Addressing negative symptoms in schizophrenia through Metacognitive Reflection and Insight Therapy: An illustrated Case Study

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Abstract

The resistance of negative symptoms to pharmacologic treatment has spurred interest in understanding the psychological factors that contribute to their formation and persistence. Accordingly, recent research has suggested that deficits in metacognition, or the ability to form integrated ideas about oneself, others and the world, are involved in the development and maintenance of negative symptoms. One implication of this work is that treatments which address metacognition may effectively lead to reduction in negative symptoms. This paper explores the application of one such treatment, designed to address deficits in metacognition, Metacognitive Reflection and Insight Therapy (MERIT), to addressing persistent negative symptoms. First the basic principles of MERIT are presented and then its potential to address negative symptoms is illustrated by a comprehensive case report.

Key words: self-reflectivity, psychosis, negative symptoms, experiential symptoms, expressive deficit, metacognition, schizophrenia.

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Sommario

Lavorare sui sintomi negativi nella schizofrenia attraverso la Metacognitive Reflection and Insight Therapy*: un caso singolo*

La resistenza dei sintomi negativi al trattamento farmacologico ha stimolato l'interesse per la comprensione dei fattori psicologici che contribuiscono alla loro formazione e persistenza. Recenti ricerche hanno inoltre suggerito che i deficit nella metacognizione, o la capacità di formare idee integrate su se stessi, gli altri e il mondo, siano coinvolti nello sviluppo e nel mantenimento dei sintomi negativi. Un'implicazione di questi dati è che i trattamenti che affrontano la metacognizione possono portare efficacemente alla riduzione dei sintomi negativi. Questo articolo esplora l'applicazione di uno di questi trattamenti, progettato per affrontare i deficit nella metacognizione e affrontare i sintomi negativi persistenti: ovvero la *Metacognitive Reflection and Insight Therapy* (MERIT). Nella prima parte vengono presentati i principi di base della MERIT, nella seconda se ne discute il potenziale nell'affrontare i sintomi negativi attraverso la descrizione di un caso singolo.

Parole chiave: autoriflessività, psicosi, sintomi negativi, sintomi esperienziali, deficit espressivo, metacognizione, schizofrenia.

Introduction

Negative symptoms are a core feature of schizophrenia spectrum disorders. In contrast to positive symptoms, which reflect the presence of experiences that commonly interfere with psychosocial adaptation such as hallucinations and delusions, negative symptoms involve the absence of psychological processes necessary for successful adaptation (Galderisi *et al*., 2018; Savill *et al*., 2015). More recently it has been suggested that there are two forms of negative symptoms (Kaiser *et al*., 2017; Marder and Galderisi, 2017). Experiential negative symptoms involve the absence of the experience of specific internal states including thoughts, motivation and volition; and expressive symptoms, which include difficulties expressing emotion through speech, expression or gestures in ways that others can perceive them. Negative symptoms remain of tantamount importance given their trait-like qualities, and their links to a range of poor outcomes, including social withdrawal and the collapse of a sense of connection with family, friends and others in the larger community (García-Cabeza *et al*., 2018; Strassnig *et al*., 2015), and resistance to existing treatments (Fusar-Poli *et al*., 2015; Galderisi *et al*., 20180; Sarkar *et al*., 2015).

At the neurobiological level, research has supported the possibility that alterations in brain functioning are associated with negative symptoms,

including abnormalities in network connectivity (Brady *et al*., 2019), reward (Kaiser *et al*., 2017) and glutamatergic systems (Gruber *et al*., 2014). However, less is known about psychological and social phenomenon which may underpin negative symptoms, and could be the focus of intervention. Some older research has suggested forms of cognition including neurocognitive deficits (Sumiyoshi *et al*., 2005) and along with maladaptive beliefs (Rector *et al*., 2005) may contribute to negative symptoms. Following in the spirit of this research, a novel model has been proposed suggesting that deficits in metacognition may represent phenomenon which underlie and sustain negative symptoms when make it difficult to form an integrated idea of emotional and intersubjective experience (Hasson-Ohayon *et al*., 2020; Lysaker, Minor *et al*., 2020; Semerari *et al*., 2003). This model has also proposed that metacognitive deficits may represent a concrete treatment target for psychosocial intervention and offered a guide for the essential ingredients of those treatments.

To explore the metacognitive approach to understanding and addressing negative symptoms, this report will first discuss definitions of metacognition and research supporting its links to negative symptoms in schizophrenia spectrum disorders. We next present an example of a form of individual psychotherapy, Metacognitive Reflection and Insight Therapy (MERIT; Lysaker and Klion, 2017) which utilizes these insights to potentially address negative symptoms. To illustrate the approach of MERIT to negative symptoms a case report is offered of the treatment of a person with significant and persistent levels of negative symptoms. Limitations and future research are finally discussed.

Metacognition and negative symptoms in schizophrenia spectrum disorders

Across multiple branches of psychology, the construct of "metacognition" refers to persons' thoughts and awareness of what they are thinking, feeling and seeking, to make sense of those experiences and accordingly decide to act or not act in certain ways (Flavell, 1979; Hasson-Ohayon *et al*., 2020; Moritz and Lysaker, 2018). Studying subjective experience and recovery from schizophrenia spectrum disorders, an integrative model has been proposed in which metacognition involves activities which allow awareness of discrete cognitive, emotional and embodied experiences in the moment, and the apprehension of relationships amongst these experiences both in the moment and across time (Lysaker *et al*., 2020). Awareness of these

experiences and their relationships operationalizes that metacognition then plays a foundational role in the availability of a working sense of i) one's own unique identity, ii) the unique identities of others, iii) the larger community and iv) emergent psychosocial challenges as well as how to respond to them amidst shifting contexts (Lysaker and Lysaker, 2020).

This model cases metacognition as a capacity that vary between persons as supported by a range of psychological, social and biological processes (Lysaker and Dimaggio, 2014). Higher levels of metacognitive capacity are thought to allow for more integrated senses of self and others while lower levels suggest more fragmented and less cohesive sense of self and others. Applied to psychopathology, the integrative model proposes that deficits in metacognitive capacity are a key node in a network of disturbances in behavior, cognition and emotion that characterize schizophrenia spectrum disorders (Hasson-Ohayon *et al*., 2018; Lysaker, Kukla *et al*., 2020). Research supporting this includes findings that persons with schizophrenia spectrum disorders exhibit particularly grave deficits in metacognition across international settings and that poor metacognitive ability predicts poorer functioning across multiple psychosocial domains (c.f. Lysaker, Minor *et al*., 2020).

Directly pertaining to experiential negative symptoms in schizophrenia, previous work has suggested that metacognitive deficits may be linked to graver negative symptoms in several ways (Faith *et al*., 2020; Garcia Mieres *et al*., 2020a; Lysaker and Lysaker, 2020). First with decrements in metacognition and a more fragmented sense of self and others, persons may lose their sense of the larger purposes which have previously helped to guide behavior and led certain activities to be perceived as more meaningful than others. This fragmentation may then be manifest discretely as both a lack of volition and motivation. Second, in parallel, deficits in metacognition may also erode a person's sense of their possibilities resulting in a loss of coherent goal-directed behavior, again appearing as avolition or abulia. Third, with greater metacognitive deficits and a more fragmented sense of self and others, persons may lose a sense of how they are connected to others resulting in an absence of any potential for intersubjectivity and hence lack of expression of internal states. Finally, with a loss of a sense of how to respond to challenges, a lack of agency has been suggested to ensue again resulting in an apparent lack of motivation and desire as well as expression of emotion.

Research supporting the link between metacognition and negative symptoms includes cross-sectional studies linking metacognition and negative symptoms (Lysaker *et al*., 2005; Lysaker, Chernov *et al*., 2020;

Trauelsen *et al*., 2016) and prospective, indicating poorer metacognitive function with more severe negative symptoms in the future (Austin *et al*., 2019; Faith *et al*., 2020; Hamm *et al*., 2012; Lysaker *et al*., 2015; McLeod *et al*., 2014). More recently, Garcia Mieres *et al*. (2020a) presented evidence that diminished emotional expression in schizophrenia spectrum disorders may occur when impairments in metacognitive self-reflectivity, alterations in higher-order language structure, and cognitive symptoms interact and thus interfere with persons' abilities to understand and express emotions in ways others can recognize. Consistent with this work finally includes broader research linking graver negative symptoms with deficits in self-concept (Cicero *et al*., 2016; Hesse *et al*., 2015). García-Mieres *et al*. (2020b) have also reported that metacognition mediated the effects of disturbances in language upon the severity of negative symptoms.

Application of the metacognitive model to the treatment of negative symptoms in schizophrenia spectrum disorders

Beyond its theoretical import, the integrative model of metacognition also has clear clinical implications for the potential to treat negative symptoms; primarily metacognition could be a target of intervention which, if addressed, could lead to improvements in negative symptoms. For example, if treatment could enhance metacognitive capacity leading to more integrated and less fragmented senses of the self and others, persons might recapture a sense of their purposes, positions and possibilities in the world, resulting in greater levels of agency and intersubjectivity, both being manifest in a reduction in both experimental and expressive negative symptoms.

One approach explicitly inspired by the integrated model of metacognition for persons with schizophrenia spectrum disorders is a form of integrative psychotherapy referred to as Metacognitive Reflection and Insight Therapy (MERIT: Lysaker and Klion, 2017). In MERIT, metacognitive capacity is stimulated by a series of synergistic processes which are sensitive and responsive to patients' capacity for self-reflectivity, awareness of the other, and mastery. In a manner somewhat similar to physical therapy, patients, regardless of the acuity of their condition, develop increasing levels of metacognitive capacity which allow them to make sense of psychiatric challenges, possibilities and their larger place in their community, subsequently coming to direct their recovery (Lysaker, Gagen *et al*., 2020; Lysaker, Kukla *et al*., 2020).

In MERIT, the therapist and patient are seen as jointly making meaning of

the challenges and possibilities facing the patient and how he or she would like to address them. A key of this therapy is that joint meaning making is made at a level consistent with the patient's metacognitive capacity. MERIT is by definition integrative and meant to offer an approach to psychosis that could be applied by therapists from different backgrounds. Since the meanings a patient might make of their experiences could never be predetermined, MERIT is defined by larger-scale procedures and processes rather than a curriculum of specific activities. Specifically, MERIT is defined by the presence of eight therapeutic elements which should be present to some degree in every session. Each element is conceived as related to and affecting one another but also measurable on its own. Each is further sufficiently broad so as to address the needs of patients with different psychosocial and clinical concerns.

The eight elements are divided into three groups: content, process, and superordinate. The *content* elements including first attention to the patient's agenda or underlying wishes and desires. The second element involves the establishment of the therapist as a partner in dialogue. The third and fourth involve eliciting and reflecting upon patient's personal narratives (Element Three) and psychological challenges (Element Four). The second group of elements is referred to as the *process* elements. These call for active consideration of the therapeutic relationship (Element Five) and reflection upon the impact or lack of impact of the session (Element Six). The final two elements are referred to as the *superordinate* elements and require that therapist reflections match the patient's current metacognitive capacity for thinking about the self and others (Element 7) and thinking about psychosocial challenges and how they are responding to them (Element Eight). More detailed descriptions can be found elsewhere (Lysaker, Gagen, *et al*., 2020; Lysaker and Klion, 2017).

A case illustration of MERIT for persons with schizophrenia spectrum disorders experiencing negative symptoms in schizophrenia

Presenting Problem & Client Background

The client in this case will be referred to as Phil. His name and other identifying information have been altered to protect his confidentiality. Phil is a white male in his late 60s, currently living alone in a home he owns. Phil was married for a brief period in his 20s and has no children. He was raised by his parents in a low-income neighborhood in an urban, Midwest city. His parents divorced when he was a teenager. He is the youngest of 4 siblings,

whom he reports he was never very close with. He described his father as absent and quiet while describing his mother as a caring, but distant woman. Phil's parents and two of his three siblings are deceased. He has one living sister who resides in another state, but they have no contact with one another. Family history of mental health difficulties is unclear.

Throughout childhood, Phil was an average student and he struggled to connect with peers. He noted that he never felt close to family members and recalled having no friends. He never attended school functions or dances and was not involved in any extra-curricular activities. Phil remembers spending most of his time alone outdoors watching animals, something he still enjoys. He never dated throughout school but remembers having a crush on a girl from his neighborhood.

Phil left high school early due to lack of social rewards and instead obtained his GED. After this, he fairly quickly enlisted in the military. He identified these years as the first time he truly felt uncomfortable and was discharged after two years. He returned to his hometown and struggled to secure a stable job for several years, often being laid off for unknown reasons. During this time, he got married to a young woman he met at a bar. This relationship quickly deteriorated and became physically violent to the point in which police were often called. He further described experiencing his first episode of psychosis during his marriage in which delusions of his wife having satanic powers connected with the color orange and conspiring to harm him with an outside organization.

After divorcing his wife and continuing to struggle with employment, Phil reenlisted the military but was discharged early due to an inability to pass all the requirements. For several years, Phil moved frequently to different areas of the country, describing a constant state of confusion that had been occurring since his time in the military. Throughout this time, he was involved in a variety of violent and tumultuous relationships with roommates and family members that felt confusing and suddenly conflictual. Eventually, he settled in a small Midwest town where he has resided for the last several years.

Method

Case Conceptualization

At the start of MERIT, Phil fully met criteria for schizophrenia for over a decade. He had been living on his own for a few years. Phil was unemployed but received disability benefits for income. He was prescribed

an atypical antipsychotic which he thought was useful because it helped him be less confused and distressed. By his report, he did not experience any hallucinations but did still have a pervasive mistrust of others, though this was not at the level of delusion.

While positive symptoms rapidly diminished over the next few years, Phil's experience of negative symptoms progressed over time. He suffered from severe lack of emotional expression; even when discussing painful life events, his descriptions were devoid of affective connection. Phil was quite socially withdrawn and only interacted with others for practical reasons (e.g. transportation or routine medical visits). He found it challenging to connect with others, despite a desire for this. Further, Phil experienced significant avolition; he struggled to motivate himself for daily activities which resulted in filling his home with clutter and spending a large amount of time sleeping. Phil's negative symptoms coupled with significant fragmentation and lack of ability for intersubjectivity were such that some providers suspected he might be suffering from dementia at his intake to the clinic.

Phil's metacognitive capacity was assessed using the Metacognition Assessment Scale – Abbreviated (MAS-A; Lysaker *et al*., 2014). The MAS-A is an abbreviated version of the Metacognition Assessment Scale developed by Semerari and colleagues (2003) that was collaboratively adapted to allow for the assessment of metacognition within personal narratives. The MAS-A consists of four scales thought to measure salient aspects of metacognition: Self-reflectivity, the ability to comprehend one's own mental states; Understanding the Mind of the Other, the ability to consider the mental states of others; Decentration, the ability to acknowledge multiple perspectives; and Mastery, the ability to use knowledge of the self and others to respond to psychosocial challenges. Higher scores on each scale indicate higher levels of metacognition.

At the beginning of psychotherapy, Phil's metacognitive abilities were limited as measured by the MAS-A. In terms of Self-reflectivity, he could identify that mental activities were occurring in his own mind and distinguish between the various cognitive operations such as memories, desires, thoughts, etc. However, he was unable to identify nuanced states of emotion and could only describe events as "good" or "bad". In regard to Understanding the Mind of the Other, Phil was aware that others had mental activities occurring in their own mind but was unable to differentiate between the range of internal states that others might have, such as their own thoughts, wishes, or intentions. Phil perceived himself as the center of all activities, and thus achieved the lowest possible level of Decentration. He was unable to see events from multiple perspectives and did not have a clear

understanding of other people having lives entirely separate from him. Finally, in terms of Mastery, Phil struggled to articulate a plausible psychological problem. He tended to discuss his daily activities without any real expression of distress or life challenges.

Course of Treatment

From the outset Phil attended sessions in an outpatient clinic, taking public transportation from his residence which was a significant distance away. There were no changes in medication and Phil did not receive any additional treatment over the course of therapy. Sessions lasted fifty minutes and were weekly. His attendance was consistent even though initially he could not articulate a reason for why he wanted psychotherapy, other than that he enjoyed the trip to the clinic. He was polite and courteous, though had little to no insight into having a mental illness. As noted above he expressed little to no emotion and seemed to be aware of few if any emotions or complex thoughts. To capture the therapist's response to Phil and the ensuing progress, we will next focus on how this unfolded according to each of the elements of MERIT.

Element 1: The Preeminent Role of the Patient's Agenda

The first element of MERIT refers to the importance of understanding and attending to the patient's agenda in each session. Agendas can manifest as an individual's motives, wishes, desires, plans, and/or purposes that are brought into the session. Patient agendas may be different each session or change as the session progresses. The primary purpose of this element is to promote an experience of oneself as an active agent in treatment.

Initially, Phil's agenda appeared to be to deter the therapist (KH) from knowing him in any meaningful way. He would often begin sessions by discussing surface-level topics such as the weather and sharing his daily activities. Phil would often set limits on what topics were not acceptable to discuss, including relationships and sex, citing that he could not see any use in examining the past or simply stating he couldn't remember that far back. Another possibility that occurred to the therapist was that Phil's agenda could be to avoid creating a connection with another person. The therapist carefully considered the idea that her attempts at knowing him might be too threatening or incomprehensible to him given his pervasive fragmentation

and negative symptoms. Importantly, the therapist ensured she did not contradict Phil or make attempts to label these agendas as inappropriate. Rather, she made these agendas manifest within session by openly acknowledging Phil's wishes to remain unknown while continuing to try to learn about his life.

Over time, Phil began slowly sharing more memories and discussing various events in his life. His agenda started to allude to a desire to think about relationship difficulties, but these wishes were short-lived and tended to be eclipsed by a sudden divulgence of peculiar, somewhat shocking material. At these times, it appeared his agenda was to get the therapist to back off. In response, the therapist and Phil thought about these instances with the metaphor of a fish being out of water and retreating back to the ocean. Through exploration of why and when he might go back into the ocean, it became clear that Phil felt in danger, perhaps due to too much interpersonal closeness or feeling particularly vulnerable as the therapist asked him to explore painful parts of his life. Therefore, an agenda to protect himself or keep himself safe emerged.

As therapy further progressed, Phil found himself more open to the therapy process and started discussing topics that were painful to him. His focus changed from a protective stance to one in which he was interested in thinking about himself. Phil often described a physical sense of relief and a sense of security from later sessions, such that he started asserting his desire to have another individual to talk to, count on, and share his experiences with. With time and an incrementally deeper understanding of himself as an agentic being in the world, it appeared that Phil's purpose in session evolved from generally wishing to be unknown by the therapist to desiring to keep himself safe to seeking support and connection.

Element 2: The Introduction of the Therapist's Thoughts in Ongoing Dialogue

This MERIT element refers to the therapist sharing the contents of her mind in a way that promotes dialogue in session. The therapist must offer her mind in a way that elicits collaborative thought and encourages reflection about these thoughts. Such reflection should allow for stimulation of the metacognitive capacity to know the mind of another person while simultaneously considering one's own mind as the patient explores their reactions to the therapist's offerings.

In the beginning, this element proved to be a challenge with Phil. The

therapist felt very aware of the threat that intersubjectivity posed for him and, thus, was very selective with what she chose to share of her mind so as to not overwhelm him. She commented that she was curious about his life and offered guesses about what was happening in the room. For example, she made comments about his agendas such as "I get this sense that these are fond/difficult memories" or "One thought I had is that sometimes my questions might feel intrusive". Another common way the therapist would share her mind was in instances when Phil would set limits on the conversation by stating, "I wonder if you could help me understand why this is off limits". This element is not intended to impede on the patient's agenda or ease the therapist's anxiety thus the therapist was mindful to share her mind as a vessel for further reflection, rather than fact.

With time, Phil was not only able to tolerate an increasing amount of the therapist's mind but also began seeking out her thoughts as a way to further understand the therapist as a unique person with her own thoughts and ideas. This allowed for the therapist to use her distinct experiences to promote continued dialogue within the session. For instance, when discussing the painful experience of his past marriage and its eventual turn to violence, Phil inquired about the therapist's past relationships. She was able to share about past romantic relationships that also turned sour as well as discuss her current marriage as a positive experience. In response, Phil was able to reflect on his reactions, including being interested in the possibility that relationships could be positive. Through these interactions, Phil was able to know his mind and the mind of others more fully as he compared his thoughts with those of the therapist and reflected on the existing differences and similarities.

Element 3: Eliciting Narrative Episodes

The third element of MERIT requires the therapist to elicit and promote thoughtful consideration of narrative episodes from the patient's life. This supports the therapist in viewing the patient as a unique and complex being in the world as opposed to a collection of symptoms or mental health diagnosis. Narrative episodes were equally important and difficult for Phil. His disconnection from his story and the world inhabited by others was initially palpable. He tended to be a poor historian with only a vague ability to describe events in his life. For example, early on Phil discussed a time in which he almost attended a school dance. He was unable to provide details regarding what occurred, including how old he was or what grade he was in,

and provided strange, disjointed explanations for what happened to change his mind. Coupled with his resistance to discussing the past, this was a challenge for the therapist at times as she had to tolerate Phil's fragmented accounts and refrain from rushing him or making connections for him. The therapist had to be willing to exist in a space with Phil in which both of them were deeply confused and uncertain about understanding many aspects of Phil's experience of himself and others in his life.

With practice, several narrative episodes were elicited multiple times resulting in a more nuanced and detailed life history. This gave the therapist a sense of how Phil's identity developed over the course of his life and how these various events impacted one another. Further, through the emergence of a more coherent account of his life, the therapist was better equipped to support Phil in his self-reflection. With these interactions, the dyad was able to collaboratively connect narratives and common themes related to struggle to connect with others and the world. These narratives helped form the conceptualization of Phil's psychological problem, which will be detailed below.

Element 4: The Psychological Problem

The fourth element is a fundamental element of MERIT that involves the therapist and patient finding a mutually agreed upon, plausible psychological problem. Early in therapy, Phil did not present a plausible psychological problem in session. He desired to remain unknown and often staunchly denied that there were things he was unhappy with or wished were different in his life. At times, Phil could express a general sense of distress but was largely unable to articulate the source of that distress or attributed it to external factors such as other people not meeting his expectations.

As therapy progressed and Phil generated a more coherent account of his life, he and the therapist created a metaphor for his wish to protect himself from connection and referred to this as "a fish staying in the ocean". As Phil reflected on his tendency to recoil from vulnerability and connection, he began to offer narratives related to an incredible and painful struggle to connect with others that started in his youth. Despite attempts to connect through marriage or seeking out a roommate, relationships tended to deteriorate quickly into violence and chaos. A particularly salient set of narratives involved jointly thinking about friendships during his school years. He recalled living in a low-income neighborhood in which mostly black families lived while being bussed to the white school. As a result, Phil

remembered never having friends as a child as he struggled to connect with both the neighborhood kids as well as his classmates. Other stories emerged involving a lack of closeness with his siblings, a general distance and neglect from his parents, and his first and only romantic relationship. Eventually, Phil made the decision to keep people in the "acquaintance" stage as it was safer and less painful when things ultimately didn't work out. However, this led to extreme loneliness and emotional pain for Phil.

Notably, development of an awareness of a psychological problem occurred within the processes of the first three elements in the following way. As Phil attended sessions as an agentic being with a purpose, he engaged in reflective dialogue with the therapist surrounding a variety of narrative episodes and considered his reactions to the therapist's mind in the context of these stories. Through these processes, Phil was able to start thinking about himself and his experiences in increasingly complex ways that provided the platform for confronting the pain in his life.

Element 5: Reflecting on Interpersonal Processes within the Session

Element five entails the therapist to foster discussion and jointly reflect with the patient on the dynamics within the session. Initially, this proved to be a difficult task for Phil in that his sense of connection to others and thus his capacity for intersubjectivity was lost. He tended to view the therapist as someone to keep at a distance and it occurred to the therapist that Phil likely was unsure about how to, or if it was safe to, connect with someone else. One particularly significant session occurred when the patient and therapist were able to join on a common interest in fish. Within the context of thinking about the dyad as two fish in the same ocean, Phil was able to articulate that he appreciated that they were both fish but he couldn't be sure if the therapist was a good or bad fish. It seemed that finding something with which to connect allowed the therapist permission to enter into Phil's world as a distinct person he could subsequently come to know.

Through continued consideration of these evolving dynamics in each session, Phil came to describe the therapist as someone he could count on to be in regular contact with and assist him in making sense of the various events in his life. He further appeared to begin to use the framework of the therapy relationship to consider the role of other relationships in his life. For example, upon getting a new phone, Phil decided to program important numbers, including two helpful neighbors and the therapist. Through jointly considering his decisions, the dyad was able to compare the roles of his

neighbors as practical support and the role of the therapist as emotional support. Notably, the goal of this element was never to change the dynamics within the session or impart particular roles onto the relationship. Rather, exploration of interpersonal processes served to establish that these conversations occurred in an intersubjective environment.

Element 6: Reflecting on the Process of Therapy within the Session

The sixth element of MERIT involves joint reflection regarding how therapy is experienced by the patient within and across sessions. Questions such as "How did this conversation go for you today?" or reflections like "Today felt different from past sessions, did you notice that too?" were commonly utilized. Toward the beginning of therapy, Phil often responded it was "fine" without further reflection about what this meant. With time, Phil started to articulate what his specific experience was in each session, including aspects that went well and those that didn't go well. For example, he consistently described a sense of "relief" and security that occurred within the session, but he could also identify that discussing painful memories was difficult. He further began to note that the therapist's curiosity about him seemed to drive forgotten memories to the surface and he could reflect on this as both positive and negative at different times.

Element 7: Stimulating Self-reflectivity and Understanding the Mind of the Other

MERIT's seventh element requires the therapist to assess the patient's capacity for reflection on themselves and others within the session, and consequently offering interventions that match that level while scaffolding higher levels of reflection. Phil started therapy with low levels of self-reflectivity. He demonstrated an ability to recognize nuanced mental activities were occurring in his mind but was unable to express emotional states. Thus, the therapist offered interventions that highlighted the contents of Phil's mind and provided reflections that tracked his mental states within the session, such as "You had the thought that..." or "You were thinking about X and that sparked a memory about Y". As Phil began to reflect more on the occurrences in his mind, he provided increasingly detailed narratives about his life. These narratives were often rife with emotional valence, but he remained unable to articulate internal states, often appearing void of affect. The therapist began

to scaffold higher levels of self-reflectivity by sharing her own thoughts about these events: "What you're describing sounds like loneliness" or "I can imagine I might feel...". By the end of therapy, Phil started articulating a range of emotional states describing experiences of humiliation, anger, embarrassment, loneliness, happiness, excitement, etc.

Similar to self-reflectivity, Phil began with very low levels of understanding other people. He was aware that others had their own thoughts but could not distinguish between cognitive operations in a nuanced way. At times, he even struggled to recognize that others' thoughts might be different from his own. The therapist focused interventions on sharing her own mind in session, being sure to attend to the specific cognitive operation she was using: "A thought that crossed my mind is..." or "I remember...". Further, the therapist also utilized interventions that prompted Phil to consider what may have been in others' minds within specific narrative episodes. Consistent with past work (Lysaker *et al*., 2014), Phil made fewer gains in his ability to reflect on others' minds when compared with gains in self-reflection. He did obtain the capacity to consider a range of cognitive operations in others' minds, including being curious about the therapist's opinions, experiences, etc. and how those might be similar or different from him.

Element 8: Stimulating Psychological Mastery

The final element of MERIT calls for the use of knowledge of oneself and others to respond to psychological problems. As described earlier, Phil's psychological problem was not clearly defined at the onset of treatment, and he had no strategies to address the vague sense of distress he experienced. As Phil's psychological problem developed, he began to consider how he might respond to his persistent lack of connection with others. He initially managed these experiences with passive strategies such as avoiding social contact and staying at home. Toward the end of therapy, Phil began taking an active role in seeking out support, particularly from the therapist, as she was someone he felt he could trust if things went wrong. He also began employing behavioral strategies to combat his loneliness, including asking two people he often sees in his neighborhood over for dinner. Overall, the primary gains Phil made in Mastery were in the context of a developed psychological problem and making decisions about how he might want to approach that. Importantly, the therapist refrained from telling Phil what his psychological problem was and did not focus on symptoms.

Results

Gains in Metacognition

Throughout, the therapist engaged in ongoing assessment of Phil's metacognitive capacity utilizing the MAS-A, described above. Overall, these ratings show that Phil experienced gains in all domains of metacognition, most notably Self-reflectivity, Understanding the Mind of the Other, and Mastery. Importantly, past case studies of metacognitively focused psychotherapy have established that gains in metacognition are not strictly linear (Lysaker *et al*., 2007; Leonhardt *et al*., 2017). This trend has been theorized to illustrate that increased awareness is accompanied by subsequent pain and loss (Buck *et al*., 2012; Leonhardt *et al*., 2015). This same trend was observed with Phil in that gains in metacognitive capacity were often followed by decline, and again followed by additional gains and later decline. Therefore, Phil's abilities varied by session and these variations were attended to accordingly.

With regard to the first MAS-A scale, Self-reflectivity (which is a scale that ranges from "0" to "9"), Phil was initially assessed as capable of at most performing the acts at the third level (S3) which corresponds to the ability to distinguish between a range of cognitive operations such as memories, wishes, and thoughts. He had significant difficulty describing emotional states in a nuanced way and could only discuss things in terms of "good" or "bad". By the end of therapy, the therapist rated Phil as capable of performing acts at the fifth level of that scale(S5). As he reflected upon his life narrative, he was able to recognize a range of emotions and further began to develop the awareness that his thoughts are fallible and subject to change over time. Similarly, Phil demonstrated low levels on the next MAS-A scale, Understanding the Mind of the Other (which ranges from "0" to "7"). The therapist's initial assessments suggested Phil was capable at most of performing the metacognitive acts described by the second level of this scale (O2), that is, understanding that others have mental activities occurring but an inability to recognize the variety of cognitive operations another person might have. Through developing a connection with and considering the thoughts and reactions of the therapist, Phil was assessed as being able to fully perform the activities captured in the third level and partially those in the fourth (O3.5) after one year of MERIT. This corresponds to Phil's developed ability to recognize a range of mental activities of others and a budding capacity to identify the emotional states of another.

For the Mastery MAS-A subscale (which ranges from scores of "0" to

"9"), Phil initially could not identify a clear psychological problem and largely denied any experience of distress or life challenges. This was reflected in a rating of M0.5. It did not take much time before he was beginning to allude to a general sense of distress (M1) and moved into identifying psychological problems, particularly struggling to connect with others (M2). By using his gains in Self-reflectivity and Understanding the Mind of the Other, Phil was able to make further gains in deciding what to do about the challenges he faced. He began seeking out support as well as responding to various difficulties through pointed behaviors such as inviting acquaintances over for dinner. Ultimately, Phil was assessed as able to perform the metacognitive acts captured by the fifth level of the Mastery scale (M5). Finally, with regard to Decentration (which has a range of "0" to "3") only small gains were observed. Phil started at the lowest possible rating as he viewed himself as the center of all activities. At the end of therapy, Phil was rated at D0.5 in that he was beginning to recognize that others' mental activities and/or actions may be unrelated to him. For instance, when discussing his estranged relationship with his sister, Phil considered that their distance might be related to her priorities as a wife, mother, and grandmother. This pattern of developing metacognitive capacity has been mirrored in other work depicting metacognitively focused therapy and has been theorized that through growth in the other three metacognitive domains, growth in Decentration will later follow (Lysaker and Klion, 2017).

Gains in Negative Symptoms

Similar to observations of gain in metacognitive capacity, the therapist observed notable gains in Phil's experience of negative symptoms over the course of therapy. As was depicted earlier in this paper, Phil presented to therapy with a range of both experiential and expressive negative symptoms. He seemed to have an absence of experience of emotional states, was socially withdrawn, and suffered significant avolition. However, through developing a more integrated sense of himself and others, these experiences appeared to decrease over time. These observed improvements in negative symptoms may be a reflection of improvement in metacognitive capacity.

Phil gained a better sense and awareness of his own internal states and the internal states of others which paved the way for his ability to more adequately express and communicate these experiences to someone else. Reportedly, Phil began having more thoughts and feelings when he was

alone and within session, particularly noticing that past memories were emerging in which he found both useful and painful to discuss. Further, as Phil was able to identify plausible psychological problems, (e.g. struggling to connect with others) he was then able to consider how he might want to manage these challenges. He began developing a newfound sense of purpose and pointedly doing activities that were meaningful to him, including taking walks in his neighborhood, napping less often, and engaging in projects around his home (e.g. painting, gardening, decluttering). Additionally, given the intersubjective nature of this work, Phil was able to establish a connection to the therapist that was discussed in depth within each session. This began to generalize to his life in a broader sense as Phil started taking initiative in his relationships by inviting neighbors who he found interesting over for dinner and programming supportive individuals into his phone.

Discussion

Research has suggested that metacognitive deficits or difficulties forming complex and integrated ideas about the self and others may either partially cause or sustain negative symptoms in schizophrenia. In this paper we have presented one treatment designed to address metacognition and its potential application for addressing negative symptoms. The application of MERIT has been illustrated in a case study in which a person with significant levels of negative symptoms was observed to make noteworthy gains in his ability to notice and express internal states which was manifested in reductions in negative symptoms.

There are limitations to the present paper. First, the findings of a case study cannot generalize to other individuals even with apparently similar symptom presentations. More work is needed in persons with different demographic features, clinical characteristics, and phases of illness. Ratings of metacognitive capacity within the session were also done by the therapist, rather than blind raters. It is possible that this impacted scores of metacognition. Similarly, improvements in negative symptoms were not measured via any established measures which leaves these findings susceptible to confirmation bias. We also chose a patient whose negative symptoms emerged as his positive symptoms receded as well as one willing to participate in psychotherapy. It is possible what was observed here does not apply to other cases. Furthermore, this paper is limited to exploring only one type of integrative metacognitive therapy for psychosis. Other innovative metacognitively oriented therapies (Dimaggio *et al*., 2015) as well as

metacognitively oriented skills-based groups exist (Inchausti *et al*., 2018; Moritz *et al*., 2014), thus more work investigating the efficacy of these approaches is warranted.

Finally, despite these limitations this work is consistent with other work targeting negative symptoms in prolonged psychosis through MERIT (van Donkersgoed *et al*., 2016). This is also consistent with past work suggesting that adopting the MERIT principles in therapy may assist clinicians to tailor interventions to the complexity of the clinical presentation of patients with prolonged psychosis previously thought to have a poor prognosis (Hamm and Leonhardt, 2016).

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