



# Metacognition as a predictor of therapeutic alliance over 26 weeks of psychotherapy in schizophrenia

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## ABSTRACT

Research to identify client factors that impact treatment outcome has found that deficits in metacognitive abilities and weaker therapeutic alliance are both associated with poorer treatment outcomes for schizophrenia. However, it is unknown if metacognition and therapeutic alliance are related in any way, in particular, if metacognitive abilities predict therapeutic alliance. This study explored whether differing capacities for mastery, a domain of metacognition that involves the ability to use knowledge about mental states to respond to psychological challenges, predicted client perceptions of therapeutic alliance assessed by the Working Alliance Inventory – Short Form (WAI-S). Participants were 63 adults with schizophrenia or schizoaffective disorder enrolled in a 6-month program of cognitive behavioral or supportive therapy, placed into a high, intermediate or minimal mastery group as measured by the Metacognitive Assessment Scale (MAS). Repeated measures ANOVA found group effects for the total WAI-S score, with the high and intermediate mastery groups having better alliance scores than the minimal mastery group. The group effects approached significance when neurocognition was controlled for. Results suggest that greater capacity for mastery predict stronger therapeutic alliance, but do not predict its development over time.

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## 1. Introduction

Recent studies have found that deficits in metacognitive abilities (e.g. Lysaker et al., 2010a; Lysaker et al., 2010c) and weaker therapeutic alliance (e.g. Davis and Lysaker, 2007) are both associated with poorer treatment outcomes for persons who have schizophrenia. However, it is unknown if metacognition and working alliance are related in any way for persons with schizophrenia. For instance, might the ability to “think about thinking” be associated with the ability to form a stronger therapeutic alliance? And, might limitations in metacognitive abilities impede the development of a working relationship in therapy? We anticipated that metacognitive abilities would be related to therapeutic alliance since the ability to conceptualize a psychological problem and think about it flexibly would seem to be a prerequisite for clients to develop a shared treatment focus and approach with their therapists. In studies of individuals with personality disorders, Dimaggio et al. (2010) suggest that metacognitive deficits are an impediment to development of therapeutic alliance, while Fonagy et al. (2002) propose that therapeutic alliance is a vehicle for developing metacognitive abilities in this population. Perhaps a clearer understanding of the metacognitive correlates of therapeutic alliance in schizophrenia may help to identify

persons at risk for forming a poor alliance as well as point to the need for innovation in therapies for persons with schizophrenia. For example, perhaps treatment outcomes of individuals who have metacognitive deficits may be enhanced by an initial therapy focus on interventions that improve metacognition thereby improving alliance versus an immediate focus on the presenting problem.

Therapeutic alliance is frequently defined as a collaborative relationship between patient and therapist consisting of a therapeutic bond and agreement on the goals and tasks of therapy (Bordin, 1979). Therapeutic alliance has consistently predicted treatment outcome across a variety of treatment approaches and patient populations, with effect sizes ranging from 0.22 to 0.26 (Horvath and Symonds, 1991; Martin et al., 2000), including schizophrenia (Svensson and Hansson, 1999). In schizophrenia treatment research, the strength of the alliance has been linked with reduced symptoms, improved quality of life, as well as performance in rehabilitation (Frank and Gunderson, 1990; Neal and Rosenheck, 1995; Solomon et al., 1995; Lacro et al., 2002; Donnell et al., 2004; Davis and Lysaker, 2007; Smerud and Rosenfarb, 2008). Thus, therapeutic alliance is of particular concern in the treatment of those who have schizophrenia due to the wide array of associated difficulties that may create barriers to developing interpersonal relationships, such as anxiety and confusion about interpersonal boundaries, (Weiden and Havens, 1994; Lysaker and Gumley, 2010).

Although research examining therapeutic alliance in the treatment of persons with schizophrenia has focused on its correlates, recently the therapeutic alliance has been viewed as a component of a more broadly

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defined therapeutic relationship that may interact with other interpersonal constructs, e.g. therapist empathy, client and therapist attachment style (Castonguay et al., 2006). According to Semerari et al. (2003), metacognition, or thinking about thinking, may describe a wide range of internal and socially driven cognitive acts that include the ability to recognize and understand one's own mental states as well as the mental states of others. Lysaker et al. (in press) describe how metacognitive capacities function interpersonally as an ability to hypothesize about the wishes and intentions of others and to identify social cues that trigger psychological pain, thereby enabling coping with social dilemmas such as negotiating between one's own wishes and the demands of relevant others. It has been widely documented that metacognitive dysfunction is a feature of schizophrenia (e.g. Frith, 1992; Brune, 2005; Lysaker and Lysaker, 2008; Lysaker et al., 2010b) which is linked to both concurrent and prospective deficits in functioning (Bora et al., 2006; Brune et al., 2007; Horton and Silverstein, 2008; Lysaker et al., 2010a). Further, metacognition may mediate the impact of other clinical characteristics such as neurocognition on social and vocational outcome (McGlade et al., 2008; Bell et al., 2009; Lysaker et al., 2010c). Given that both therapeutic alliance and metacognition function in an interpersonal context, understanding the mechanisms of their interplay within therapy may provide intervention opportunities that enhance both and in turn, enhance treatment outcome.

For the purpose of this study we chose to explore a particular aspect of metacognition – mastery – which can be thought of as an awareness of one's and others' thoughts and feelings that enables coping with a variety of subjectively distressing and challenging psychological experiences, such as those commonly encountered in interpersonal relationships. For persons with schizophrenia, mastery has been operationalized as a dimensional construct adapted by Lysaker et al. (2005) from the work of Semerari et al. (2003). Specifically, individuals can differ in their capacity to perform increasingly complex acts of metacognitive mastery. Some, who are incapable of even the least complex forms of metacognitive mastery, are unable to provide plausible descriptions of psychological problems. Persons who are capable of mastery in the intermediate range of complexity can describe psychological problems plausibly, but cope with these problems through avoidance and non-cognitive strategies (e.g. sleeping, drinking or physically withdrawing from conflict). Persons capable of the highest levels of mastery are those who can plausibly describe psychological problems and respond to them by utilizing knowledge about their own mental states and the mental states of others and modifying their own thought patterns. We hypothesized that mastery would be linked to better alliance as it represents a fundamental capacity that is needed for most forms of cognitive therapy. Specifically, we reasoned that with a greater capacity to use metacognitive knowledge to respond to distress, persons might be better able to deal with distress that arose in session and to join the therapist in thinking about themselves as someone whose responses to difficulties could be the subject of reasoning and thought. Evidence that mastery is broadly linked to functioning can be found in studies correlating it with quality of life (Lysaker et al., 2005), the complexity of social schema (Lysaker et al., 2010b), and in structural equation models supporting its role as a mediator of the impact of neurocognition on quality and quantity of social functioning (Lysaker et al., 2010c).

In order to explore the possible link between mastery and therapeutic alliance, the current study examined alliance ratings of 63 clients who were engaged in a 26-week course of cognitive behavioral therapy or supportive therapy for a vocational rehabilitation research study. We made two primary predictions. First, we hypothesized that stronger metacognitive ability, specifically mastery, would be linked with stronger client-rated alliance. Second, we entertained two hypotheses about the development of alliance over time. We predicted that persons who had a greater capacity for mastery would perceive greater improvement in their alliance with their individual counselor over the course of therapy relative to those who had weaker mastery.

We also predicted that persons who had weaker mastery would perceive a decline in their alliance with their individual counselor over the course of therapy relative to those who had a greater capacity for mastery. Finally, to rule out the possibility that neurocognitive factors might influence client alliance ratings, we included measures of memory and visual-spatial reasoning, which have been reported to be linked to therapeutic alliance in a previous study (Davis and Lysaker, 2004). This study found that higher client ratings of therapeutic alliance were linked to poorer memory function in those clients, whereas better performance on tests of visual spatial reasoning was related to therapist report of stronger alliance.

## 2. Methods

### 2.1. Participants

Participants were 63 adults who received outpatient services from a VA Medical Center outpatient psychiatry service ( $n = 43$ ) or Community Mental Health Center ( $n = 20$ ) and were enrolled in a larger study of the effects of cognitive behavior therapy on work outcomes in schizophrenia. All had been randomized to receive cognitive behavioral therapy or supportive therapy from an original sample of 100 and had a SCID-I confirmed diagnosis of schizophrenia ( $n = 41$ ) or schizoaffective disorder ( $n = 22$ ). Participants were included in the larger study if they indicated a willingness to engage in vocational rehabilitation and were in a post-acute phase of illness as defined by having no psychiatric hospitalizations, change in type of psychotropic medication, or change in housing during the month before entering the study. Other exclusion criteria were a chart documented diagnosis of mental retardation or active substance abuse/dependence. A total of 130 people began the consent process for this study. Of those, 2 people did not finish the consent process, 2 people finished consenting but did not qualify for the study and 26 people consented and passed the screening but did not start the study for various reasons.

The 63 participants were included in the present analyses because they had attended at least 7 individual cognitive behavioral or supportive psychotherapy sessions and completed alliance ratings for at least 3 of these sessions. On average, participants were 46.89 years old ( $SD = 8.10$ ) and had 12.73 years of education ( $SD = 2.25$ ). Participants had a mean of 6.51 lifetime psychiatric hospitalizations ( $SD = 8.14$ ). This sample included 53 males and 10 females; 38 were African American, 24 were Caucasian, and 1 identified as "other".

### 2.2. Instruments

The Working Alliance Inventory – Short Version – Client Form (WAI-S-C; Tracey and Kokotovic, 1989) is a 12-item self-report measure based on Bordin's (1979) transtheoretical conceptualization of therapeutic alliance (TA) as comprised of three components: the therapeutic bond, agreement between client and therapist on goals, and agreement on tasks. While many measures of TA focus on what the client and therapist may contribute separately to the alliance, this measure emphasizes the mutuality of the relationship between client and therapist in terms of both affective attachment and willingness to invest in the therapy process (Martin et al., 2000). The WAI short version is composed of the four items with the highest factor loadings for each of the three subscales (goal, bond, and task) of the 36-item Working Alliance Inventory (Horvath and Greenberg, 1989). Participants are asked to rate these items on a 7-point scale ranging from "never" to "always." This measure has previously been utilized in studies of participants with schizophrenia (i.e. Davis and Lysaker, 2004; Davis and Lysaker, 2007). As an indicator of reliability, coefficient alpha for the total client scores in the current sample was 0.95. Regarding the individual scales for this version of the WAI, acceptable internal consistency was reported, ranging from 0.80 to 0.94 (Busseri and Tyler, 2003).

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