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ORIGINAL PAPER

Comparing Metacognition and Mentalization and Their Implications for Psychotherapy for Individuals with Psychosis

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Abstract
Over the past couple of decades, researchers have investigated the relationship between psychosis and social cognitive deficits and how these deficits might be targets for psychosocial treatments. Two important constructs related to social cognition are metacognition and mentalization, which have been developed into distinct therapeutic models for individuals with psychosis. Though metacognition and mentalization are conceptually similar, this review aims to provide a clearer delineation of each term by reviewing the definition and the application to the treatment of individuals with psychosis. We examined key theoretical papers, case studies, and clinical trials on mentalization and metacognition. Metacognition and mentalization share much in common though subtle conceptual distinction reveal key differences theoretically that have therapeutic implications. While emerging from divergent intellectual traditions, mentalization and metacognition complement one another and more trials are needed to examine the technical differences between these therapeutic approaches and the possibilities for both theoretical and technical integration.

Keywords Psychosis · Schizophrenia · Psychotherapy · Metacognition · Mentalization · Social · Cognition

Introduction

Recent research on serious mental illness has reflected increased attention to a set of related constructs of higher-order cognitive processes, including reflective functioning, mentalization, metacognition, social cognition, theory of mind, psychological mindedness, and mindfulness (Fonagy and Bateman 2016; Choi-Kan and; Gunderson 2008). Fonagy and Bateman (2016) note that many of these terms describe higher-order cognitive processes that "relate to brain structure as a hierarchy of layers of abstraction and assume a top-down influence on lower orders of this neural pyramid" (p. 59). Two of these concepts that have previously been noted to have significant overlap are mentalization and metacognition (Kongerslev et al. 2015). These terms have received considerable attention recently, particularly in regard to their relevance to the treatment of individuals with psychosis and personality disorders (e.g. Brent 2015; Dimaggio and Lysaker 2015). Despite similar definitions, the two constructs have emerged largely independent from one another within different research paradigms, and each have associated treatment models that have not been fully compared. In response, this article will focus on distinguishing between mentalization and metacognition and how these terms have been developed and applied to the psychotherapeutic treatment of individuals with psychosis. We are focused on psychosis given that many people experiencing psychosis are not seen as candidates for psychotherapy due to stigmatizing attitudes about their inability to use treatment (Lysaker et al. 2014). This delineation between the constructs will highlight important questions about how to provide psychotherapy for individuals with psychosis and the importance of targeting social cognition. Following the review of the two constructs, we highlight and discuss points of convergence and divergence between the terms and propose possible directions for future research and integration of the concepts and psychotherapeutic approaches.

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Mentalization and Psychosis

Succinctly defined, mentalizing is the "ability to understand actions by both other people and oneself in terms of thoughts, feelings, wishes and desires" (Bateman and Fonagy 2016, p. 3). Mentalizing is vitally important insofar as it enables individuals to make meaning of their experiences by providing a context from which to understand self and others. Individuals form tentative ideas about the behaviors of others based on hypothesis about their thoughts or feelings which is informed by interpersonal cues, prior knowledge, and their own relational schemas. Having the curiosity and flexibility to develop hypotheses about the mental processes behind the actions of others enables individuals to hold the "mind-in-mind" and navigate the social world. Mentalization can be divided across four dimensions, with various forms of psychopathology representing imbalances in these dimensions: automatic/explicit, self/other, affect/cognition, inner-focused/outer-focused (Hagelquist 2017). In a given moment individuals may attend to their own feelings or thoughts, or self-experience or the experience of others, and this process may be more automatic (implicit) or intentional and reflective (explicit). As such, mentalization is not a static capacity but rather one that changes within varied inter- and intrapersonal contexts (Bateman and Fonagy 2013).

The capacity to mentalize is developed within the context of our earliest attachment relationships to caregivers (Bateman and Fonagy 2016); we come to know ourselves in the image we see reflected by the other. Brent and Fonagy (2014) have argued that insecure attachment relationships and adverse childhood experiences elevate the risk of psychosis due to their negative effects on the hypothalamic–pituitary–adrenal (HPA) axis stress response system, which regulates dopamine. Chronic stress could contribute to psychosis by over-activating the HPA axis and lead to the dysregulation of the dopamine system which has been linked to psychosis (Kapur 2003). Kapur (2003) has argued that dysregulation of the dopamine system leads to aberrant salience, which results in the incorrect assignment of salience (or meaning) to irrelevant internal and external stimuli. In an effort to make sense of altered attentional and perceptual experiences, individuals with a biological predisposition to psychosis might form delusional explanations for their anomalous experiences.

Psychic equivalence, pretend mode, and teleological mode are all modes of thinking that antedate the development of mentalizing (Bateman and Fonagy 2016). Their presentation is respectively identifiable in children as concreteness of thought, imaginative play, and a focus on behaviorally observable outcomes as opposed to the unobservable mental states of others. In psychic equivalence, a mind-world isomorphism exists in which the individual assumes that their mental state is a direct representation of reality. In psychosis, this may appear as omnipotent knowledge manifest in paranoid delusions. Pretend mode is defined as a mode of thinking where the internal world of the mind is decoupled from external reality. In extreme form, this would be akin to dissociative states. Pseudo-mentalizing, a manifestation of pretend mode, is the apparent ability to speak in depth about mental states without connection to reality and/or one's affective states. Teleological mode is defined as a mode of thought in which goal-directed actions take the place of words in representing one's mental state and as a point of reference to trying to understand the minds of others. While the mind is not perfectly knowable, overt behaviors and actions are immediately available for direct observation and scrutiny.

Metacognition and Psychosis

Metacognition, in simplest terms, refers to thinking about thinking. The term has been used in various contexts, with Semerari et al. (2003) advancing an operationalized definition that involved separable sub-domains (understanding one's own mind, understanding others' minds, and mastery) that could be assessed in individuals with psychiatric disorders and tracked over the course of treatment. Semerari et al.'s model and methods have been adapted and served as the basis for subsequent research with metacognition evolving to refer to a spectrum of mental activities by which persons form integrated ideas about their own minds and those of others and use this information to respond to the challenges of living (Lysaker and Dimaggio 2014). In this broad sense, metacognition includes both discrete and more synthetic activities that allow individuals to make sense of their mind and to integrate fragments of experiences into a coherent and cohesive account of self across time, with these processes occurring within the flow of life and influenced by a number of social motives (e.g. social rank, peer cooperation, autonomy) (Dimaggio et al. 2017). Synthetic metacognition is conceptualized as encompassing discrete activities (e.g. emotion recognition) and more integrative activities such as the ability to create complex representations of self and others and a flexible narrative account of one's life. Individuals with impaired metacognitive capacities have difficulty identifying, articulating, and reflecting upon their thoughts, feelings, and motivations. They may present with a barren, disorganized, or overly simplistic narrative of their lives that prevents a richer integrated, sense of self (Lysaker and Lysaker 2006). Without a sensible, coherent story of one's life, individuals struggle to understand and communicate their experiences to others.

Research has found that individuals with schizophrenia demonstrate marked deficits in metacognition and that these deficits differ from those found in other forms of psychiatric and medical adversity (Lysaker and Dimaggio 2014). These metacognitive decrements appear to be trait-like, appearing in early and later phases of illness, and are not reducible to symptoms or neurocognitive deficits (Vohs et al. 2014). Conceptualized by analogy to blood pressure, despite being trait-like, metacognition appears to fluctuate across interpersonal contexts and certain conditions (e.g. self-esteem threats or increased emotional distress) might derail someone's reflective capacity (Lysaker et al. 2010). Metacognitive deficits correlate with impairments in goal-directed behavior, negative symptoms, diminished sense of identity and self-direction, and poor social functioning (Lysaker and Dimaggio 2014).

Psychotherapeutic Applications

Mentalization-Based Treatment for Psychosis (MBT-p)

Originally developed for borderline personality disorder, mentalization-based treatment (MBT) targets deficits in the ability to think about mental states of self and other in the context of attachment relationships. Brent (2009) has offered multiple reasons to apply MBT to psychosis. First, Frith (1992) has proposed that a core deficit in schizophrenia is an inability to represent the mind of self and others, which is present even in the absence of acute symptoms (Brent and Fonagy 2014). These impairments in self and other awareness are evident in children at genetic risk for schizophrenia (Brent 2015). Second, individuals with schizophrenia often have trauma histories, which is an environmental risk factor for psychosis (Varese et al. 2012). Research has found that individuals with trauma histories also have decrements in mentalization, which makes MBT-p particularly relevant (Fonagy et al. 2002). Third, individuals with schizophrenia have difficulties distinguishing between self-originating thoughts and externally driven stimuli, and psychosis is often predicated upon the misunderstanding of social interactions (Brent and Fonagy 2014). Finally, research has found that social cognitive deficits correlate with community functioning, poor vocational outcome, and quality of life (Weijers et al. 2016).

The primary goal of MBT-p is to foster mentalization and for the therapist to keep the patient's mind "in mind" to provide a context that promotes reflection. The therapist strives to help the patient recognize how different interpersonal situations impact the patient's thoughts, feelings, and motivations. The therapist assumes a not-knowing stance designed to encourage curiosity. An important principle is that the therapist accepts the opacity of the mind, recognizing that mental states cannot be fully known, which serves to counteract the dogmatic certainty with which person with schizophrenia often represent the minds of others (Debbané et al. 2016). Unlike more traditional psychodynamic approaches, the therapist offers clarification if the patient asks questions to demonstrate openness and to model a self-reflective stance regardless of whether or not they elect to disclose personal information (Brent and Fonagy 2014). The therapist keeps their comments short and simple and focuses on the present rather than the past (Brent 2009).

In the early stage of treatment, the therapist provides psychoeducation about mentalization and works to build an alliance (i.e. attachment context) to decrease arousal states that can derail mentalizing (Weijers et al. 2016). Throughout treatment, the therapist and patient work to understand and label the patient's bodily and affective experience (Debbané et al. 2016). The therapist maintains an open and curious stance towards the patient's thoughts, feelings, and intentions in order to help the patient reflect on their emotions in the here-and-now while working towards the development of emotion regulation capacities (Bateman and Fonagy 2012). The therapist also encourages the patient to share narratives of social interactions in an effort to make implicit mentalizing explicit. When either patient or therapist's mentalizing capacities break down, both work together to understand what contributed to this difficulty by stopping and rewinding the process (Debbané et al. 2016). Finally, the therapy relationship is a vital playground to explore different perspectives on shared experiences, and therapist and patient can use it as opportunity for interpersonal reflection (Brent and Fonagy 2014; Weijers et al. 2016).

There have been several case studies on MBT-p (Brent 2009, 2015; Debbané et al. 2016). An initial RCT is underway to assess the impact of MBT-p on social cognition and functioning for individuals with schizophrenia-spectrum disorders (Weijers et al. 2016).

Metacognitive Reflection and Insight Therapy (MERIT)

Of note, there are many individual therapies that explicitly target metacognition such as Metacognitive Reflection and Insight Therapy (MERIT) and Metacognitive Interpersonal Therapy (MIT), which was originally developed for use with a broad range of personality disorders (Dimaggio et al. 2015) and has more recently been applied to schizophrenia (Salvatore et al. 2016). Placing primary importance on the quality of the therapeutic relationship as it unfolds and the development of an individualized case formulation, MIT exists as a set of procedures that can be grouped into two domains: formulation of functioning and change promoting (Dimaggio et al. 2017). For the purposes of this article, we are focused

solely on a comparison of MERIT and MBT-p, however MIT warrants mention given the shared underpinnings of all three approaches and as well as the significant differences and unique contributions of each.

MERIT is an integrative psychotherapy that synthesizes cognitive, humanistic, existential, and psychodynamic concepts. MERIT assumes that one of the primary disruptions for individuals with schizophrenia is the impairment in the ability to make meaning of one's life and to use this understanding to achieve personal goals. The aim of MERIT is to enhance reflective capacities that support the development of an increased sense of agency and self-directed recovery (Hamm et al. 2017). Although there is an explicit interest in recognizing that recovery and therefore therapy is an individualized process, MERIT writings emphasize common themes in treatment involving a movement toward increased integration, with the formation of more cohesive, flexible personal narratives, improved relationships, and the development of more effective responses to emotional distress (Hamm and Leonhardt 2016).

MERIT adopts a number of basic assumptions. First, recovery from severe mental illness is possible and persons with psychosis remain active agents in their lives. Second, the role of therapist is of equal participant, with MERIT therapists assumes an open, consultative, non-hierarchical stance. Third, the experiences of persons with psychosis can be understood by others and those experiencing psychosis, and this increased awareness may be quite painful (Leonhardt et al. 2016). Finally, the therapist should recognize the impact that internalized stigma can have on the patient's journey towards recovery (Lysaker et al. 2014).

Each session of MERIT includes eight practice elements that together comprise an intervention framework as opposed to a step-by-step curriculum. The therapist's first priority is to understand the patient's agenda to encourage the patient's sense of agency (Element 1) and to reflect this back to the patient (Hamm et al. 2017). This position stands in contrast to long-standing traditions that position individuals with severe mental illness as incapable of making sense of their experience or directing their own treatment. Next, the therapist tries to cultivate a dialogue and gradually introduces their own thoughts without derailing the unfolding conversation (Element 2). Episodic memory is given priority and the therapist works to elicit narrative episode to promote reflection about how the patient thinks about the mental states of self and other in specific situations (Element 3). Through the detection of the patient's agenda and mutual exploration of narratives, the therapist and patient work identify a mutually-agreed upon plausible psychological problem (Element 4). The therapist does not decide for the patient what should be the focus (e.g. symptom remission) but instead works collaboratively to decide together what might be a workable goal (e.g. diminishing the patient's fear of intimacy). In each session, the therapist fosters reflection about the therapeutic relationship (Element 5) and asks about the patient's perception of progress over the course of treatment (Elements 6). Embedded within all of these previous elements, interventions are tailored to the patient's individual level of metacognitive capacity (Element 7) and interventions are targeted to promote reflection about self and others, as well as to develop strategies to use this information to respond to psychological problems, i.e. mastery (Element 8).

There have been numerous case studies on MERIT (Hillis et al. 2015; Hamm and Firmin 2016; Buck and George 2016) that have produced promising results. A recent qualitative study comparing MERIT with supportive therapy suggested differential benefits in the development of the sense of self and perceived agency (Lysaker et al. 2016). Additionally, an RCT of MERIT is currently underway (van Donkersgoed et al. 2014), with early results indicating that patients are receptive to the treatment and supporting possibilities for the enhancement of metacognitive capacity (de Jong et al. 2016).

Discussion

Review of the literature on metacognition and mentalization reveals a number of areas of convergence as well as some subtle differences. In a basic sense, there is overlap in the terms as both constructs refer to an individual's capacity to reflect upon the mental states of self and other. However, the constructs evolve out of divergent traditions and their definitions reveal conceptual differences. Mentalization emerges from psychoanalysis, attachment theory, developmental psychology, and neuroscience and it refers to the ways individuals interpret their behaviors and the actions of others (Freeman 2016). It is particularly focused on how this capacity is derailed in the context of an attachment relationship and emotional overwhelm. Mentalization is anchored within a cognitive-developmental paradigm that specifies particular achievements in a child's reflective capacity. In contrast, metacognition is a broader term that is not specifically linked to a developmental theory and refers instead to the ability to synthesize various cognitive and emotional operations to form an integrated picture of the self and other and to use this information to respond to psychological challenges.

In terms of the therapy, MERIT and MBT-p share much in common. They both encourage the therapist to adopt a not-knowing, curious stance and to engage the patient in a mutual sense-making task. Unlike most therapies offered to persons with schizophrenia that focus on symptom reduction and skill development, both MERIT and MBT-p target the subjective aspects of the individual's experience (e.g. identity, self-direction, interpersonal relationships,

emotions, etc.). This holistic approach recognizes and prioritizes the person's self beyond the symptom and respects the dignity of the individual who is grappling with the problems of living. The therapist does not assume the role of the expert but instead works to help the patient to develop their meaning-making capacity. Both therapies work to understand the patient's communicative intent even in the face of disorganized thinking and bizarre ideas (Hamm and Firmin 2016). This focus on trying to understand the personal significance of psychosis takes seriously the patient's experience in contrast to those who argue that psychosis is meaningless (Laruelle 2008). Both treatments prioritize the importance of reflecting upon relationships by eliciting episodic memories to understand how the patient interprets social interactions. Furthermore, both therapies recognize that the therapeutic relationship can also be an avenue of exploration and reflection. In terms of intervention styles, Brent (2015) has noted that both therapies prioritize making a structured assessment of the patient's reflective capacities and to deliver interventions that are developmentally-appropriate. Finally, there are conceptual similarities in the less developed forms of mentalization and metacognition. In the psychic equivalence mode, individuals have difficulty discerning the difference between their thoughts and the thoughts of others (i.e. inside-out mentalizing) and they believe that what happens in the mind happens in reality (Freeman 2016). This concept is similar to impairments in decentration in metacognition in which individuals cannot recognize that they are not at the center of other's mental activities.

Despite these similarities, there are differences between MBT-p and MERIT. First, MBT-p is a more structured treatment in which the therapist offers psychoeducation about mentalization and explains the treatment protocol. MERIT is more patient-driven with no explicit psychoeducation about metacognition and less prescriptive in its attention to understand the patient's agenda. The focus on the agenda is a significant and unique component of MERIT (Hamm et al. 2017), given that most therapies for psychosis offer more structure as the therapist subtly guides and shapes the therapeutic process. However, as Lysaker and Lysaker (2006) have noted, it can be counter-therapeutic for therapists to try to fill in the emptiness or clean up the disorganized speech of the patient, as it can disrupt the meaning-making process. Second, Debbané et al. (2016) have argued that MBT-p pays more attention to bodily and emotional experiences (given its psychodynamic heritage) than MERIT. They suggest that MBT-p attends more to the therapy relationship, though no evidence was offered for these assertions. While mentalization is conceptualized as being influenced by emotions and the attachment context, it does not necessarily follow that the therapies would be conducted differently. Third, MERIT is grounded in the recovery literature and appears more focused on the effects of internalized stigma on the patient (Lysaker and Roe 2016). The supporting literature for MERIT includes concerns raised about the risks of reinforcing stigma and promoting pessimism and passivity that may result from the therapist having privileged knowledge that informs a pre-packaged narrative for the patient.

In general, these emerging approaches share much in common and though others have attempted to draw clear distinctions in terms of technique (Debbané et al. 2016), the available descriptions and case reports suggest that the approaches are largely compatible with one another. It remains unclear if distinctions between the therapies are due to specific respective elements or are more attributable to individual therapist differences. As the treatments continue to evolve and be refined through future investigation, it is possible that clearer differences will emerge in regard to the active elements of each approach, perhaps including differences in addressing specific difficulties (e.g. different symptom presentations, co-occurring disorders, trauma, etc.) or indicated therapeutic responses to specific interpersonal dynamics. However, in line with other calls for integrative approaches (Harder and Folke 2012), we see many opportunities for practitioners to integrate elements of MBT-p and MERIT, and it is possible that future work may lead to increased convergence of the two approaches. A forthcoming revision to the MERIT therapist fidelity scale (TMAS) (van Donkersgoed et al. 2014), may offer one pathway to more rigorous investigation of the similarities or differences of these approaches.

In the future, more attention should be given to explore non-mentalizing modes of thought, especially the relationship between pseudo-mentalizing, metacognition, and psychosis. How can clinicians distinguish between genuine reflection and defensive intellectualizing that does not promote learning? This is a challenge that therapists frequently face, especially for patients who are verbally sophisticated and can use "insight" to avoid vulnerability or authentic reflection. Second, future research might be more specific about how particular symptom presentation can be best addressed in each respective therapy. Although neither treatment explicitly targets symptoms, it is likely that individuals who presents with negative symptoms might require a different intervention strategy than individuals with fixed delusions. Therapists might need to find ways of judiciously bringing their own emotions into the room, particularly for patients who struggles to access their feelings due to emotional deficits. Additionally, future research might explore how therapists can use their thoughts and feelings in relation to individuals with very rigid models of others' minds (e.g. a paranoid delusion). This can be particularly challenging, as individuals with paranoia often challenge the validity of the other's first-person experience (Kumazaki 2015). It would be helpful for more case studies to be written to tackle how

therapists not only manage the difficult subjective reactions they experience when working with paranoia but also how they can subtly challenge these thoughts while remaining empathically connected to the patient. Finally, more work could be done to appreciate the impact that trauma and dissociation have on deficits in mentalization and psychotic symptoms (Varese et al. 2012). Understanding the effects of trauma can be especially important given that therapists often struggle to differentiate themes of persecution (driven by paranoia) from the impact that trauma can have on individuals adopting a hypervigilant stance in relation to their environment.

Metacognition and mentalization are important concepts that are continually being researched and studied. Despite the fact that many individuals with psychosis do not receive individual therapy, it is evident that targeting social cognition (i.e. mentalization or metacognition) results in real-world changes that improves the lived experiences of patients in their social context (Weijers et al. 2016). In the future, we hope that these therapies (and others such as MIT) will continue to be developed in dialogue with one another to offer integrative, non-stigmatizing treatment that promote lasting subjective recovery for individuals experiencing psychosis.

Compliance with Ethical Standards

Conflict of interest The authors declare that they have no conflict of interest.

Ethical Approval This article does not contain any studies with human participants or animals performed by any of the authors.

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