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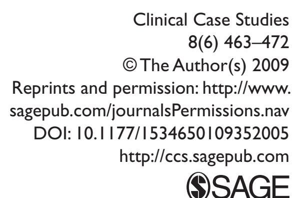

Addressing Metacognitive Capacity in the Psychotherapy for Schizophrenia: A Case Study

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Abstract

Deficits in metacognition, that is, in the ability to think about one's own thinking and the thinking of others, have been identified as a significant barrier to recovery from schizophrenia. While this has raised the possibility that individual psychotherapy might be focused to help persons with schizophrenia improve their capacity for metacognition, little has been written about what that might entail. To explore this issue, a case study is presented in which ongoing assessments of metacognition were used to guide the selection of interventions. Interventions were chosen in particular to match the client's capacity for metacognition at that time and were conceptualized as offering maximal opportunities for the practice and development of metacognitive capacity. Improvements in function and the development of the ability to perform increasingly complex acts of metacognition are reported over the course of approximately 1.5 years of therapy and implications for research and theory are discussed.

Keywords

metacognition, narrative, schizophrenia, self, recovery, psychotherapy

1 Theoretical and Research Basis

Many with schizophrenia experience a loss in previously held capacities to think meaningfully about thoughts and feelings, both one's own thoughts and feelings and the thoughts and feelings of others (Brune, 2005; Frith, 1992; Lysaker et al., 2005). Persons with schizophrenia may, for instance, have difficulties recognizing and naming their emotions, forming ideas about the intentions of others, seeing the subjectivity and potential fallibility of their own conclusions and even distinguishing the differences between hoping, remembering, and planning (Lysaker, Dimaggio et al., 2007; Stratta et al., 2007). The capacity to think about thoughts and feelings, which will be referred to hereafter as metacognitive capacity (Semerari et al., 2003), is not reducible to the result of a single symptom or neurocognitive deficit and is a central source of dysfunction (Brüne, Abdel-Hamid, Lehmkämper, & Sonntag, 2007; Langdon, Coltheart, Ward, & Catts, 2002; Roncone et al., 2002). With a limited capacity to form and scrutinize thoughts about oneself and others, it may often be difficult for persons with this condition to construct a meaningful account of gains or losses, to link daily events with the past or to envision a future that could be affected by present action (Corcoran & Frith, 2003; Lysaker & Buck, 2007). In the larger frame, deficits

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in metacognition may be one explanation for the diminishments in sense of self or identity which have been observed to characterize schizophrenia by writers from widely differing perspectives (Laing, 1978; Lysaker & Lysaker, 2008; Searles, 1965).

With this foundation we would suggest that it is a logical leap to think about the possibility of an integrative psychotherapy to address deficits in metacognition in schizophrenia. In other words, in addition to interventions intended to lessen symptoms, provide general support, help persons to dismiss maladaptive beliefs, manage their illness better and succeed in specific psychosocial roles (e.g., work or family relationships), it would seem a matter of great promise to also seek a means to help persons with schizophrenia in psychotherapy to strengthen their capacity for metacognition. As noted by Choi-Kain and Gunderson (2008), a number of forms of psychotherapy exist which focus on promoting metacognitive capacity (sometimes referred to as mentalizing) in persons with mental disorders generally less severe than schizophrenia. Improvements in metacognitive capacity have been reportedly achieved in psychiatric conditions ranging from personality disorders to depression and anxiety (Bateman & Fonagy, 2001, 2008; Dimaggio et al., 2007; Karlsson & Kermott, 2006; Osatuke et al., 2007).

If psychotherapeutic interventions could be adapted to help persons with schizophrenia to better monitor and think about their inner states, and to strengthen their capacity to think about others in relationship to themselves and to each other, it would seem likely that the chances of success at other tasks might greatly increase. As an analogy, we propose such a psychotherapy might operate in the manner similar in some respects to physical therapy. Many with serious physical injuries commonly require physical therapy to gradually strengthen damaged muscles and tissues, with the mastery of simple movements paving the way for the reclamation of more complex movements. Perhaps in a parallel sense, psychotherapy could be viewed as strengthening the capacity for metacognition. It may help persons to first master the ability to perform simple acts of metacognition (e.g., be able to distinguish a memory from a conclusion) and then master increasingly complex metacognitive tasks (e.g., describing emotions in a nuanced sense or accepting the fallibility of a specific belief). With such growth in metacognitive capacity we would anticipate that persons with schizophrenia might be able to achieve maximum benefit of other interventions and regain a large range of previously lost functional capacity.

While addressing metacognition in psychotherapy has considerable appeal, it remains unclear what this a form of psychotherapy might entail, both in terms of offering interventions and assessing progress. To address these issues we will present a case study of a psychotherapy that took place over a period of 2 years with an adult with schizophrenia. The goals of this case study are to provide an illustration of: (a) how metacognitive deficits could be individually assessed in psychotherapy; (b) how psychotherapeutic interventions could be concretely conceptualized to address metacognitive deficits unique to the individual and; (c) how progress could be assessed in psychotherapy in terms of metacognitive capacity. Of note, in the current case study we are specifically interested in how an integrative form of psychotherapy might be adapted to address metacognition and thus are not seeking to create a new school or form of intervention, nor to privilege one kind of intervention over another.

2 Case Presentation

Schubert was a divorced man in his late 30s with a 15-year history of schizophrenia and stimulant abuse. At the time psychotherapy began he had been unemployed for over a decade and lived off of disability entitlements. He suffered from diabetes and high blood pressure but had no other major medical conditions. He has no significant legal history, nor history of dangerousness to himself or others. He had a very limited social network which essentially consisted only of his two sisters who lived in the same area as he. In terms of medication, he was prescribed a routine

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dose of an atypical oral antipsychotic medication. Though he had experienced years of case management services, he had never before been in psychotherapy.

Psychotherapy sessions were voluntary and conducted under routine conditions in an outpatient clinic of a medical center in the Midwestern United States. Sessions lasted for 45 minutes. He attended all of his therapy appointments as scheduled and was consistently on time. His therapist was a clinical nurse specialist (KB) who had 25 years of experience working in mental health. The psychotherapy offered was integrative in nature and drew on interventions from cognitive, humanistic, psychodynamic, and postmodern perspectives.

3 Presenting Complaints

At the time psychotherapy began, Schubert experienced a range of positive and negative symptoms. He experienced daily auditory hallucinations, of a command nature, including occasionally to "kill." These were described as intensely distressing and he feared he might not be able to resist acting on them. He also experienced other unidentified voices speaking to him and giving him special messages only he could hear. He had tenacious beliefs that other people were planning to poison him and were tracking all of his movements secretly on the Internet. He repeatedly endorsed the belief that a group of well-known female television personalities were spying on him and planned to make a movie of his life in order to humiliate him. He experienced a number of negative symptoms including amotivation, anergia, blunted affect, and anhedonia. Little interest was expressed about the thoughts, needs and feelings of other people. Schubert also demonstrated no insight or awareness of illness. If asked, he could state that he had schizophrenia but considered all of his positive symptoms to be real experiences as part of the plot against him which other people could not understand. Performance on a battery of neurocognitive tests revealed significant impairments in verbal memory, processing speed and flexibility of abstract thought.

4 History

Schubert was reared in an intact family with two younger siblings. There was no family history of mental illness. He was initially an average student in school, though his grades began to decline near the end of high school when he began to abuse cannabis and eventually dropped out and joined the navy. While in the navy, both of his parents died and shortly after their death Schubert married. That relationship lasted for 2 years and produced no children. Since his divorce, he has had only one other brief romantic relationship.

After leaving the navy he held several jobs. All of these involved general labor and none lasted more than a few months. He noted during this time he also began to lose touch with all friends and began to generally spend his free time alone. Several hobbies, which had previously been enjoyable quickly lost their appeal. By Schubert's report, he had been mildly depressed during his adolescence but his major symptoms of schizophrenia did not appear until his last years in the navy. Shortly after he left the navy he was hospitalized when one of his sisters brought him to the emergency room alarmed by Schubert's report to her of command hallucinations. This hospitalization was his first exposure to mental health treatment. There were six subsequent hospitalizations, all brief and linked to command hallucinations. With little awareness of his illness he had generally been nonadherent with treatment and tended to not follow through with appointments following his hospitalizations.

Schubert had also experienced numerous bouts of abuse of various drugs across the course of his adult life. Importantly, his symptoms of psychosis worsened during episodic periods of drug abuse but did not remit during long periods of abstinence. Recently he had been heavily abusing

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Table 1. Levels of Self Reflectivity According to the Metacognition Assessment Scale[a]

1. There are thoughts in my head
2. The thoughts in my head are my own
3. Remembering, dreaming, deciding and so on are different actions for me
4. I have different feelings which are distinct from another
5. My thoughts are subjective and may be inaccurate
6. What I wish for and want may be at odds with reality
7. Thoughts affect feelings in certain specific times in my life
8. Thoughts affect feelings across my life story
9. I have a life story and have some recognition of how I affected it

a. Each level is intended to reflect a metacognitive act more complex than the one before it.

stimulants which led to his becoming homeless and then an admission to an area group home. At the group home where he was living when therapy began, there was no access to drugs or alcohol and medication adherence was monitored daily.

5 Assessment

To assess Schubert's capacity for metacognition at the outset of psychotherapy we utilized the Self reflectivity subscale of the abbreviated Metacognitive Assessment Scale (MAS; Semerari et al., 2003: Lysaker et al., 2005), a subscale that assesses the degree to which a person is capable of "thinking about one's own thinking." The MAS is a quantitative scale that focuses on metacognitive capacity, rather than specific contents, and defines metacognition as the set of abilities that allows persons to understand mental phenomena and to use that understanding to problem solve and cope. The MAS assumes individuals possess metacognitive capacities which vary along a continuum according to the extent to which persons are more or less able to perform increasingly complex metacognitive acts (e.g., tell the difference between a memory and a plan of action vs. constructing a complex story of the interplay of affect and thought across the course of one's life). Accordingly, the MAS subscales are broken down into a series of steps which are arranged in order of increasing complexity.

The subscale we used, Self reflectivity, which is illustrated in Table 1, is divided into nine steps, each step reflecting a more complex metacognitive act than the last. To score the MAS in this case, a clinical interview was performed by the psychotherapist who then rated with what degree Schubert was capable of thinking about his own thinking. Of note, the nine steps of this MAS subscale are arranged in order of increasing complexity such that once a level is found that the person is not capable of, they theoretically should be incapable of performing any further more complex acts. If one does not recognize one's emotions, for instance (step four out of a total of nine), then it should not be possible to obtain the next step, which is to understand links between one's thoughts and feelings (step five out of a total of nine). Evidence of interrater reliability and validity of the MAS for use with clients with schizophrenia has been presented elsewhere (Lysaker, Buck, & Ringer, 2007; Lysaker, Dimaggio, Buck, Carcione, & Nicolò, 2007; Lysaker et al., 2005).

On the basis of the initial assessment it was determined that Schubert was capable of the first two levels of self reflectivity. He was aware of his thoughts and recognized that he was the source of them. He was judged though to struggle with the third level. He appeared in general not able to identify and distinguish his own cognitive operations from one another, and was unsure of what was a memory, a wish, a plan, or a conclusion. There was no evidence that Schubert could perform any more complex self reflective acts such as distinguishing his own emotions,

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understanding the subjective nature of any conclusions he had reached, nor produce a coherent narrative about the nature of his changing thoughts and feelings.

6 Case Conceptualization

Schubert presented with significant symptoms of psychosis as well as deficits in metacognitive capacity. We assert that these deficits in metacognitive capacity played a causal role in the pronounced impairments in psychosocial and vocational function he experienced. Schubert was able to represent himself as a person with autonomous thoughts and feelings. However, with little ability to reflect on his thoughts, and feelings he was left with little to no sense of personal agency. He had little to no underlying sense that he could make meaningful choices in his life. He could not picture, for instance, the steps he might take to secure an apartment so he could live independently. He could not verbalize the processes involved in managing his own finances. When faced in the past with criticism at work, he could not imagine other ways to think about problems and so found himself with the following three choices. He could accept the criticism and feel humiliated, he could ignore the criticism and be fired or he could leave the job.

In the face of these difficulties Schubert further was able to recognize that other people had autonomous thoughts and feelings, but had little sense about the specific nature of those thoughts and feelings or about the different cognitive operations employed by others. He was left, therefore, with little to no connection to others and projected much fear and distrust onto them. He was unable to recognize that he was not the center of others' thought, or that others had relationships with one another which had nothing to do with him. Having so little awareness of himself, it was intolerable for him if other people knew him. If others knew him in ways he could not know himself, he would be left with little to refute what anyone else said or thought about him. Importantly, with little to no sense of mastery he was unable to plausibly define challenges or psychological difficulties. For instance, even though he verbalized that he had "schizophrenia," he did not attribute his delusions to it, and was unable to articulate why he or anyone might think that such a diagnosis was appropriate.

Although these deficits in metacognitive capacity played a role in the loss of functioning they also likely contributed to the presence of what took the place of relationships and work: drug abuse and preoccupation with delusions. The content of Schubert's thought was more often than not linked to his persecution which specifically focused on his persecutors and not himself and he was unable to question its irrationality. He could respond to his psychosis and feel rage and fear, but was unable to think about it. When anxious he particularly could not manage affects. Delusional thinking would become prominent, explaining the affects he could not adequately process, and providing some sense of comfort. His delusions painted him as a powerful person and someone important to others. They provided him an explanation for interpersonal conflicts. Because his delusions lacked consensual validity, they also prohibited connection to others, sparing him from the possibility of being known by others when he was virtually a mystery to himself. Finally, with no sense of himself as someone who could meaningfully act in the world he sought escape through drug use. Drugs assisted him to push painful realities out of his awareness and offered in their place escape, energy and vigor.

7 Course of Treatment and Assessment of Progress

We have suggested that a range of psychosocial impairments experienced by Schubert were in part the result of deficits in metacognitive capacity. In response, his psychotherapy was conceptualized as seeking to enhance metacognitive capacity in order to lead to greater opportunities for a return to fully adequate levels of function. In particular, psychotherapy was seen as offering a

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forum for practicing acts of metacognition and, in doing so, for enhancing that capacity such that over time Schubert could become capable of more and more complex metacognitive acts.

To begin to do this, it was essential that treatment began with a level of discourse that did not require greater metacognitive capacity than Schubert was capable. In other words, he was invited to engage in metacognitive acts appropriate to his ability in order to strengthen that capacity. For example, as he could recognize that he had thoughts, this was reflected and discussed. As he could not discern his own emotions at this time, asking him at length about how he felt would likely have been unproductive and possibly frustrating and destructive.

Consequently, in the beginning, nearly the whole session was spent with Schubert relating his delusions, and interventions involved helping him to think about his own cognitive operations as they related to behavior in the moment. For instance, a frequent intervention at the beginning of therapy was: “You are consumed with thoughts about x,” and “you can only talk about x today.” In responding to these comments it was made manifest to Schubert his thinking at the moment and it allowed him to hear what he was saying without challenging or disagreeing with his delusions. It also acknowledged his thoughts in the current moment without introducing an unrelated topic that might have not been his agenda.

Other times, early in therapy, the therapist’s response would acknowledge Schubert’s intent in expressing his delusions; “It is so important for me to know your experience with x.” This was again not intended as a challenge to his delusions but an offer to recognize his strong desire to be understood. Likewise, another statement used was: “You want me to believe you so much. . .” Other responses would make basic interpretations of his cognitive operations for him to hear and either agree with or reject, “You think you can trust no one.” And: “You are uncomfortable with strangers.” The therapist would also offer a genuine response to what was happening in the moment with Schubert by saying, “When you talk about (delusions), I don’t have the chance to hear anything about you.” This communicated to Schubert the therapist’s desire to know him as a person, beyond his stories of persecution. Hence, it gave the message of valuing him and interest in his life narrative as a unique individual who was worthy of telling his story, and one who was respected as a fellow human being. When he would relate his delusional beliefs, the therapist would at times ask “How much do you believe x?” And: “Give me a percentage of how certain you are that x is true.” Importantly these last questions were not offered with the intent of helping him correct dysfunctional beliefs or urging him to see his beliefs as fallible, something that would theoretically require a greater metacognitive capacity than he had at the moment. Instead these early interventions were used to offer Schubert an opportunity to realize that he held this belief, and that it was his own.

Over time, there were sessions when fewer delusions would be discussed, and he was encouraged to talk more about his life. When delusional digressions would occur, this was pointed out, with notice given to what he was speaking of immediately prior. Time was spent frequently pointing out “you’re doing it again” and after incorporating that feedback, he began to give a warning when he was about to turn to delusions by saying “you’re not going to believe this but. . .” or “I know this is crazy talk but. . .” Finally, he eventually began to refer to his delusions as “default thinking” and would consistently notice when he was doing it himself. There were also several times when Schubert did not discuss his delusions, but, consistent with older case studies (Lysaker & Lysaker, 2001), would say that without talking about these beliefs he was “blank” or “empty” to which the therapist would respond, “You have no thoughts now” and sit with him in silence with no judgment. When asked to compare how he felt when using “default thinking” rather than thoughts about himself, he replied he felt “angry” with using default thinking versus “relieved” yet also “empty” when talking about himself. He often said, “I like it better when I talk about myself.”

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As therapy progressed, with more focus on his personal narrative, there was more expression of memories, lost dreams, regrets, and in time, current desires. With the therapist providing a safe, predictable, and nonjudgmental, yet provocative space to think, he began to tell his story of who he was as a person. He talked of the individual he was "before I got sick." During this stage the therapist would use the following verbal interventions to meet him at his developing stage of metacognition: "You dreamed of owning your own business." And: "You thought you would be with your old girlfriend forever." Statements which used the second person "You," were used to allow Schubert to hear his own thoughts with the therapist acting as a prosthetic to assist him with claiming those statements as his own thoughts so that he might be able to further think about them.

It was at this point that Schubert appeared to have begun to master the third of the nine metacognitive tasks of the MAS. He could tell the difference between memories, wishes, desires, and fantasies. He then also started to show some capacities to perform the fourth of the nine steps of self reflectivity according to the MAS: being able to name his emotions. Interestingly, however, the emotions he initially expressed were generally related to past memories. It appeared that as he developed the capacity to recognize and reflect about his memories, he then began to name the associated affects. He was eventually able to remember being in love and how he grieved terribly when he lost that relationship. He regretted past mistakes and harm that he had brought to others, especially his ex-wife. He expressed his shame over being unable to keep jobs: "I could never get a job because no one would ever want to hire a jerk who hasn't worked in years."

In an attempt to help strengthen his newly emerging capacity for this more complex form of metacognition, defining emotional states, the therapist focused on the moment and noted or reflected something relating to his current state, such as: "You're feeling empty." At first he could only identify that he was "blank or empty" and could verbalize that he'd felt nothing but rage for years. Often he would fall silent and "forget what I wanted to say." It was important to respond to his pace in recognizing feelings. Often he would revert to "default thinking" whenever discussion of affect became too overwhelming. One session might be entirely devoted to here and now affects, then the next would be mostly focused on his desire to express past delusional beliefs. Again this would be pointed out to him with no judgment other than to merely identify it was happening. At one point he remarked that he was "beginning to come back to life which is a relief but also a bummer." Again, descriptions of affects began to emerge in relation to his personal narrative, but mostly memories of past feelings.

When he began to recognize feelings, he was also encouraged to identify those he had toward the therapist: "You get pissed at me" of which he could acknowledge, but differentiate, "I don't get mad at you." Generally, the sessions started to become quieter with less delusional thoughts expressed and the therapist sitting with Schubert as he "felt nothing." It was important for the therapist to be comfortable with him expressing negative emotion toward her, but also to be comfortable with his experience of nothingness and joining him in an authentic shared quiet during that experience. However, the primary affect identified in the beginning was one of depression. He expressed regret and shame of wasting so many years of his life and not achieving any of his dreams and having little hope that he could have a life at all. At one point, he could recognize feeling something, but had no word for it other than "like I've been kicked in the stomach, like I did when my wife left me."

Over time, he then started to begin to recognize that perhaps his thoughts of the world and himself were changeable which was conceptualized by the therapist as a gradual move to the next step of the MAS self reflectivity scale, the capacity to recognize his representation of himself or the world as subjective and fallible. He would become accustomed to gauging how sure he was of a certain belief and would preface a statement with "70-30, I'm 70% sure, but 30% has

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some doubt." At one point he acknowledged "if I'm wrong about all of this, I will feel like such an idiot." When discussing parts of his past, like his past jobs, he was asked to compare how different he is now relative to then. He was able to verbalize how his current limitations (particularly his inability to concentrate) interfered with "being like I used to be." He would begin to recognize that a once feared new person to the clinic was not the feared celebrity in disguise. He could identify that with a stranger he tended to feel uncomfortable and untrusting which led him to see that his belief that "he's filming me" was something that explained his own discomfort. He reflected on the intentionality of his stance toward the world noting he withdrew purposely "into my shell where I feel unique and no one can hurt me there." Another time he talked about being unable to be known "because I don't know myself." Verbal interventions during this time included: "It is easier to think that someone is a spy than to let them get to know you because they could hurt you." "The world is a dangerous place and it's difficult for you to trust anyone." "You have some doubt about that belief and recognize it may not be true. What might be my explanation of x?" And: "Losing some of your abilities makes you give up and have no hope that you could be successful at anything."

It is important to note that change was not linear, and even though it was apparent he was gradually and slowly moving up the ladder of self reflectivity according to the MAS, he often would demonstrate gains followed by many sessions at a lower metacognitive level. At one point, he remarked that "I tell you things and you sew all the pieces together, to which the therapist remarked "together we are making a patchwork quilt of your life" which emphasized how the partnership was helping him to regain fragments of his life.

8 Complicating Factors (Including Medical Management)

During the course of the therapy described above Schubert was not hospitalized nor did he receive any changes in medications. It is possible, however, that while in the halfway house he was more adherent with his medication than he had been previously and there certainly were fewer relapses into drug abuse.

9 Treatment Implications of the Case

We would suggest that there are at minimum four implications from the case study as presented above. To begin, at least in this case, the metacognitive assessment scale (MAS) was successfully used to assess the degree of metacognitive capacity in a client suffering from schizophrenia. Second, this assessment was the basis for the selection of interventions. In particular, in response to the MAS scores on self reflectivity, the therapist was able to target interventions that matched the client's metacognitive capacity. A third implication is that this same scale, the MAS, was used for ongoing assessments. As Schubert practiced different basic metacognitive acts he appeared to gain an increased ability to perform more complex acts and this was detectable on the MAS over time. In particular, over the course of psychotherapy Schubert's metacognitive ability grew from a basic level to one in which he was able to differentiate how his thinking was affecting his life. Finally, in terms of functioning and other aspects of wellness, concurrent with improvements in metacognition, there were improvements in functioning and symptoms. He came to begin to refer to several people as friends and was noted by his family to be more open and accessible at gatherings. Delusions and hallucinations were both observed to decrease in frequency and intensity, and previously blunted affect and alogia were also noted to improve.

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10 Recommendations to Clinicians and Students

Using the MAS to assess and conceptualize a client's metacognitive deficits provides a clinician with a starting point and then a guide or roadmap that defines what to expect and to recognize gains in certain areas, while providing interventions that are specifically targeted to redevelop or awaken those capacities. Of course, as in any therapy, the relationship between therapist and client must be one of a shared partnership in exploring and addressing metacognitive deficits and the pace must be directed by the client. It must create an environment of nonjudgment and communicate regard for the privilege of hearing the client's story. The therapist must value the client's definition of what recovery means to him or her and work to address personally defined goals. Finally, addressing metacognitive deficits using the MAS allows for assessment of outcomes and progress, which provides more of an objective measure throughout therapy.

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Bios

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