Metacognition in Schizophrenia: Introduction to the Special Issue

ABSTRACT

Deficits in metacognitive capacity in schizophrenia can be conceptualized as existing along a spectrum from more discrete to more synthetic activities. These capacities may be of great importance in schizophrenia research as a phenomenon which mediates and moderates the impact of illness related factors and general social factors upon outcome. In this introduction to the special issue on metacognition in schizophrenia we will discuss the evolution of the conceptualization of metacognition and its application to schizophrenia. We will focus on the implications of these conceptualizations for emerging models of psychopathology and treatment, and introduce the reader to core concepts to be explored in the articles composing this issue.

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Schizophrenia is a complex form of mental illness with potentially devastating emotional, social and financial consequences for patients, their families and members of the larger community. Most current models suggest that interruption of psychosocial dysfunction experienced in schizophrenia is generally the result of an interaction of social and biological factors. Genetic vulnerabilities for schizophrenia have, for instance, been linked with abnormalities in brain development, which may be expressed as both positive and negative symptoms as well as neurocognitive deficits (1-8). Neurocognitive deficits and symptoms may then be linked to reductions in community and work functioning (9, 10). Taking a broader view, social and community factors such as trauma, stigma, poverty, isolation, and attachment patterns exacerbate or can be exacerbated by both brain function and neurocognition on their own, and in conjunction with more biologically based phenomena lead to dysfunction (11-14).

One limitation of these current models is that they fail to consider that persons with schizophrenia are not merely passive subjects of social and biological factors. They actively interpret internal and external experiences and respond to them. Thus, the way in which persons with schizophrenia make sense of their experience, in the midst of the influences of social and biological factors, affects their lives (15). They make meaning of events following recursive considerations of their own thoughts and feelings and the thoughts and feelings of others that are available for them. These processes by which meaning is made are also channeled by a person’s own history, desires, wishes and fears as they exist in the moment. As such, consistent with self-reports (16, 17), the impact of the social and biological forces which shape schizophrenia may be mediated and moderated by the manner in which the person makes sense of the dilemmas posed by those forces (18).

One construct which describes some of the activities which would be involved in making meaning of the social and biological force implicated in schizophrenia is metacognition. Metacognition refers to the capacity to think about thinking. It is necessary for successfully making adaptive and complex sense of evolving social and psychological experience and deciding how to respond to them. Metacognitive capacity has been noted to be impaired in many with schizophrenia (19) and hence may play a role in the path from brain to behavior in schizophrenia as a mediator or moderator of the effects of symptoms, neurocognition and socially based challenges. While the study of metacognition in schizophrenia has important implications for the theoretical understanding of dysfunction in schizophrenia, it may also be of clinical relevance, pointing to a potential target for intervention. If impairments in metacognition, for instance, restrict the ability to make sense of the challenges experienced by persons with schizophrenia, then interventions which enhance metacognition could potentially play a role in assisting persons to more effectively work their way towards wellness (18). These challenges may be related to the illness (e.g., coping with symptoms) or not related to the illness (e.g., asking a friend for a favor). Interventions which enhance metacognition, for instance might assist persons not only to recognize needs for accommodation and potentially useful treatment options but also ways to live with the condition without accepting some of the negative connotations associated with it. In addition, integrating interventions that enhance metacognitive
abilities within different psychotherapeutic approaches may facilitate the therapeutic process as it enables to explore the patient's goals and desires from new perspectives (20). This exploration, supported by metacognitive abilities, involves a personal meaning reconstruction which is common among different approaches to treatment and psychotherapy (21).

One challenge in studying metacognitive deficits in schizophrenia and consequent application to treatment concerns the exact definition of metacognition. The term itself has roots in many different traditions and many different forms of mental activities have been called metacognitive (22). It has been difficult, therefore, to synthesize different studies on metacognition and systematically move the field further ahead. In response to the diversity of definitions and conceptualizations of metacognition, this introduction to the special issue of the Israel Journal of Psychiatry on metacognition in schizophrenia will begin by offering a framework which could be used to understand how different kinds of studies of metacognition may relate to one another. Specifically we will explore how metacognition may be understood as a spectrum of activity which varies according to the extent of complexity of the experience that the metacognitive abilities refer to. This spectrum includes metacognitive activity that concerns a discrete experience vs. one in which many discrete experiences are brought together into a larger whole, and hence could be studied or addressed in treatment using different lenses. We will then introduce the work to be presented in this issue as it speaks to different points on this spectrum. It is hoped that this will position this issue as part of a movement to bring different kinds of metacognitive research together in order to have a more integrative and rich picture of the struggles of schizophrenia as well as the avenues for treatment that truly offer opportunities for the restoration of a meaningful life.

Metacognition as a spectrum of activities: As noted above the construct of metacognition has emerged from a range of different traditions. It seems to have first become widely discussed in education literatures (23) and was commonly used to refer to awareness of what conditions best enabled learning (e.g., recognizing one was able to learn one subject better than another or that certain strategies were useful for learning certain kinds of material). The initial studies of metacognition allowed for an understanding of how thinking involves a set of skills that goes beyond the information available to learn. Tarricone (22) suggests that as this work grew, the construct took on many different meanings through “its many facets and rich conceptual history” (p. 3). In the field of psychopathology metacognition has come to be used in a similar heterogeneous manner. One view of the cognitive tradition has stressed that metacognition involves understanding the kind of thoughts one seeks out which then influence coping strategies in the face of distress (24, 25). A second view though has examined metacognition less as a belief about a specific belief than as a larger process in which information is integrated into complex representations of the self and others that vary according to their effectiveness (26). This tradition stresses the representational nature of thinking, and is more rooted in developmental literature that focuses on how human beings form coherent ideas about themselves and others in close attachments with others (27). Thus, this literature focuses less on the choice of coping strategies and more with the development of the ability to understand that appearances are not reality, that individual people see the world differently and that people may change their views of the world over time (28). This idea is consistent with Dewey’s (29) suggestion to view self-knowledge as “an integration” of multiple facets and not as the sum of data. It is also in accord with a relational approach that emphasizes the dialectical interplay between multiplicity and singularity of the self (30).

We suggest that one way to bring the different views on metacognition together is to conceptualize a spectrum which ranges from more discrete to more synthetic activities (31). In this spectrum highly discrete processes might include concern with immediate awareness or accuracy of judgments about one’s own experiences, whereas moderately discrete metacognitive activities by contrast involve less of a focus on a specific experience and more a discrete judgment about an aspect of oneself or another person. Synthetic metacognitive operations, on the other hand, involve the organization and reflect upon increasingly complex and coherent representations of self and others. These activities are not reducible to a matter of being correct or not or about specific perceptions in specific moments and involve the creation and reflection upon plausible and evolving ideas about self and others. In line with Dewey (29), this end of the metacognition spectrum concerns the interplay that occurs as persons perceive or misperceive thoughts and feelings in the moment (e.g., noticing whether an error was made) and then integrate them into something which is ultimately influenced by and linked to, but not the same as, the accuracy or focus of specific thoughts.
This themed issue: With this spectrum in mind, this special issue will present a range of papers concerned with both the understanding of psychopathology and the suggesting of treatments which involve metacognitive activity that can be located at different points along the metacognitive spectrum. Parker et al. (32, this issue) explore the extent to which changes in more discrete elements of metacognition, namely metacognitive beliefs related to worry, were related to outcome of cognitive therapy. Data are presented suggesting that over the course of cognitive therapy changes in beliefs persons have about beliefs related to worry are related to reduction in hallucinations among persons with schizophrenia. Thus, this work also points that the awareness of discrete beliefs can be a focus of psychotherapy. Continuing with the focus on psychotherapy, Brent et al. (33, this issue) explore how psychotherapy can address metacognition at a different point on the metacognitive spectrum. In contrast to the work focused on beliefs about beliefs, Brent describes how treatment can assist persons to form and reflect increasing complex ideas about themselves and so use enhanced synthetic metacognitive capacity to move towards recovery.

Focused more on the links of psychopathology and schizophrenia, Berna et al. (34, this issue) explore how persons remember and think about paranoid beliefs experiences vs. experiences without any paranoid content. Analyzing memories recorded in a diary coupled with a recognition task they found that reflections about persecutory experiences were linked to greater anxiety. Compared to reflections about non-persecutory experiences, reflections about persecutory beliefs were less detailed and nuanced and more likely to be incorrectly remembered. Thus, a potentially unique link is suggested between deficits in discrete forms of metacognition and persecutory delusions. Also considering more discrete forms of metacognition, Scheyer et al. (35, this issue) studied awareness of performance on neuropsychological tests, among non-psychotic adolescents (and their parents) who sought help for a variety of emotional and behavioral difficulties in outpatient units. Awareness of errors was found to moderate the relationship between neurocognition and functional outcome before acute onset of the illness. Turning to the issue of more synthetic forms of metacognition, Rabin et al. (36, this issue) report data replicating links of the complexity of self-reflection with negative symptoms in outpatients with prolonged schizophrenia. Novel findings are also reported linking diminished synthetic metacognitive capacity with schizotypy in persons without psychosis. This work thus suggests a link between metacognition and the larger continuum of psychosis as it exists among persons in the general community. Finally, Lysaker et al. (37, this issue) present a summary of roughly eight years of research examining the correlates of metacognitive self-reflectivity and mastery with both symptoms and functional outcomes. This work, along with the piece by Rabin et al. (36, this issue) supports the possibility that deficits in the ability to form and use complex representations of the self and others in daily life may play a key role in determining not only symptom expression but also the way persons are able to live with and function despite the challenges of mental illness.

References
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