and cue (predictive cue vs. non-predictive cue). During retrieval a single Gabor patch was displayed, and participants reported if the orientation was the same or had changed in that location. At the beginning of each block participants were instructed to either encode the flickering or non-flickering patches (targets) whose location could either be cued or uncued. In 80% of trials, a target was probed during retrieval. Data analysis in Brain Voyager included standard data preprocessing. Additionally, a multiscale curvature driven cortex based alignment procedure was used to minimise macro-anatomical variability between subjects. Subsequently, functional data were analysed using a random-effects multi-subject general linear model (p<0.05, FDR corrected). Functional connectivity analysis was performed using Granger Causality Mapping.

**Results:** Participants were able to preferentially encode task-relevant information in all four conditions. During encoding, they showed activation in a distributed network of frontal-parietal and visual areas. For salient compared to non-salient distractors, we observed increased functional connectivity between attention-related areas and extrastriate visual cortex. This difference was more pronounced for trials with a predictive compared to non-predictive cue.

**Discussion:** We were able to map the cerebral networks responsible for determining the contents of working memory. The observed patterns of connectivity indicate that core regions of the frontal-parietal network involved in both working memory and selective attention play a crucial role in the filtering of information by modulating the processing of information in visual areas. Our current findings provide the basis for studying the neurophysiological underpinnings of the interaction between impairments of working memory and selective attention in schizophrenia.

**S161. FUNCTIONAL BRAIN NETWORKS INVOLVED IN ATTENTIONAL BIASING IN SCHIZOPHRENIA**

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**Background:** Although the symptomatology of schizophrenia is variable, many of the cognitive deficits that are associated with the illness, including impairments in attention, working memory, verbal learning and executive functions, persist over time from the prodrome to the chronic phase. One of the cognitive domains showing pronounced deficits is executive function, which is the ability to adaptively adjust behavior in the face of changing environmental demands. Attentional biasing is one aspect of executive function that attenuates conflict between competing stimuli (or competing features of a stimulus) via the top-down regulation of attention. The goal of this study was to use functional magnetic resonance imaging (fMRI) to isolate the brain activity related to differences in levels of attentional biasing in schizophrenia patients, where these levels were varied from trial-to-trial by manipulating the number of relevant stimulus dimensions.

**Methods:** Participants - Twenty-three schizophrenia patients and twenty-one healthy volunteers, matched on age and gender, were recruited from the Vancouver area.

Task – The task involved performing three discrete tasks in alternation: judging whether shapes are blue or red, judging whether letters are uppercase or lowercase. Each stimulus contained either one dimension that cued a task in the task set (e.g. the numeral ‘2’ in white ink), two dimensions (e.g. the numeral ‘2’ in blue ink), or three dimensions, such that all three tasks in the set are cued (e.g. the word ‘TWO’ written in blue ink). Each stimulus was presented in the center of the screen and the judgment to be performed was cued with a single word followed by a question mark.

**Results:** The fMRI data was analyzed using Constrained Principal Component Analysis, which identifies brain networks common to all participants and indexes the activity of each network for each participant. Three components were extracted for further examination. Component 1 displayed activations located in the visual cortices, parietal lobes, primary motor areas, supplementary motor area (SMA), dorsal anterior cingulate cortex (dAcc), and cerebellum. The statistical analysis indicated that this component was reliable but did not differentiate between patients and volunteers. Component 2 displayed activations in the occipital lobes, dAcc, SMA, parietal lobes and primary motor areas, and deactivations in the medial prefrontal cortices and the posterior cingulate/precuneus. The statistical analysis indicated that the activity in this component was reliable, and became stronger as stimulus dimensions increased. However, the patients did not increase activity to the same degree as the volunteers in the most challenging condition. Component 3 displayed activations in the occipital lobes, hippocampi, and left parietal and primary motor areas as well as deactivations in superior and middle frontal gyri. The statistical analysis indicated that this component was reliable, but activity levels did not differentiate between patients and volunteers.

**Discussion:** The results indicate that patients and volunteers activated the same networks while performing the attentional biasing task. However, the statistical analysis of Component 2 suggests that patients display an inefficient pattern of brain activity, such that they have higher levels of activity than volunteers when little attentional biasing is required and significantly lower levels of activity than volunteers when high levels of attentional biasing was required. This pattern of results is suggestive of inefficient neural activity, particularly at higher levels of task difficulty, a finding which has previously been described in the schizophrenia literature.

**S162. IMPACT OF THE PRESENCE OF A PEER WORKER IN AN EARLY INTERVENTION UNIT FOR YOUNG ADULTS WITH MENTAL ILLNESS (JADE)**

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**Background:** A current trend in health care and in particular mental health care is to reduce the divide between patients and their community, which is encouraging new practices as well as new health care professions. The concept of a peer worker, a previous mental health care user, is revealing itself to be complementary to that of other health care workers as well as effective (Davidson et al., 2012). One aspect of the peer worker given his or her previous experience is as an intermediary for communication. In mental health care units such as ours (Geneva based JADE program for early intervention in mental health) the introduction of a peer worker as a new concept can lead to many benefits but also carries questions and uncertainties.

**Methods:** In order to assess the impact of a peer worker’s presence in our unit over a period of 2 months, we submitted questionnaires to patients and staff. We present results from questionnaires from 7 patients and 15 staff. In order to further explore the subjective appreciation of this integration, we included open ended questions to also assess constructive suggestions from patients and staff.

**Results:** Data collection is in progress.

**Discussion:** The impact of the presence of peer-worker in our mental health care unit will be discussed.

**S163. FEASIBILITY STUDY: MEASURES OF SLEEP AND PHYSICAL ACTIVITY IN PEOPLE WITH SCHIZOPHRENIA**

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Abstracts for the Sixth Biennial SIRS Conference
Background: People with schizophrenia and related psychotic illnesses have poor physical health and are at an increased risk of developing long-term physical health conditions such as diabetes and heart disease. While this may be due to unhealthy lifestyles, such as lack of physical activity, circadian rhythm problems may also play a part. It is therefore important to be able to measure physical activity and sleep patterns in schizophrenia. This study aims to assess for feasibility by comparing ActiGraph accelerometer data, mobile phone app data and questionnaire data.

Methods: A cross-sectional comparison of different assessment methods of sleep and general activity was used. Assessment methods included:

a) ActiGraph wGT3X-BT accelerometers worn on the waist and wrist for 7 days.

b) Lenovo A Plus smartphone apps ‘SleepBot’ and ‘Google Fit’ installed for the purposes of gathering data on sleep and physical activity patterns for 7 days.

c) Simple Physical Activity Questionnaire taken at baseline and on day 7.

At the seven-day assessment participants were interviewed using a topic guide covering their experiences. This explored the feasibility and acceptability of the measures and possible barriers for implementation.

Results: 14 out of a planned 30 participants who met DSM IV-R criteria for schizophrenia spectrum psychoses have been recruited across Greater Manchester from wards and in the community. All participants were retained for the 7-day study duration. Preliminary assessment has shown concordance between the different measures. 3 out of the 14 participants engaged in vigorous physical activity during the 7 days. All 14 participants spent more than 50% of their time sedentary during the 7 days. Participants showed fragmented sleep with a high number of awakenings.

Discussion: Using mobile phones and accelerometers are inexpensive and unobtrusive methods for measuring sleep and physical activity. These measures are feasible and acceptable to people with schizophrenia and are therefore suitable for implementation in routine clinical care. The measures can also be used by service users themselves to enhance their ability to monitor their own physical health. Such self-management and monitoring may encourage goal setting and improve autonomy, which have been found to be associated with increased levels of physical activity.

S164. “AT-RISK MENTAL STATES” PROGRAM IN LAUSANNE: INFLUENCE OF RECRUITMENT STRATEGIES ON THE RATE OF FALSE POSITIVES

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Background: Various strategies have been proposed to improve recruitment of “at risk mental state” patients; they may have an impact on the type of patients who reach such programs. We describe the clinical program for “at-risk” patients implemented in 2014 in Lausanne and the characteristics of referrals over the years.

Methods: Help seeking patients aged 14 to 35 were initially referred by health care providers for a specialized evaluation in case of suspicion of a “prodromal state” patients; they may have an impact on the type of patients who reach such programs. We describe the clinical program for “at-risk” patients implemented in 2014 in Lausanne and the characteristics of referrals over the years.

Results: Within a catchment area of 260 000 inhabitants, 110 patients have been referred to our center since 2014 and 100 completed the investigation. 29 (29%) fulfilled ARMS criteria, 52 (52%) didn’t and 19 (19%) were already psychotic.

The proportion of true ARMS patients decreased progressively over the years from 45% in 2014 and 2015, to only 22 and 13.9% in 2016 and 2017. In our sample of help-seekers, the group of patients ARMS-negative received mostly a schizophrenia spectrum diagnosis (26/52 patients, 50%), associated with low psychosocial functioning, even when not in the precise range of at-risk criteria.

Discussion: The global prevalence (29%) of ARMS patients in our sample over the 4 years is marginally lower than previous reports on similar tertiary centers, which ranges from 33 to 51 % (Kline E., 2014). Our lower prevalence of ARMS patients within the sample may be linked to the limited resources we had to conduct an intervention strategy and our focus on psychologists and psychiatrists working at our department. The introduction in 2016 of more intense screening strategy based on the use of the PQ-16 lead to an increase in referral numbers but decreased the rate of ARMS among referred patients.

Our results confirm the influence of the recruitment strategy and information campaigns on the prevalence of at-risk patients within a population of help-seekers. The prevalence of schizophrenia spectrum diagnosis in our group of patients ARMS-negative also suggests that a larger “vulnerability” model for psychosis, more sensitive to functioning and negative symptoms and not narrowed on the focus of the risk of imminent acute psychosis, may better fit patients’ needs.

S165. ALTERED ASSOCIATION BETWEEN PARIETAL GRAY-MATTER VOLUME AND DISSOCIATIVE SYMPTOMS IN SCHIZOPHRENIA: A Voxel-based Morphometry Study

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Background: The presence of dissociative symptoms has been constantly reported in patients with schizophrenia. Dissociative-like experience is also part of the prodromal symptoms in those who have higher risk for psychosis. While the underlying neurobiological causes of dissociative symptoms in patients with schizophrenia remains unclear, a history of trauma seems to be related to their dissociative symptoms, as is seen in dissociative disorders. The traumatic experience has been linked to volumetric alterations in patients with schizophrenia. The current study aimed to explore the associations between past traumatic experience, brain volume alteration and the presence of dissociative symptoms in patient with schizophrenia.

Methods: We employed voxel-based morphometry (VBM) to compare the distributions of gray matter volumes (GMV) in 20 patients with schizophrenia (SCZ, 10 Male) and 26 age- and sex-matched healthy volunteers (HV, 11 male). All participants underwent high resolution T1-weighted anatomical images on a 3T MRI system. Past traumatic experience was examined by Brief Betrayal Trauma Survey (BBTS), and the dissociative symptoms were measured by Traumatic Dissociation Scale (TDS).

Results: We found a significant GMV reduction in right thalamus area in SCZ relative to HV group (p=0.01, whole-brain FWE corrected). The GMV in thalamus was negatively associated with high-betrayal traumatic experience in SCZ group (r=-0.48, p=0.033), but not in HV (r=0.08, p=0.71). While examining the association between GMV and dissociative experience, a significant group by dissociation interaction was observed in the left superior parietal lobule/angular gyrus (SPL/AG) was observed (p=0.024, whole-brain cluster corrected), where negative correlations was observed in HV (r=-0.62, p=0.001) but positive correlations were observed in SCZ group (r=0.67, p<0.001). In SCZ group, both traumatic experience and the left SPL/AG GMV significantly predicted the dissociative experience (p=0.001 and p=0.011, respectively; R2