Metacognitive Capacities for Reflection in Schizophrenia: Implications for Developing Treatments

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Models of schizophrenia, which focus exclusively on discrete symptoms and neurocognitive deficits, risk missing the possibility that a core feature of the disorder involves a reduced capacity to construct complex and integrated representations of self and others. This column details a new methodology that has been used to assess deficits in the metacognitive abilities that allow persons to form complex ideas about themselves and others and to use that knowledge to respond to psychosocial challenges in schizophrenia. Evidence is summarized supporting the reliability and validity of this method, as well as links this work has revealed between metacognition and psychosocial outcomes. It is suggested that this work points to the need to develop interventions which move beyond addressing symptoms and specific skills, and assist persons to recapture lost or atrophied metacognitive capacity and so form the kind of ideas about themselves and others needed, to move meaningfully toward recovery.

Key words: schizophrenia/metacognition/social cognition/theory of mind/recovery/neurocognition/psychotherapy/rehabilitation

When Bleuler1 originally coined the term schizophrenia he noted that one of its most remarkable characteristics was a disruption in the capacity for goal-directed behavior despite the presence of many intact mental abilities. Bleuler suggested that at the core of the disorder was a disturbance in the ability to link together and synthesize complex ideas about oneself and others: “the patient hardly knows how to orient himself either inwardly or outwardly ... a very intelligent patient needs hours of strenuous inner effort to find her own ego for a few brief moments” (p. 143).

Although first-person reports and emerging neuroscience confirm that many with schizophrenia experience difficulties thinking about themselves and others,2–5 current models have de-emphasized this as a core feature of schizophrenia. Instead, schizophrenia has been presented as a collection of discrete and observable symptoms related to neurocognitive and psychobiological processes.6,7 This approach to schizophrenia has sought to make the condition easier to diagnose, allowed for study of unique contributory factors, and guided treatment toward specific targets.

A disadvantage of this approach, however, is that it risks losing sight of the qualities of the active consciousness of the person whose life has been interrupted. Potentially neglected is the person who not only is subject to certain biological and social challenges but also is a being in the world who has to make meaning out of these challenges and life itself. The meaning persons make of any life-altering occurrences deeply influences how they respond, and this seems essential to consider given that the processes that allow meaning making within one’s life may be disrupted in schizophrenia.8

In this column, we will discuss the theoretical basis for, and detail the results of, a new research paradigm that has sought to measure some of the core disturbances in consciousness in schizophrenia. We will describe a methodology to assess deficits in the ability to reflect on mental states and form complex ideas about oneself and others and to use that knowledge to respond to psychosocial challenges and move toward accomplishing life goals. We will detail research on its reliability and validity and linkage between these measures and outcomes and discuss implications for developing treatment. We will suggest that this measure may provide a means of conceptualizing some of the person-centered processes that are missing in many contemporary models of schizophrenia.

The reflections people form about themselves and others will be referred to as metacognition. Metacognition is a psychological function. It is a spectrum of mental activities that involves thinking about thinking, ranging from more discrete acts in which people recognize specific
thoughts and feelings to more synthetic acts in which an array of intentions, thoughts, feelings, and connections between events are integrated into larger complex representations. Metacognitive capacities allow persons to form the kinds of meanings necessary for sustaining connections with family, friends, and one’s larger community and are not synonymous with symptoms or neuropsychological capacity.

Although metacognition has been referred to as a part of social cognition, one operational difference is that more synthetic forms of metacognition are assessed by analyzing discourse and not by assessing correctness of judgment. At issue in synthetic forms of metacognition is not specifically what one thinks or correctly notices, but is instead whether basic elements of experience are recognized and then synthesized into complex wholes. Theoretically, this approach diverges from social cognitive assessments in several ways. First, it seeks to assess a whole, which is greater than the sum of its parts. Intuitively, we know that our sense of ourselves is more than just the specific things we think about ourselves and others. Our sense of ourselves is determined by how we bring together the things we think about ourselves. Our understandings of ourselves often require an integrated narrative including representations of complex mental and, at times, contradictory states of the self. Our understanding of others also requires that we form a complex idea of those others, which can involve many different facets, and though not synonymous with empathy, may be a basis for it. Synthetic metacognitive acts affect life in a different manner than do specific beliefs. Synthesized understandings lend meaning to events, and thus, supply reasons why to carry out a certain act and to decide what is best done to resolve dilemmas, given the unique psychology of oneself and the others in one’s life. Of note, metacognition is related to the construct of mentalizing though the latter considers disruptions of these processes happen in the context of disturbed attachment, an assumption that metacognitive research does not share.

Measuring the Complexity of Representations of Self and Others in Schizophrenia

To assess the capacity to form complex representations of self and others and to use that knowledge, an interview has been developed that asks persons about their life history and struggles with emotional challenges (the Indiana Psychiatric Illness Interview). This method considers this elicited narrative as a sample of how persons think about their mental states and those of others in a deeply personal context as opposed to an impersonal laboratory task (e.g., guessing the emotions of persons in photographs). The complexity of metacognitive acts within the narrative is rated using the 4 scales of the Metacognitive Assessment Scale Abbreviated (MAS-A): “Self-reflectivity,” the comprehension of one’s own mental states; “Understanding the Mind of the Other,” the comprehension of other individuals’ mental states; “Decentration,” the ability to see the world as viewable from multiple perspectives; and “Mastery,” the ability to use metacognitive knowledge to address social and psychological dilemmas. Higher scores on the MAS-A subscales reflect greater abilities to construct integrated representations of self and others and to use that knowledge to respond to social and psychological challenges. A more detailed description of the scales has been offered elsewhere.

Good-to-excellent levels of interrater reliability have been reported for the MAS-A and acceptable test-retest stability. Evidence of the validity can be found in several studies. Higher MAS-A ratings have been found to be linked with greater levels of awareness of illness and elements of cognitive insight that include the ability to take critical distance from one’s own thinking. Higher MAS-A ratings have also been linked with more complex social schema on the Thematic Apperception test and self-reports of greater preference for active rather than passive coping techniques. Participants with higher MAS-A scores have also been found to be better able to appraise their own memory and to be more able to accurately assess their performance in a rehabilitation setting.

Metacognitive Deficits in Schizophrenia: Detection and Associations With Outcome

Consistent with other studies, research suggests persons with schizophrenia experience trait like deficits in metacognition. MAS-A scores of persons with first-episode and prolonged schizophrenia have been significantly lower than the scores of samples with prolonged nonpsychiatric medical conditions and samples with substance abuse disorders (Lysaker et al, in preparation). At a descriptive level, stable difficulties considering thoughts as subjective in nature, recognizing that others have complex internal states, understanding that events can be understood from different perspectives, and using metacognitive knowledge to manage distress have been commonly found among schizophrenia samples.

Multiple studies have linked lower levels of metacognition with more severe negative symptoms; one study found that lower MAS-A scores predicted future levels of negative symptoms after controlling for initial levels of negative symptoms. Other work has found that poorer metacognition is linked with prospective assessments of intrinsic motivation, as well as the presence of anhedonia in the absence of depression (Buck et al, in preparation). Even more compelling evidence comes from studies linking poorer MAS-A scores with lesser levels of functional competence, subjective sense of recovery, therapeutic alliance, the ability to deflect stigma, and histories of impulsive violence in forensic patients.
schizophrenia samples, MAS-A scores have predicted the level of future vocational function and been found to mediate the impact of neurocognitive deficits on social function using structural equation modeling techniques. Of note, in the majority of these studies, the relationship of metacognition and function persisted after controlling for indices of symptom severity and neurocognitive impairment. Other studies using alternative ways of assessing more synthetic forms of metacognition have similarly found links with functional outcomes. Finally, there may be different metacognitive profiles within schizophrenia samples with 1 subgroup having significant trauma histories, more intact self-awareness, and, yet poorer awareness of the emotions of others.

Metacognitive Deficits: Implications for Developing Treatments

Taken together, research summarized above suggests that many with schizophrenia experience grave deficits in the capacity to integrate information into complex ideas about the self and others and that these deficits predict poorer psychosocial function independent of symptoms or neurocognitive deficits. Theoretically, we believe this suggests something novel: disability in schizophrenia may result when persons face the challenges of their illness, the social adversity associated with their illness, and the regular stresses of daily life without an integrated understanding of their own thoughts, feelings, longings, and intentions and those of others. Specifically, while symptoms and neurocognitive deficits may make it difficult to see how to do certain things, the metacognitive deficits revealed in this research may represent a unique path to disability when they may rob persons of the capacity to see why they should pursue a certain course of action. Human beings persevere in the face of challenges not just because they know how to, but because there is a reason for persisting. Following Nietzsche's famous dictum, people often find a way how to persist after they find a reason why they should. Concretely, decrements in different metacognitive functions could leave persons struggling to construct the kinds of meaning that sustain goal-directed behavior in social, vocational, and community settings.

Turning to treatment, this research points to the need for interventions that help persons make sense of what is happening in their minds and the minds of others. Addressing poorer interpersonal function through interventions including skills training, pharmacology, and targeting specific dysfunctional beliefs could address important issues, but it may neglect the need that persons have to understand the meaningful connections that exist between their motivations, drives, feelings, thoughts, and expectations and those of other people as well. Suggested by metacognition research is the need for interventions that help persons with schizophrenia recapture the ability to notice and integrate the different elements that make up mental activities. Such interventions could represent a step beyond skills and symptom-based approaches. By not just helping persons change their mind about a certain idea or learn to do a certain thing more effectively they could help patients become more capable of increasingly complex metacognitive acts needed to see why certain courses of action should be taken. Such treatments could help patients become better able to attend to mental phenomena, eg, to become more aware of their memories, physical sensations, emotions, hopes, beliefs and the facial expressions, opinions, and prosody of others, and then to become better able to evolve a complex understanding of how their thoughts and feelings and the thoughts and feelings of others have influenced one another over the course of a life.

This kind of treatment may be a departure from many of the predominant skills-based approaches. Promoting synthetic metacognitive capacity requires a focus on reflection itself and as such cannot rely on teaching facts or guiding patients toward predetermined or ostensibly more proper understandings. It calls for a consultative and non-hierarchical process in which clinicians and patients think together and patients are stimulated to think about their ideas about themselves and others. As recognized throughout the humanities, there is no one singularly true account of anyone's life. Thus, the goal for metacognitively oriented treatment would be observable growth in patients’ abilities to form evolving personally constructed ideas about themselves, others, and life and illness related challenges rather than their arriving at one particular conclusion.

Because meaning and integration are at issue, this intervention must focus on actual narrated experiences, past and present, instead of abstractions. Consistent with older models of psychotherapy, clinicians must know their patients personally if they are to help patients make sense of deeply personal experiences. Additionally, issues about the therapeutic relationship must be discussed in the moment to understand the joint metacognitive activities that are occurring. This seems consistent with current models of recovery that stress that persons must find their own reasons and ways for reengaging in life and managing symptoms.

Regarding technical aspects of treatment, the operationalization of metacognition in schizophrenia as hierarchical suggests that interventions to stimulate metacognitive activity should be based on the patient’s current level of metacognition. Patients with lesser capacities should naturally need interventions to help them master basic capacities before attempting more complex ones. For example, a patient with great levels of impairment might need assistance to just notice different mental activities before being able to name a complex emotion or see how thoughts and feelings connect during a specific moment. Interventions should then shift in complexity according to the patient’s gains and losses of capacity within and between sessions.
In terms of progress made in this area, psychotherapies exist that seek to help persons without psychosis recognize and integrate information about themselves and others, and evidence of their effectiveness in persons with personality disorders has been presented. Efforts to adapt this work have suggested that persons with both first-episode and prolonged schizophrenia will accept interventions focused on improving metacognitive capacity and demonstrate some meaningful improvements. Related work has suggested that increasing awareness of reasoning style, a more discrete form of metacognition, is linked similarly with improved outcomes. Importantly, this work has emerged from cognitive behavior, psychodynamic, existential, and humanistic orientations, suggesting that there is no need for a new school of treatment as much as integrated approaches.

Finally, there are many unanswered questions. More work is needed to explore when and how metacognitive deficits develop. Factor analytic work is needed to understand the complex relationships between neurocognition, symptoms, and metacognition. More work is also needed to explore the feasibility of metacognitive interventions for different groups with schizophrenia as well as the manualization of interventions and their study in randomized controlled trials.

**Funding**

Veterans Administration Rehabilitation Research and Development Service.

**Acknowledgments**

The authors have declared that there are no conflicts of interest in relation to the subject of this study.

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