analyses based on a sample size of 72 individuals are expected to be complete prior to presentation at SIRS 2020.

**Discussion:** This study is the first, to our knowledge, to target this neural region within schizophrenia for the purposes of improving visual attention and, subsequently, social cognition. Should the pattern of results from our interim analyses hold after completion of data collection, results indicate that active stimulation to the rTPJ has a unique impact on dynamic emotional stimuli, improving visual attention and emotion in recognition, suggesting a primary role of the rTPJ and visual attention in performance on this task. The intricate design of this study allows for thorough investigation of potential mechanisms by which social cognitive deficits develop, and the use of novel experimental techniques align with the theme of this year's conference.

**M70. THE EFFICACY OF COMBINING COGNITIVE REMEDIATION AND NON-INVASIVE BRAIN STIMULATION. A SYSTEMATIC REVIEW**

Anika Poppe*1, Leonie Bais1, Franziska Ritter1, Branislava Curčík-Blake1, Gerdina (Marijke) Pijnenberg3, Lisette van der Meer1

1Lentis Center for Mental Health Care, Zuidlaren; 2BSCS Cognitive Neuroscience, University Medical Center Groningen; 3University of Groningen

**Background:** Cognitive deficits are commonly observed in people diagnosed with schizophrenia and have been found to be more predictive of future daily and community functioning than the severity of clinical symptoms (e.g., hallucinations and delusions). Cognitive remediation (CR) is a psychological treatment developed to improve cognitive functioning and thereby daily functioning. Despite the effectiveness of CR programs, reduced neuroplasticity in brain networks underlying the cognitive tasks may impede the effectiveness of these treatment programs. Increasing the neuroplasticity in these networks by the use of non-invasive brain stimulation (NIBS) might transcranial direct current stimulation or transcranial magnetic stimulation might boost the effect of CR. In a systematic review, we will address the question whether the combination of non-invasive brain stimulation and cognitive remediation may be a promising treatment strategy. We will apply a transdiagnostic perspective in order to determine the potential benefit of combining CR and NIBS in general, and not specific to a diagnostic category.

**Methods:** A systematic review of literature was conducted by searching PsycINFO, Pubmed, Web of Science, and Medline databases for combined treatments of CR and NIBS. Included studies were assessed for cognitive, clinical, and functional outcomes.

**Results:** 64 studies were identified, with 40 studies including clinical populations (e.g., schizophrenia, Alzheimer’s disease, HIV, MS). The cognitive outcomes showed mixed results. Most effects were found on complex attention and executive functioning. In these domains about 38% of the studies found an added positive treatment effect for combining interventions, in comparison to single interventions (i.e. CR, NIBS, or CR+sham-stimulation). Functional outcome measures were included in ten of the 40 studies with clinical populations. Eight studies found a positive trend towards greater improvements in daily functioning when CR and NIBS were combined.

**Discussion:** So far, findings indicate promising effects of combining CR and NIBS on cognitive functioning and daily functioning in healthy and various clinical populations. There is a lot of variety between studies (e.g., duration of treatment, number of total sessions, number of weekly sessions, cognitive domains targeted) which may explain the mixed results. Especially, the design of the CR varied widely. Strategy-use and targeting meta-cognition, which were identified as effective elements of CR as a stand-alone treatment were not included in many combined CR+NIBS designs. Future studies have to elucidate whether the combining CR (including strategy-use and meta-cognition) and NIBS has an additive effect on cognitive and/or daily functioning compared to non-combined treatment. Moreover, future studies should evaluate whether beneficial effects from the experimental studies translate into long-term improvement in activities of daily life.

**M71. THE INFLUENCE OF METACOGNITIVE CAPACITIES ON SPECIFIC NEGATIVE SYMPTOMS: A SYSTEMATIC REVIEW AND INDIVIDUAL PARTICIPANT META-ANALYSIS OF INTERVIEW-BASED DATA**

Nicola McGuire*1, Andrew Gumley1, Ilanit Hasson-Ohayon2, Warut Aunjitsakul1, Orkun Aydin1, Sune Bo1, Kelsey Bonfils3, Anna-Lena Bröcker4, Steven de Jong3, Giancarlo DiMaggio5, Felix Inchausti6, Jens Einar Jansen7, Tania Lecomte11, Lauren Luther2, Angus MacBeth3, Christiane Montag4, Marlene Buch Pedersen14, Marije Pijnenberg15, Raffaele Popolo6, Ann-Marie Trauelsen10, Rozanne van Donkersgoed7, Weiming Wu8, Paul Lysaker19, Hamish McLeod1

1University of Glasgow; 2Bar-Ilan University, Israel; 3International University of Sarajevo; 4Psychiatric Research Unit, Region Zealand; 5VA Pittsburgh Healthcare System, Mental Illness Research, Education, and Clinical Center (MIRECC); 6Charité Universitätsmedizin Berlin; 7Lentis, Groningen; 8Center for Metacognitive Interpersonal Therapy; 9Riojano Health Service, Logroño; 10Mental Health Center Copenhagen; 11University of Montreal; 12Roudebush VA Medical Center and the Indiana University School of Medicine; 13University of Edinburgh; 14Early Psychosis Intervention Centre, Psychiatry East; 15University of Groningen; 16Neurological Ward, Bispebjerg hospital; 17De Ruimte practice for psychotherapy; 18Anhui Medical University; 19Roudebush VA Medical Center and the Indiana University School of Medicine

**Background:** Healthy metacognition involves several capacities, including the ability to integrate information about the self and others in order to formulate ways of coping with social challenges and psychological distress. Multiple studies have demonstrated that reduced general metacognitive capacity is predictive of the development and persistence of overall negative symptom burden. However, there have been no published analyses investigating how specific sub-components of metacognition influence the expression of individual negative symptoms. We aggregated individual participant data from studies reporting measures of subtypes of metacognitive functioning and examined the strength of association with specific negative symptoms.

**Methods:** PsycINFO, EMBASE, MEDLINE, Cochrane Library and grey literature databases were searched for eligible studies. Forwards and backwards citation searching and contacting of study authors revealed additional datasets not identified in the original search. Included studies assessed negative symptoms and metacognition using interview-based measures in participants aged 16 years or older. Selection was restricted to quantitative research, excluding case studies, and only English language publications were screened. Experimental and observational studies were screened sequentially at title, abstract and full-text level to determine whether they met search criteria. A second reviewer independently screened a proportion of records to check the reliability of inclusion/exclusion judgements (Cohen’s Kappa = 0.74). Participant data and metadata of included studies were extracted and compiled combining original author and report information for all pre-specified outcomes where available. The proposed plan for the systematic review and meta-analyses was also pre-registered on PROSPERO (CRD42019130678).
Results: 97 unique reports were identified, of which 30 included negative symptom specific hypotheses. Samples overlapped substantially across publications with these 97 reports corresponding to 30 unique datasets. The raw individual participant level data for 23 of the 30 unique datasets was obtained. Preliminary analyses investigated the relationship between components of metacognition measured with the MAS-A (Lysaker et al., 2005), and the original negative symptoms subscale score of the PANSS (Kay et al., 1987) to maximise available data. We will discuss the results, which suggest that there are distinct relationships between subscales of metacognition and negative symptoms. We will also discuss the limitations of these results including a limited scope for analysing covariates due to the computational complexity of the models used, and difficulties in handling the diversity of data present in the meta-analysis. We will also discuss why high heterogeneity might be present, and provide further support for analysis investigating the relationship between individual negative symptoms and components of metacognition.

Discussion: The data suggest there is complexity in the relationship between components of metacognition and individual negative symptoms. It is for subsequent analyses to determine whether individual negative symptoms have distinct relationships with each metacognitive capacity, and whether the variation in the strength of these associations could explain the high heterogeneity observed.

M73. DRIVING ABILITIES IN PATIENTS WITH SCHIZOPHRENIA
Silvia Pardeller1, Falko Biedermann1, Maria Haibach1, Bernhard Holzner1, Georg Kemmler1, Ilsemarie Kurzthaler1, Alex Hofer1
1Medical University Innsbruck; Psychotheraphy and Psychosomastics

Background: Driving ability is a relevant factor of individual autonomy for patients suffering from psychiatric diseases. The aim of this naturalistic study was to determine the driving ability of clinically stable outpatients with schizophrenia and to determine relevant parameters for possible deficits.

Methods: We included 50 outpatients with schizophrenia (ICD-10) between the ages of 18 and 65 who were on stable psychopharmacological treatment for at least three months. By means of the Wiener Testsystem (Schuhfried), reaction behaviour, the ability to observe and gain overview, reaction time, certainty in decision making as well as concentration and attention were tested. Symptomatology and extrapyramidal motor symptoms (EPS) were investigated by using the Positive and Negative Syndrome Scale (PANSS) and the Modified Simpson Angus Scale (MSAS), respectively.

Results: The mean PANSS score of 55.3 ± 16.2 indicated that patients were merely mildly ill at the time of study inclusion. 48% had a MSAS score ≥3. 44% had adequate driving-specific abilities. 20% showed slight psychomotor impairments, and 36% were considered as unfit to drive. 41.1% of the patients with a valid driver's license were not able to drive. There was a strong correlation between EPS and driving ability, while residual symptomatology was not relevant in this context.

Discussion: Personal mobility is an important aspect of quality of life in people with schizophrenia. Possible danger for the general public may be conflicting with this point of view. Our investigation suggests that EPS have a major influence on the ability to drive. The missing correlation between residual symptomatology and driving abilities, on the other hand, may be explained by low mean PANSS scores. Further studies with larger sample sizes are urgently needed to address this issue.

M74. FACIAL EMOTION RECOGNITION ABILITY IN PATIENTS WITH SCHIZOPHRENIA AND OTHER PSYCHOTIC DISORDERS
Elin Kjellenberg1, Stefan Winblad2
1 Sahlgrenska University Hospital; 2 University of Gothenburg

Background: Psychotic disorders are associated with impaired facial emotion recognition (FER) and poor functional outcome. Most studies regarding facial emotion recognition have focused on schizophrenia. The aim of this study was to explore FER in patients with different psychotic disorders at psychiatric outpatient facilities. The intention was also to examine if patients diagnosed with schizophrenia differed from patients diagnosed with other psychotic disorders in the ability to recognize facial emotions.

Methods: FER was examined in forty outpatients, evenly divided between schizophrenia and other psychotic disorders and 33 healthy control persons. The ability to recognize facial emotions was assessed with The Facially Expressed Emotion Labelling (FEEL). To assess the severity of psychotic symptoms in the patient group The Structured Clinical Interview for Symptoms of Remission (SCI-SR) was used.

Results: Patients performed significantly worse than healthy controls (p<.001, r=-.28) in recognizing facial emotions in general, including expressions of fear, disgust and sadness. Subjects with a schizophrenia diagnosis performed poorer than healthy controls when depicting fear (p<.01, r=.45) or anger (p=.026, r=.36). Compared to other psychotic disorders they were less accurate in recognizing anger (p=.036, r=-.40). We did not find any significant differences between patients with other psychotic disorders and healthy controls in FER. Furthermore, patients performed significantly slower on the FEEL test (p<.001, r=.44), including both patients with a schizophrenia diagnosis and other psychotic disorders as compared to healthy controls. Patients diagnosed with schizophrenia showed significantly more psychotic symptoms (p=.001, r=-.53). However, there were no significant differences between patients in remission (40%) and patients with more severe psychotic symptoms regarding the FEEL measures.

Discussion: In this study, patients with psychotic disorders performed less accurately and slower on the FEEL task as compared to healthy control persons. Patients diagnosed with schizophrenia tended to exhibit more difficulties. The results from this between-group comparison should however be interpreted with caution due to limited statistical power. Since no significant difference in FEEL score was demonstrated between patients in remission and patients suffering from more severe psychotic symptoms, it could be suggested that deficits in FER are independent of current psychotic symptoms. Impaired facial emotion recognition ability may negatively influence social interaction and functional outcome and the results from this study indicate that FER should be further explored in larger cohorts of outpatients with different psychotic disorders.

M75. INCREASED REPULSION OF VISUAL WORKING MEMORY REPRESENTATIONS IN SCHIZOPHRENIA

Abstract not included.

M76. ATYPICAL RESPONSE INHIBITION IN 22Q11.2DS: DIMINISHED ERROR REGISTRATION AND AWARENESS
Ana Alves Francisco1, Douwe J Horsthuis1, John J Foxe2, Sophie Molholm2
1 Albert Einstein College of Medicine; 2 Albert Einstein College of Medicine; University of Rochester

Abstract not included.