Evidence suggests that several factors may influence the development of paranoia, including social cognitive biases such as diminished trust, increased hostility, and increased tendency to blame others (Pinkham et al., 2014). These types of social cognitive biases do not seem to be unique to paranoia and are also observed among those with social anxiety (i.e., Green & Phillips, 2004). Additional research suggests that paranoia and social anxiety may share other relevant attributes, such as need for approval from others (Rector, 2004), desire for closeness (Lim, Rodebaugh, Zyphur & Gleeson, 2016), and worry about and expectation of social rejection (Freeman, 2014). Despite literature to support overlap between paranoia and social anxiety, there is less research examining whether core beliefs of social anxiety contribute to the development and maintenance of paranoia. Specifically, core beliefs of social anxiety include (1) conditional beliefs: negative self-appraisals dependent on performance (2) unconditional beliefs: negative self-appraisals independent of behavior, and (3) high-standard beliefs: the attribution of self-worth based on performance (Wong, Moulds & Rapee, 2014). There is a need for research to determine the association between paranoia and beliefs related to social anxiety.

The aim of the current study is to identify whether cognitions thought to be central to social anxiety are also related to paranoia in a sample of those with psychosis. We hypothesize that (1) social anxiety and paranoia will be related, and (2) heightened maladaptive self-beliefs of social anxiety will be associated with increased paranoia.

Methods: We will use the Social Interaction Anxiety Scale (Heimberg, Mueller, Holt, Hope & Liebowitz, 1992) to measure social anxiety symptomatology. We will use the Self-Beliefs Related to Social Anxiety Scale (Wong, Moulds & Rapee, 2014) including three subscales: conditional beliefs, unconditional beliefs, and high standard beliefs, to quantify cognitions of social anxiety. To measure paranoia, we will use the Green Paranoid Thoughts Scale (Green et al., 2008).

Results: Preliminary analyses (N = 14) indicate that the social anxiety is robustly related to paranoia ($r = 0.59$, $p < 0.05$). Unconditional beliefs were related to paranoid thoughts ($r = 0.62$, $p < 0.05$) and paranoia was moderately correlated to conditional beliefs ($r = 0.35$, $p = 0.24$) and total self-beliefs related to social anxiety scores ($r = 0.39$, $p = 0.19$), but these relations were not statistically significant. Additional data will be available at the time of presentation.

Discussion: Results of this research will both inform the development of paranoia and allow for a better understanding of the relation between paranoia and social anxiety. Specifically, cognitive mechanisms underlying their relation will be illuminated.

S76. A BEHAVIOURAL ECONOMIC ANALYSIS OF EFFORT-RELATED CHOICE IN SCHIZOPHRENIA

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Background: Motivational deficits are prevalent feature of schizophrenia, which have been tightly linked to real-world outcomes. Abnormalities in effort cost computations have been proposed as a candidate mechanism underlying these deficits. In the present study, we sought to employ behavioural economic analyses to further understand cost-benefit decision making abnormalities in schizophrenia.

Methods: 58 young adults with schizophrenia and 58 matched controls participated in this study. Participants completed an effort-based decision-making task in which they made decisions to expend physical effort in exchange for monetary rewards. From participants choice behaviour, we computed indifference values (i.e. the reward value at which participants would be indifferent to expending effort vs not) for each individual participant. Other computational parameters were also computed such as choice consistency and subjective reward valuation.

Results: Patents and controls did not differ in their subjective valuation of reward. On the decision-making task, patients made more inconsistent choices relative to controls. In both univariate and multivariate analyses controlling for potential confounders, patients had higher indifference values meaning that patients required more money in the exchange of their effort. Among patients, higher indifference values were associated with more severe clinical motivational deficits.

Discussion: Patients had multiple abnormalities related to their decisions to expend effort for reward. Choices were more chaotic and reward value was discounted by effort at a steeper rate in patients. These results point toward an abnormality in the computation of effort costs or in the integration of these costs with value signals.

S77. JUMPING TO CONCLUSIONS AND FACIAL EMOTION RECOGNITION IMPAIRMENT IN FIRST EPISODE PSYCHOSIS ACROSS EUROPE

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Background: Jumping to conclusions (JTC) is a well-established reasoning and data gathering bias found in patients with psychosis even at illness onset (First Episode Psychosis, FEP). Preliminary work in this field focused primarily on the association with delusions, although jumping to conclusions has also been found in non-deluded schizophrenia patients after remission, and in individual with at risk mental state.

Moreover, psychotic patients tend to show impairments in social cognition, struggling in identifying, processing and interpreting social clues. Deficits in facial emotion recognition (FER) – a key component of the construct – represent a well-replicated finding in schizophrenia. Furthermore, deficits in global facial affect recognition have been found in FEP with the same severity as at further stages, especially for anger recognition. The present study aims to measure JTC and FER bias in a sample of FEP recruited across 5 European countries, compared with healthy controls.

Methods: Data on JTC (Beads task 60:40), FER (Degraded Facial Recognition task – DFAR) and socio-demographics have been analysed in a sample of 643 FEP and 1019 population controls recruited as part as the EU-GEI study across UK, Netherlands, France, Spain, and Italy.

IQ scores were used to exclude cases and controls with current IQ<70 (N=171) from JTC analysis and a score <41 (N=384) on the Benton Facial Recognition test for the analysis on DFAR. Logistic regression model was applied to predict case/control status using 1) JTC and 2) DFAR as predictive variables controlling for age, gender and country.

Results: We showed that the presence of JTC bias varies across different countries both in cases ($\chi2=23.77$ $p<0.001$) and controls groups ($\chi2=14.01$ $p=0.007$).

Logistic regression analyses revealed JTC to be a significant predictor of case/control status (Adj OR=1.88 CI 95%=1.43–2.29 $p<0.001$).

As well as JTC, FER differed over Europe in both groups (FEP, total: $F=17.37$, $p<0.001$; neutral: $F=12.4$, $p<0.001$; happy: $F=25.62$, $p<0.001$; frightened: $F=8.78$, $p<0.001$; angry: $F=5.48$, $p<0.001$. Controls, total: $F=23.06$, $p<0.001$; neutral: $F=21.72$, $p<0.001$; happy: $F=21.74$, $p<0.001$; frightened: $F=14.14$, $p<0.001$; angry: $F=12.49$, $p<0.001$).

Logistic regression analyses revealed all DFAR scores, except for happy emotions, to be negatively associated with case/control status (total: B=-.0182 p=0.001; neutral: B=-.054 p=0.003; happy: B=-.0196 p=0.2; frightened: B= -.065 p<0.001; angry: B=-.030 p=0.04).

Discussion: This study supports the evidence that 1) FEP patients are more likely to present JTC and FER impairments than controls; 2) cognition and social cognition might represent transcultural features of psychotic disorders.

S78. EXAMINING SEMANTIC AND EPISODIC MEMORY IN SCHIZOPHRENIA USING THE HOPKINS VERBAL LEARNING TASK

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Background: Schizophrenia is associated with deficits in both episodic and semantic memory however, our understanding of how the deficits in each system independently contribute to overall memory performance is poorly understood.
The Hopkins Verbal Learning Task (HVLT) is a memory task using a single word list. To perform the task successfully, participants need to use both episodic and semantic abilities. Both episodic and semantic clustering scores can be calculated which provide nuanced information about the memory encoding and retrieval techniques used by those performing the task.
Methods: Sixty schizophrenia patients and sixty healthy controls were compared in their performance on the HVLT. In addition to analysing immediate recall, learning slope, delayed recall and recognition, semantic and episodic clustering were also compared. Further, given the link between thought disorder and semantic function, this symptom was correlated with memory performance measures.
Results: The schizophrenia group demonstrated worse performance across learning trials, delayed recall, and recognition indicating a generalised memory problem. Clustering scores were used to probe into semantic and episodic function specifically. The schizophrenia group demonstrated normal episodic clustering in the face of significantly impaired semantic clustering. Further, semantic clustering performance positively correlated with all general memory measures whilst episodic clustering did not. Finally, thought disorder did not correlate with any HVLT performance measure apart from semantic clustering.
Discussion: It is difficult to tease apart the contributions of semantic and episodic memory impairments to poor overall memory function in schizophrenia. In this study, we have first demonstrated intact episodic clustering in the face of impaired semantic clustering. Then, by correlating semantic and episodic clustering scores with general memory performance measures, we were able to demonstrate that semantic memory performance is more significantly related to overall memory performance than episodic performance. Finally, this result supports the specificity of the relationship between thought disorder and semantic memory impairment.

S79. ENHANCING WORKING MEMORY IN SCHIZOPHRENIA USING 1MA AND 2MA TRANSCRANIAL DIRECT STIMULATION TO THE LEFT DORSOLATERAL PREFRONTAL CORTEX

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Background: Cognitive impairment is a key symptom of schizophrenia, causing patients' occupational disability and worsening their life quality. Yet, the treatment options are still scarce. Recent research suggests that transcranial direct stimulation (tDCS) to the dorsolateral prefrontal cortex (DLPFC) could enhance a crucial cognitive process such as working memory. Here, for the first time we examined the effects of tDCS on simultaneous working memory performance in schizophrenia patients in regard of stimulation intensity and cognitive load.
Methods: Forty schizophrenia patients (N = 40) participated in two separate double-blind, sham-controlled experiments, both consisting of a prestimulation baseline, an active anodal and a sham tDCS single-session. Stimulation application was conducted to the F3 (anode) and to the right deltoid muscle (cathode) for 21 min. In Experiment 1 (N = 20) patients received tDCS at 1 mA and Experiment 2 (N = 20) – at 2 mA. In total, 120 experimental sessions were performed. Working memory was measured during stimulation using a verbal n-back task with three cognitive loads - 1-back, 2-back, 3-back. Applying the Signal Detection Theory, we estimated the discriminability index d prime, which together with reaction times served as study outcomes. Using several RM-ANOVAs we compared working memory performance during sham and active tDCS across all cognitive loads for each experiment. In a subsequent mixed-model RM-ANOVA, we pooled data from both experiments and analyzed differences in working memory performance in regard of stimulation intensity.
Results: Data analysis showed significant greater d prime values during active tDCS than during sham tDCS only in Experiment 1 ($F1, 19 = 4.48$, $p = .048$). In Experiment 2, there was a numeric improvement of d prime during tDCS that however did not reach significance ($F1, 19 = 2.31$, $p = .145$). The subsequent mixed-model RM-ANOVA revealed a significant overall effect of brain stimulation, prompting higher d prime values ($F1, 38 = 6.05$, $p = .019$), but no main of stimulation intensity ($p = .392$). Analysis on reaction times revealed no significant results.
Discussion: This is the first study comparing the online effects of 1mA and 2mA tDCS on working memory in schizophrenia patients. In line with previous research, tDCS improved working memory functioning in schizophrenia. However, this enhancement did not differ between stimulation intensities, implying that tDCS effects on cognition could be dose independent. Overall, our results provide further evidence that tDCS may be an effective and feasible intervention for cognitive impairment in schizophrenia and underline the need for future research on the specific stimulation parameters.

S80. NEUROCOGNITIVE FUNCTIONING IN YOUTH AT RISK OF SERIOUS MENTAL ILLNESS

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Background: Neurocognitive deficits are associated with many serious mental illnesses (SMI), including schizophrenia, bipolar disorder, and major depressive disorder, and have been found to negatively impact social and occupational outcomes, clinical prognosis, and overall quality of life. These deficits have also been observed in people in earlier phases of schizophrenia, specifically in young people at clinical high risk (CHR) of psychosis. In these youth, neurocognitive deficits present at a level intermediate to healthy controls and those with early psychosis, indicating that mild impairments in neurocognitive functioning may be early markers of illness development. It is possible that neurocognitive deficits may be present in young people at risk of a range of SMI beyond the psychosis-spectrum, including affective and anxiety disorders. The aim of this study was to compare neurocognitive functioning in a sample of youth at risk of SMI across the different clinical stages described by McGorry and colleagues and compare them to healthy controls (HCs). It was hypothesized that participants in the later stages of risk, characterized by the presence of subthreshold psychiatric symptoms or attenuated syndromes, would exhibit impairments in neurocognitive performance compared to HCs and asymptomatic youth at familial high risk.