

Disclosure of Interest: None Declared

EPP0046

Early Outcomes of Repetitive Transcranial Magnetic Stimulation in Complex Clinical Population

A. V. Samokhvalov[1,2,3,4,5]* and M. Weber[3]

[1]ASU / CPC, Homewood Health Centre, Guelph; [2]Department of Psychiatry, University of Toronto, Toronto; [3]Interventional Psychiatry, Homewood Health Centre, Guelph; [4]Department of Psychiatry & Behavioural Neurosciences, McMaster University, Hamilton and [5]Dr. Sam's Health, Oakville, Canada
*Corresponding author.
doi: 10.1192/j.eurpsy.2023.389

Introduction: Repetitive Transcranial Magnetic Stimulation (rTMS) is a new emerging neuromodulation treatment that has been tried for multiple psychiatric conditions [1, 2]. Its major approved application is treatment-resistant depression (TRD) [1]. At the same time there is a perceived potential for its use for other clinical conditions, primarily other mood and anxiety disorders [2]. At Homewood Health Centre we have been using rTMS as an adjunct treatment for patients with TRD and multiple comorbidities.

Objectives: To evaluate the effectiveness and feasibility of rTMS in complex clinical populations.

Methods: Observational study. Quick Inventory of Depressive Symptomatology (QIDS). Generalized Anxiety Disorder Questionnaire (GAD-7). Descriptive statistics.