cognitive hallmark of schizophrenia, it is believed that saccadic deficit may be associated with higher schizotypy. The aim of the current study was to 1) replicate previous findings of impairments in antisaccade and memory-guided saccade performance in schizophrenia and 2) investigate the relationship between antisaccade and memory-guided saccade performance and schizotypy.

**Methods:** 105 adults (35 patients with schizophrenia/schizoaffective disorder and 70 healthy controls) completed the antisaccade and memory-guided saccade tasks, which engage spatial working memory and inhibition processes. The variables analysed for both saccade paradigms were error rate, latency (ie. reaction time) and gain (ie. spatial accuracy). Schizotypy was assessed using the Oxford-Liverpool Inventory of Feelings and Experiences (O-LIFE), a 104 item questionnaire which measures the three main schizotypy factors: Unusual Experiences, Introvertive Anhedonia and Cognitive Disorganisation. A total O-LIFE score was also calculated from these three schizotypy factors as a representation of global schizotypy. Controls were then divided into low (n = 35) and high schizotypy groups (n = 35). A MANOVA was conducted to observe differences in eye movement variables between low schizotypy individuals, high schizotypy individuals and patients. Correlations were also conducted to further investigate these relationships.

**Results:** Antisaccade error rate, (p < 0.001), antisaccade latency (p = 0.007), memory-guided saccade error rate (p = 0.009) and latency (p < 0.001) were significantly different between patients and controls. When comparing low schizotypy, high schizotypy and patient groups, the MANOVA revealed significant differences for antisaccade and memory-guided saccade latency and a non-significant trend for antisaccade gain. However, post-hoc analyses revealed that there was only a significant difference between low schizotypy and patient groups (p < 0.001), but not between low schizotypy and high schizotypy nor between high schizotypy and patient. Looking across the schizophrenia continuum, there were significant correlations between the total O-LIFE score and antisaccade gain (p = 0.033), memory-guided saccade latency (p = 0.014) and memory-guided saccade gain (p = 0.011). A non-significant trend was also observed between the total O-LIFE score and antisaccade latency (p = 0.085).

**Discussion:** This study replicated previous findings of impaired saccade performance in schizophrenia. In addition, it also replicated findings of impaired antisaccade performance in higher schizotypy and is the first study to investigate and demonstrate the relationship between higher schizotypy and impaired memory-guided saccade performance. Overall, these findings supporting the use of schizotypy as a model for schizophrenia and also support the theory of schizotypy and a broader schizophrenia continuum.

T62. COMPARISON OF NEUROCOGNITIVE FUNCTIONS IN FIRST-EPISODE SCHIZOPHRENIA PATIENTS, NON-PSYCHOTIC SIBLINGS, AND INDIVIDUALS AT CLINICAL HIGH-RISK FOR PSYCHOSIS

On Ki Chiu1, Wing Chung Chang2,3, Hoi Ching Lee4, Suet In Chan1, Sanyin Chiu1, Lai Ming Hui1, Kit Wa Chan1, Ho Ming Lee1, Yi Nam Suen1, Eric Chen1
1The University of Hong Kong

**Background:** Neurocognitive impairment is a core feature of schizophrenia, and has been observed among healthy non-psychotic siblings of schizophrenia patients as well as individuals at clinical high-risk (CHR) for psychosis. Thus far, few studies have directly contrasted neurocognitive performance between non-psychotic siblings and CHR samples. Potential differential patterns of neurocognitive deficits among schizophrenia patients, familial high-risk and CHR samples remain to be clarified. This study aimed to compare neurocognitive functions among first-episode schizophrenia (FES) patients, their non-psychotic siblings, CHR individuals, and healthy controls.

**Methods:** FES patients (n=69, mean age=25.3) and CHR individuals (n=97, mean age=21.1) without family history of psychosis were recruited from a territory-wide specialized early intervention service for psychosis in Hong Kong. A group of non-psychotic siblings of FES patients (n=50, mean age=25.4) and healthy controls (HC) (n=68, mean age=24.5) were also recruited. A standardized battery of neurocognitive tests encompassing working memory, processing speed, executive function, visual memory, verbal learning, and sustained attention was administered. Group differences were examined using analysis of covariance (ANCOVA) with Bonferroni correction applied for statistical significance (P<0.008), controlling for age and years of education.

**Results:** Compared with HC, FES patients exhibited significantly poorer performance across all neurocognitive domains (Hedges g ranged: 0.48–1.73), while CHR individuals demonstrated significantly worse neurocognitive functioning in all domains (Hedges g ranged: 0.53–1.15) but sustained attention. Non-psychotic performed significantly worse than HC in executive function (Hedges g=0.63, p<0.001), visual memory (Hedges g=0.57, p=0.002), verbal learning (Hedges g=0.52, p=0.001), and working memory (Hedges g=0.37, p=0.003). Among four groups, FES patients displayed the most severe neurocognitive impairment. The pattern of neurocognitive dysfunction was similar between CHR and non-psychotic sibling groups, except for processing speed, of which CHR individuals demonstrated greater degree of impairment than siblings in digit symbol coding test (p=0.001).

**Discussion:** Our results indicate a gradient of neurocognitive impairment across FES, CHR and non-psychotic sibling samples, reflecting differential degrees of psychosis liability. Processing speed, as measured by digit symbol coding test, demonstrated the highest discriminant utility in discriminating CHR from familial high-risk individuals. Our findings thus confirm the critical role of neurocognitive dysfunction as a reliable risk indicator and an endophenotype for schizophrenia and related psychoses.

T63. TOWARDS A COMPREHENSIVE SEMANTIC MEMORY NETWORK IN SCHIZOPHRENIA: PRELIMINARY RESULTS USING MAGNETOENCEPHALOGRAPHY (MEG) IN SCHIZOTYPY

Rachel Batty*1, Will Woods2, Susan Rossell2
1Swinburne University of Technology; 2Swinburne University, Monash Alfred Psychiatry Research Centre

**Background:** Semantic memory (memory for facts, concepts, and knowledge of the external world) abnormalities are predicted to underlie disruptions in thought and language, deficits in cognitive domains, and the development and maintenance of delusions in patients with schizophrenia. Magnetoencephalographic (EEG) recordings have successfully identified the neural time course for the processing of semantic information as an electrophysiological response between 300 and 500ms post stimulus (i.e., the N400). The N400 is a remarkably consistent and highly sensitive neural response to semantic processing irrespective of stimulus type (e.g., word/picture stimuli alone), and has shown mixed findings in schizophrenia. However, existing literature has largely relied on EEG or functional magnetic resonance imaging (fMRI) techniques, and these are constrained in spatial and temporal resolution, respectively. Comparatively, MEG provides excellent spatio-temporal resolution, not possible from other stand-alone neuroimaging techniques. We aimed to determine the neuromagnetic correlates of novel semantic triads in both lexical and picture form, and to determine N400m differences in high/low schizotypal samples.
Methods: MEG was recorded (whole-head 306 channel Elekta Neuromag® TRIUX magnetometer system) in 35 nonclinical controls (18 male) while completing a novel explicit semantic association task. MEG data were continuously sampled at 1KHz (0.1Hz high pass filter). Following MaxFiltering, data was processed using MNE for Python. Data were filtered offline (40Hz lowpass) and epoched at -300ms to 800ms post-target stimulus onset. The largest peak was measured at sensor triplets at temporo-parietal sites in both hemispheres. High/low schizotypal samples were determined by a median split of the Oxford-Liverpool Inventory of Feelings and Experiences (cognitive disorganisation scale; high=17, low=18).

Results: Preliminary sensor level analyses demonstrated an N400m at temporo-parietal sites in response to both word and picture stimulus sets (with an earlier peak to pictures). Neither amplitude nor latency was significantly different between schizotypal samples, however a significant task x hemisphere x group interaction was found for N400m latency, F(1.00,33.00) = 6.18, p<.02.

Discussion: An N400m was confirmed in response to the novel lexical task. The earlier peak (~200ms) to picture stimuli suggests that pictorial semantic information may be processed more rapidly than lexical information. The significant schizotypal group latency interaction demonstrated that while individuals low in schizotypal traits process lexical stimuli first in the right hemisphere (followed by the left) and picture stimuli first in the left hemisphere (followed by the right), individuals high in schizotypal traits do not demonstrate hemispheric specificity/laterality according to stimulus type. The data is currently being analysed for (i) source localisation, (ii) deep source contributions (e.g., hippocampus), and (iii) de/synchronisation of neural oscillations (across six frequency bands; 1-8Hz, 8-30Hz, 30-50Hz, 70-120Hz, 120-200Hz, and 200-300Hz).

T64. SUBMISSION WITHDRAWN

T65. EVALUATING PATTERNS OF SEMANTIC AND EXECUTIVE DYSFUNCTION IN SCHIZOPHRENIA: A CLUSTER ANALYSIS APPROACH

Eric Tan¹, Denny Meyer¹, Erica Neill¹, Caroline Gurvich¹, Susan Rossell¹
¹Swinburne University; ²University of Melbourne; ³The Alfred Hospital and Monash University, Swinburne University

Background: Semantic and executive dysfunction are among the most prominent of the cognitive impairments in schizophrenia. Using a cluster analysis (CA) approach, the primacy of semantic and executive dysfunction and their relationship to psychopathology was examined in a two-step investigation.

Methods: In Study One, 76 schizophrenia/schizoaffective disorder (SZ) patients completed three semantic (category fluency productivity, category errors, Hopkins Verbal Learning Test) and three executive function (inhibition, switching, verbal fluency) measures. Three groups were predicted: semantic-dominant (SD), executive-dominant (ED) and mixed. In Study Two, 52 SZ patients and 48 healthy controls completed the MATRICS Consensus Cognitive Battery (MCCB) alongside the previous semantic/executive battery.

Results: For Study 1, the CA results confirmed the first two specific groups but revealed a third group unpaired in both domains (UN). Positive and negative symptoms did not differ between all groups. For Study 2, the CA results confirmed the presence of the same three groups: SD, ED and UN. One-way ANOVAs confirmed that MCCB overall cognitive scores for UN group were significantly higher compared to the SD and ED groups, which did not differ from each other; however, all three clinical groups still performed significantly worse than healthy controls. Psychopathology again did not differ between the three clinical groups.

Discussion: The findings confirm semantic and executive dysfunction as two main areas of cognitive impairment in SZ while also affirming the presence of cognitively impaired patients without these two primary deficits. Symptomatology patterns do not appear to differ between cognitive impairment profiles, highlighting the complexity of symptomatology mechanisms and cognitive deficits being a discrete entity within the illness. These conclusions have implications for the nosology of schizophrenia and the delivery of cognition-based therapies.

T66. PSYCHOMETRIC VALIDATION OF A NOVEL PATIENT-REPORTED OUTCOME MEASURE FOR ASSESSING PATIENTS’ SUBJECTIVE EXPERIENCE OF COGNITIVE IMPAIRMENT OF SCHIZOPHRENIA (PRECIS)

Raymond Rosen¹, Jeremiah Trudeau², Steven Silverstein¹, David Henderson³, Adam Smith¹, David Walling⁴, Miguel Garcia⁵, Bethany Davis⁶, Leonard Derogatis⁷, Michael Sand*⁸
¹New England Research Institutes; ²Boehringer Ingelheim Pharmaceuticals Inc.; ³Rutgers University; ⁴Boston University School of Medicine, Boston Medical Center; ⁵Richmond Behavioral Associates; ⁶CNS Network, Inc.; ⁷Synexus; ⁸Maryland Center for Sexual Health; ⁹Boehringer Ingelheim Pharma GmbH & Co. KG

Background: We have previously described the development and content validity of a new patient-reported outcome measure (PRO) to assess patients’ subjective experience of cognitive impairment in schizophrenia: The Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Here we assess the psychometric properties of the PRECIS PRO in patients with schizophrenia and healthy age-matched controls with the aim of developing a revised version for use in clinical studies.

Methods: The PRECIS PRO is a 35-item scale comprising eight concept domains (memory, communication, control, planning, handling problems, subjective experience of cognitive impairment in schizophrenia: The Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Here we assess the psychometric properties of the PRECIS PRO in patients with schizophrenia and healthy age-matched controls with the aim of developing a revised version for use in clinical studies.

Methods: The PRECIS PRO is a 35-item scale comprising eight concept domains (memory, communication, control, planning, handling problems, subjective experience of cognitive impairment in schizophrenia: The Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Here we assess the psychometric properties of the PRECIS PRO in patients with schizophrenia and healthy age-matched controls with the aim of developing a revised version for use in clinical studies.

Methods: The PRECIS PRO is a 35-item scale comprising eight concept domains (memory, communication, control, planning, handling problems, subjective experience of cognitive impairment in schizophrenia: The Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Here we assess the psychometric properties of the PRECIS PRO in patients with schizophrenia and healthy age-matched controls with the aim of developing a revised version for use in clinical studies.

Methods: The PRECIS PRO is a 35-item scale comprising eight concept domains (memory, communication, control, planning, handling problems, subjective experience of cognitive impairment in schizophrenia: The Patient-Reported Experience of Cognitive Impairment in Schizophrenia (PRECIS). Here we assess the psychometric properties of the PRECIS PRO in patients with schizophrenia and healthy age-matched controls with the aim of developing a revised version for use in clinical studies.

Results: Questionnaire responses were collected from 410 patients with schizophrenia and 88 healthy controls. The mean (standard deviation [SD]) total PRECIS score was significantly lower for healthy controls (1.39 [0.7]) compared with patients (2.06 [1.2]; p<0.0001), as was overall experience domain score (1.41 [0.7] vs 2.35 [1.3]; p<0.0001). For each domain of patient experience, PRECIS mean scores were also significantly lower for healthy controls compared to patients with schizophrenia. The mean differences between groups ranged from -0.94 (overall experience domain) to -0.52 (control domain; p<0.0001, all domains). Patients with schizophrenia had wider response distributions compared with controls, while the control group had marked “floor effects” across most items. Initial exploratory FA of the 35-item PRECIS PRO identified a 6-domain solution that accounted for 62% of total item variance, and Cronbach’s alpha (0.959) indicated an extremely high level of internal consistency. Following analyses of the 35-item PRECIS PRO, a total of 11 items were eliminated based on pre-specified criteria (poor loading onto identified factors, marked floor effects in patient groups or <50% test-retest reliability). Confirmatory FA of the revised 24-item PRECIS PRO identified 1 primary domain (attention) and 3 secondary additional domains (memory, executive function, communication). An additional domain included items related to patient distress or bother related to cognitive impairment. There was a high level of internal consistency both for

Abstracts for the Sixth Biennial SIRS Conference