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 fronto-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 fronto-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

Paul Metzak*,1, Todd Woodward2
1University of Calgary; 2University of British Columbia

Background: Although the symptomatology in 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 numbers are odd or even, and 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)

Maryse Badan B*,1, Elisabeth Sturm2, Laurent Bediat1, Logos Curtis1
1University Hospital of Geneva; 2Re-pairs Association

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

Alexandra Berry*,1, Richard Drake1, Roger Webb1, Darren Ashcroft1, Matthew Carr1, Alison Yung1
1University of Manchester