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Delusions are associated with low self-reflectiveness in first-episode psychosis

L. Buchy [a,b,c], A. Malla [b,d], R. Joober [b,d], M. Lepage [a,b,c,d,*]

[a] Brain Imaging Group, Douglas Mental Health University Institute, Canada
[b] Prevention and Early Intervention Program for Psychoses (PEPP-Montreal), Douglas Mental Health University Institute, Canada
[c] Department of Neurology & Neurosurgery, Montreal Neurological Institute, McGill University, Canada
[d] Department of Psychiatry, McGill University, Canada

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ABSTRACT

Previous work on chronic psychosis patients has suggested that low self-reflectiveness and overconfidence in judgments may be associated with delusions. In the present study we evaluated whether this extends to a first-episode psychosis sample. Thirteen actively delusional and 53 non-delusional participants with a first-episode psychosis completed the Beck Cognitive Insight Scale. Relative to non-delusional participants, delusional participants endorsed greater self-reflectiveness, though their confidence in their judgments was the same as non-delusional participants. These results suggest that the capacity to self-reflect and refrain from overconfidence may interact with delusions differentially across multiple phases of psychosis. The cognitive system involved in self-reflectiveness may be important for delusional thinking during a first-episode psychosis.

1. Introduction

Cognitive insight involves an ability to distance from distorted beliefs and misinterpretations, reappraise them, and to recognize erroneous conclusions. Recently, Beck and colleagues have developed the Beck Cognitive Insight Scale (BCIS) (Beck et al., 2004) to assess this construct. A first of two domains, Self-Reflectiveness, captures the willingness to acknowledge fallibility, consider alternate explanations, and recognize dysfunctional reasoning. The second, Self-Certainty, taps overconfidence in current beliefs and judgments. It has been hypothesized that higher self-certainty may reduce the capacity for self-reflection, and thus a Composite Index is calculated that adjusts for this bias (Self-Reflectiveness score − Self-Certainty score). The original study on the BCIS compared psychotic patients (schizophrenia, schizoaffective or major depression with psychotic features) to nonpsychotic psychiatric patients (major depression) on levels of cognitive insight. Relative to the psychiatric control group, inpatients with psychotic disorders endorsed greater self-certainty and less self-reflectiveness, suggesting these thinking styles may be particularly important for psychosis.

In cognitive insight studies, an association between active delusions and increased self-certainty has been reported for chronic patients with psychosis (Engh et al., in press; Warman et al., 2007) and for healthy people who report delusion proneness (Warman and Martin, 2006). The rationale posited for this link has been that high levels of conviction may contribute to delusions via an inability to cast doubt on fallible information (Moritz & Woodward, 2002; Moritz et al., 2003; Moritz et al., 2005; Warman et al., 2007). The initial study to investigate the delusions–cognitive insight link (Warman et al., 2007) reported higher self-reflectiveness in delusional compared to non-delusional patients. However, this result was at variance with theoretical expectations (i.e., overconfidence suppresses the capacity to self-reflect), and could have been influenced by sampling characteristics of the non-delusional group (they were quite chronic (mean age =

* Corresponding author. Douglas Mental Health University Institute, 6875 LaSalle Blvd., Verdun, Quebec, Canada, H4H 1R3. Tel.: +514 761 6131x4393: fax: +514 888 4064.
E-mail address: martin.lepage@mcgill.ca (M. Lepage).

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50.5 years) and underrepresented in the study ($n=13$)). Interestingly, delusional patients had self-reflectiveness equivalent to healthy controls. From this perspective, it would appear that the cognitive process underlying self-reflectiveness is functioning similarly in delusions and normal cognition. A more recent study (Engh et al., in press) observed an expected delusions-associated dampening of self-reflection in a larger ($N=143$ including 79 non-delusional patients) and hence more representative sample of patients with chronic psychosis. Earlier work by this group (Engh et al., 2007) found that self-certainty and self-reflectiveness failed to differentiate between schizophrenia and bipolar patients. In this study the schizophrenia group had significantly higher delusion severity, and although the impact of delusions was not directly assessed, this result may question the claim that aberrations in cognitive insight are stronger for delusional patients. Other studies have provided evidence for an association between the positive symptom dimension and self-certainty (Bora et al., 2007; Pedrelli et al., 2004), and a negative correlation between positive symptoms and self-reflectiveness (Bora et al., 2007), in people with psychosis. Taken together, it seems that high self-certainty, and perhaps low self-reflectiveness, are more pronounced in deluded chronic psychotic patients.

These previous cognitive insight studies predominantly assessed chronic patients, leaving open the possibility that delusional patients in these settings may be affected by the effects of institutionalization, lengthy antipsychotic treatment, or stigmatization, and that these factors contributed to the difference between the delusional and non-delusional groups. A second important point is that over time some chronic patients may begin to entertain the possibility of being mistaken (i.e., show greater self-reflection), an important reasoning process in delusional belief persistence and change (Garety et al., 2001), after being repeatedly given negative feedback regarding the false nature of their beliefs. Once these false ideas are replaced with alternate explanations, the path back to healthy self-reflection may become unblocked. On the other hand, cognitive insight may operate very differently at the time of a first-episode psychosis. For example, first-episode patients have had fewer opportunities to reflect on their false beliefs and therefore may be more likely to give undue credence to them (i.e., show lower self-reflectiveness and higher belief certainty, respectively). While high self-certainty and low self-reflectiveness may represent candidate mechanisms for the emergence of delusions (Moritz & Woodward, 2002; Warman et al., 2007), a direct assessment of the cognitive insight–delusions link after a first psychotic episode has not yet been done. A study in first-episode psychosis has a methodological advantage over chronic patient studies, as antipsychotic response rates are high (Robinson et al., 2005; Robinson et al., 2006) and confounding effects of long periods of hospitalization, treatments and stigma have less of an effect on the interpretation of results.

The aim of the current investigation was to evaluate in a first-episode psychosis sample levels of cognitive insight in participants with active delusions and with no current delusions. We predicted that participants with active delusions would score higher on Self-Certainty and lower on Self-Reflectiveness than non-delusional participants.

2. Methods

2.1. Participants

All participants were part of a longitudinal naturalistic outcome study of first-episode psychosis treated in a specialised early intervention service, the Prevention and Early Intervention Program for Psychoses (PEPP), Douglas Mental Health University Institute in Montreal, Canada. The program involves a comprehensive approach with intensive medical and psychosocial management provided primarily through modified case management. Individuals aged 14–30 years from the local catchment area suffering from either affective or non-affective psychosis who have not taken antipsychotic medication for more than one month were consecutively admitted to the program as either in- or out-patients. There is no competing service and treatment is publicly funded.

Seventy people at PEPP with a first-episode psychosis were contacted to complete the BCIS as part of a larger study on cognitive and neuroimaging predictors of outcome. Inclusion criteria were those set by PEPP with the additional restrictions of between ages 18 and 30, right handed, clinically stable (number of days between entry into PEPP and the symptom assessment, $M=129.9$ days, $SD=87.1$, range = 29–379; first episode psychosis participants were receiving active treatment during this period and symptoms were not interfering with the administration of the cognitive insight scale, or clinical scales and tests), physically healthy (based on medical history and physical examination) and able to provide informed consent. Exclusion criteria were lifetime history of neurologic condition including loss of consciousness that could affect cognition, family history of hereditary neurologic disorders, lifetime diagnosis of substance dependence, presence of depression as indexed by a Calgary Depression Scale (Riskind et al., 1987) total score greater than 5, or presence of Parkinsonism. Sixty-six people agreed to participate and all provided corresponding symptom data.

2.2. Clinical assessment

First-episode psychosis participants were diagnosed based on a Structured Clinical Interview for DSM-IV (First et al., 1998), conducted by a trained interviewer and confirmed through a consensus meeting attended by at least two senior research psychiatrists (R.J. and A.M.). The type and dosage of antipsychotic taken was recorded and converted to a standard chlorpromazine equivalent (Woods, 2003).

Cognitive insight was assessed with the 15-item self-report Beck Cognitive Insight Scale (BCIS) (Beck et al., 2004). Self-Reflectiveness, Self-Certainty and Composite Index (Self-Reflectiveness–Self-Certainty) scores were computed. Each question is rated on a 4-point scale from 0 (do not agree at all) to 3 (agree completely). Symptom severity was assessed with the Positive and Negative Syndrome Scale (PANSS) (Kay et al., 1987). Participants scoring a 4 (moderate) or above on the PANSS Delusions item were classified as having active delusions. Participants scoring 3 (mild) or below on this item were classified as non-delusional. As the impact of depression and anxiety on cognitive insight in first-episode psychosis is unknown, measures assessing these symptoms were included