

Metacognition within narratives of schizophrenia: Associations with multiple domains of neurocognition

Paul H. Lysaker^{a,*}, Giancarlo Dimaggio^b, Kelly D. Buck^c,
Antonino Carcione^b, Giuseppe Nicolò^b

^a Roudebush VA Medical Center and the, Indiana University School of Medicine, Indianapolis Indiana

^b Terzo Centro di Psicoterapia Cognitiva, Associazione di Psicologia Cognitiva, Rome Italy

^c Roudebush VA Medical Center, Indiana

Received 12 October 2006; received in revised form 16 February 2007; accepted 20 February 2007

Available online 3 April 2007

Abstract

Research has suggested many with schizophrenia experience impairments in metacognition, or difficulties apprehending their own thoughts and the thoughts of others, and that those deficits are not reducible to a single symptom or cognitive impairment. While links between metacognition and more severe levels of symptoms have emerged, less clear is whether there are consistent associations between metacognition and other neurocognitive capacities. Accordingly the current study sought to examine whether different patterns of metacognition deficits have different neurocognitive correlates. Narratives were gathered from 69 adults with schizophrenia spectrum disorder using the Indiana Psychiatric Illness Interview along with a symptom interview and neurocognitive battery including subtests of the Wechsler Adult Intelligence Scale III, Wechsler Memory Scale III and the Wisconsin Card Sorting Test. Metacognitive capacity within the narrative interview was assessed using the Metacognition Assessment Scale and participants were divided based on those scores into three groups: minimal self-reflectivity/not decentered ($n=25$); basic self-reflectivity/not decentered ($n=33$); and basic self-reflectivity/decentered ($n=11$). Basic self-reflectivity refers to the ability to distinguish one's own thoughts and feelings while decentered refers to the ability to see others as having independent perspectives and relationships with one another. MANOVA and ANOVA comparing groups revealed that the participants lacking basic self-reflectivity had significantly poorer working memory and more symptoms of disorganization, while participants able to see others as having independent perspectives and relationships demonstrated better visual memory. Results suggest different deficits in metacognition may be linked to different neurocognitive capacities.

© 2007 Elsevier B.V. All rights reserved.

Terms such as “Metacognition,” “Theory of Mind,” and “Mentalizing” refer to a person's general capacity to think about thinking, both their own thinking and the thinking of others. These terms, while often used interchangeably to refer to a general aptitude, involve a wide range of semi independent faculties which allow

persons to represent their own mental states and the mental states of others, to form, revise and reform ideas of what is believed, felt, dreamt of, feared, feigned or pretended (Frith, 1992). These capacities consequently allow humans to make meaning of their dilemmas, to understand one another's intentions, and to ultimately adapt to a changing environment. In this paper we have selected to use the term metacognition to refer to this general set of phenomenon because of its potential to

* Corresponding author. Tel.: +1 317 988 2546.

E-mail address: plysaker@iupui.edu (P.H. Lysaker).

describe a wide range of internal and socially driven cognitive acts which contain primarily reflexive qualities (e.g. Semerari et al., 2003). Admittedly there is much in common between this term and theory of mind, which has been defined, for instance, as the “capacity to represent one’s own and other persons’ mental states” (Brune, 2005, p 21).

Over the last 15 years, research has explored whether schizophrenia fundamentally involves deficits in metacognition. A link between schizophrenia and metacognition seems likely as many symptoms of schizophrenia involve a failure to draw plausible conclusions about the motives of others and the origins of one’s internal states (Frith, 1992). As noted in recent reviews by Brune (2005) and Harrington et al. (2005), multiple studies have confirmed that many with schizophrenia experience difficulties apprehending their own thoughts and the thoughts of others and that those deficits are not reducible to a single symptom or cognitive impairment. These studies have also suggested that more severe levels of psychopathology, particularly symptoms such as paranoia, negative symptoms and thought disorder, predict poorer performance on tests requiring participants to discern the intentions of others.

One issue awaiting clarification is whether there are consistent patterns of association between metacognition and other neurocognitive “capacities such as attention, memory and general intelligence” (Brune, 2003, p.62). Performance on tests of neurocognition do not fully explain the impact of deficits in metacognition on function (Roncone et al., 2002), and intact neurocognitive function is not necessarily sufficient for full metacognitive function. Yet metacognitive and neurocognitive abilities may be related. Evidence of this includes findings that better metacognitive skills are associated with better performance on tests of verbal and visual memory (Greig et al., 2004), visual memory span (Langdon et al., 2001), intelligence (Brune, 2003), executive function (Greig et al., 2004; Langdon et al., 2002) and learning ability (Doody et al., 1998).

One possibility is that certain elements of metacognition require minimal levels of neurocognitive function. In other words, certain levels of neurocognitive capacity may be necessary but not sufficient for basic acts of metacognition. There are at least several reasons to expect that a combination of impairments in various domains of neurocognition might represent a barrier to successful metacognitive function. For one, deficits in flexibility of abstract thought have been suggested to underlie deficits in a variety of phenomena which would seem to require some metacognitive function, including awareness of illness (Drake and Lewis, 2003; Lysaker

et al., 2003; Smith et al., 2000), social cognition (Lancaster et al., 2003), and the development of social skills (Lysaker et al., 1995). The possibility that cognitive decline in schizophrenia could underpin some deficits in metacognition is also supported by studies of head injury and related conditions. Research has suggested persons experience familiar social situations as increasingly difficult to understand following the loss of cognitive abilities (Frank et al., 2006; Newton and Johnson, 1985) and that with the loss of neurocognitive abilities there follows a reduced ability to shift mentally between different self-representations (Heller et al., 2006) and to perform basic self monitoring tasks (Ownsworth and Fleming, 2005). In the case of Asperger’s syndrome, an inability to appreciate the thoughts and feelings of others, a deficit also seen in schizophrenia, has been linked to difficulties both integrating contextual information and to impairments in executive function which compromise persons’ abilities to smoothly shift back and forth from two viewpoints (Frith and Vignemont, 2005).

We would suggest that one of the reasons why research has been slow to explore the association of neurocognition and metacognition is that most studies have assessed metacognition along a singular continuum from “intact” to “impaired” by observing performance after a participant is cued to make a judgment about someone’s thinking in a fictional story (Brune, 2005; Harrington et al., 2005). An initial problem here is that performance on these tests may not speak to persons’ abilities to engage in metacognitive acts when personal issues are involved or when there are no specific cues that call for specific metacognitive acts (Lysaker et al., 2005). A larger problem though is that many have argued that metacognition, like other abilities (e.g. memory), is composed of multiple semi independent capacities which can be activated independently of one another (Casacchia et al., 2004; Nichols and Stich, 2001; Semerari et al., 2003; Semerari et al., in press). Stressed by this view is that different metacognitive functions, such as awareness of one’s own thoughts and awareness of other’s thoughts may involve activity in different cortical regions of the brain (Frith and Frith, 1999; Ruby and Decety, 2003; Saxe et al., 2004; Vogeley et al., 2004). Thus some functions may be impaired while others are not. Research supporting this includes findings that fundamentally different patterns of metacognitive deficits exist in persons with different forms of personality disorders and that in each personality disorder some aspects of metacognition function well while others are impaired (Dimaggio et al., 2007; Semerari et al., 2005; Prunetti et al., in press). Additionally some persons with schizophrenia experience greater deficits in self awareness as opposed to awareness

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات