Metacognitive interpersonal therapy in groups for over-regulated personality disorders

Metacognitive Interpersonal Therapy in Groups for Over-regulated personality disorders: A single case study

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Abstract

Individuals with Personality Disorders (PD) demonstrate poor metacognition, here defined as the capacity to use mental state knowledge for regulation of interpersonal relationships. Metacognitive Interpersonal Therapy (MIT) targets the symptoms of PD via a series of formalized procedures. It's goal is to help individuals improve their metacognitive capacity through developing and enacting more adaptive social behaviors. MIT has been manualized for the treatment of PDs featuring overcontrol, with single case studies providing initial evidence of its effectiveness. Given the need to deliver cost-effective treatments for patients with over-controlled and socially inhibited PDs, we developed Metacognitive-Interpersonal Therapy in Groups (MIT-G), a short-term manualized group treatment with both psychoeducational and experiential aspects (Popolo et al., 2018). Here we present the case of a young man presenting with Narcissistic PD (vulnerable type) featuring marked avoidant and obsessive-compulsive traits, social inhibition and emotional overcontrol. We describe the therapeutic process and how role-playing significant episodes helped him to improve metacognition, leading to the adoption of more effective social problem solving strategies. Outcomes were positive in terms of increased quality of social relationships, decreased symptoms, better emotion regulation and improved well-being. We conclude by considering how these processes may improve treatment delivery for these types of PD presentations.

Keywords: personality disorder; metacognition; motives; metacognitive interpersonal therapy; emotion regulation.

Introduction

Improving the capacity to understand mental states, both of self and others, is key to treating personality disorders (PDs). Understanding one's own wishes and recognizing one's own strengths and weaknesses is necessary to enable adaptive relationships with others, increasing the likelihood one's own social and interpersonal goals will be met. In parallel, the more one is aware of how others think and feel (and why they do so), the motivations that drive them and their triggers for distress; the better one is able to form joint goals, negotiate when goals are discrepant, avoid misunderstanding and solve conflicts. The capacity to understand mental states, reason upon them and flexibly use them to inform interpersonal regulation has been named metacognition (Semerari et al., 2003) and is frequently compromised in PDs (Carcione et al., 2011; Pellecchia et al., 2018; Semerari et al., 2014). Individuals experiencing PDs have difficulties in all aspects of the metacognitive system. They have problems naming the emotions they experience and understanding their causes. This precipitates maintenance schema-driven attributions and a reluctance to questions one's cognitions or flexibly try to appraise situations from a different angle. The individual's capacity to understand others' mental states is also limited, and consequently individuals tend not to realize that others see the world with different lenses than their own. Finally, these individuals have limited capacity to use mental state knowledge in the service of social problem solving (Carcione et al., 2011; Lysaker et al., 2014). Against this background, promoting metacognition becomes a key element of change in psychotherapy of PDs, with the goal that better mentalizing capacities helps reduce distress and improves the quality of relationships.

Poor metacognitive capacities contribute to a maintenance cycle whereby individuals with PD sufferers remaining trapped in toxic relational dynamics which cause symptoms and maladapation. These individuals tend to appraise interpersonal relationships as being driven by their maladaptive schemas. Linked to this is a lack of capacity to reflect on interpersonal dynamics, limiting the capacity to understand for example that ideas are mental states and do not necessarily mirror reality. Furthermore, higher order metacognitive capacities include the awareness of one's own appraisal of interpersonal processes, largely stemming from an individuals developmental history (Bowlby, 1969; Sullivan, 1953).

Individuals are prone to chronic PD related difficulties when they predict basic wishes will remain unmet. Therefore therapy aims to facilitate the individual develop confidence in achieving more adaptive goals. If individuals become more aware of the drives that guide them and the others, they are better equipped to form adaptive strategies to meet goals, form alliances and solve conflicts. MIT assumes that basic motives are shaped evolutionarily (Ivaldi, 2016; Lichtenberg et al., 2016; Liotti & Gilbert, 2011). Motives include: a) Attachment (Bowlby, 1969) - the need for love, protection, safety and attention; b) Caregiving - the tendency to lend help when we perceive another as scared, vulnerable or suffering; c) Exploration and Autonomy/Independence - activated in order to explore the environment and find resources; d) Social rank - triggered under limited resources and defined by hierarchies of access to resources; e) Group inclusion/Affiliation – denotes the need to belong (Baumeister & Leary 1995; Lichtenberg et al., 2016), whereby humans need to feel they are part of a community, and conversely where exclusion preciptates distress-proneness; f) Sexuality - regulation of behaviors relating to attracting a partner with the goal of forming long-term bonds where primary sexual drives can be met; and finally g) Cooperation - based on the need to reach goals that are beyond an individual's own skills. Individuals thus form alliances in order to reach these goals, which maximize the likelihood of achieving such goals (Tomasello et al., 2005).

MIT considers that interpersonal schemas and poor metacognition are core to PD maintenance. These ideas are in part shared with other approaches. For instance Attention to

schemas is by the way shared with Schema Therapy (Young et al., 2003; see Fassbinder & Arntz, this issue). The two approaches share an emphasis on experiential techniques when attempting to rewrite those schemas (see Arntz & Jacob, 2012). However, Schema Therapy, unlike MIT, does not pay attention to metacognitive dysfunction. Attention to poor metacognition or mentalizing is also common to mentalization-based treatment (MBT) (Bateman & Fonagy, 2004). However, MIT and MBT differ in key areas. For instance MBT avoids formulations built around the concepts of schemas, while this is one of the most important features of MIT.

Metacognitive abilities, as with any human higher-order capacity, can be taught and improved with practice, given appropriate scaffolding. The group context forms a natural soil for this learning process, which is one of the reasons we devised a manualized group program for PDs. Group therapy creates a semi-naturalistic protected space where patients interact with others' minds and reflect on interactions with other group-members. This enables better identification of what they think, and feel, thus improving identify and recognition of one's typical attributions. Participants can also better understand others' perspectives and the feedback on ones attitudes that others offer, facilitating individuals to fine-tune their communicative strategies. Moreover, they can learn from the solutions that others adopt and model offering their own solutions to the group. Patients can eventually use this evolving capacity to improve the quality of their relationships with other group members. This forms a basis for practicing metacognition in everyday interactions, which are more emotionally laden and influenced by individuals investment in their personal goals.

Metacognitive Interpersonal Therapy in Groups

Metacognitive Interpersonal Therapy (MIT; Dimaggio et al., 2007) includes improving metacognition among its therapeutic targets. It has been manualized in order to treat PDs featuring overcontrol, both in terms of emotional over-regulation and behavioral inhibition (Dimaggio et al., 2015) with two single case studies providing initial evidence of its effectiveness (Dimaggio et al., 2017; Gordon-King et al., 2018). Given the need to deliver cost-effective treatments for patients with over-controlled and socially inhibited PDs, Popolo, Dimaggio and colleagues devised

Metacognitive-Interpersonal Therapy in Group (MIT-G), a short-term manualized group treatment with both psychoeducational and experiential aspects (Popolo & Dimaggio, 2016). MIT-G has been tested in a first pilot randomized controlled trial against TAU+ waiting list, and yielded symptomatic, functional and metacognitive improvements with large effect sizes (Popolo et al., 2018).

MIT-G: Core principles and format

Two principles underpin MIT-G: 1) metacognition can be, to a certain extent, learned via shared social experience; 2) providing patients with knowledge about evolutionarily shaped motives (e.g. what humans typically strive for, a typical thoughts and emotions when driven by a specific motive) helps cue social scripts for interpreting others' intentions, and influence behavior towards better quality relationships.

MIT-G includes 16 group sessions, firstly illustrating the above listed motives, and then role-playing personally important episodes where the motives in question was active (see Table 1). Each group of sessions devoted to a specific motive begins with psychoeducation. Each motive is described in simple language. Short videoclips show human actors, mammals or cartoons interacting while driven by that motive. The therapist describes what individuals typically think and feel in that context. For example when one is in distress we seek care (attachment) and experience sadness when others are unavailable, or when others defy our status (social rank) we become angry or scared. In the second part of each session, therapists invite participants to write down a specific autobiographical memory where their actions were driven by that system.

The therapists then select an episode and ask the author to role-play it. The first role-play has the primary goal of promoting awareness and reflection upon self- and other- related mental states. Role-play is enacted for the first time with the patient interpreting him or herself. Then roles are reversed and the patient interprets another character, whilst the group member who was formerly in that role adopts the role of the protagonist. Once role-reversal is completed, a group discussion follows about the mental states the participants might have experienced.

In the next session(s) concerning the same motive, therapists invite role-play of a specific episode, but this time the exercise is devoted to mastery, (i.e. mentalistic problem solving). After the participant has discovered what he or she thinks and feels, and the rationale behind his/her intentions, the therapists then ask him or her to repeat the scene trying to use this information to find a creative solution, such as would allow the protagonist to fulfill a wish, solve a conflict or generate cooperation. Importantly, there are no correct or incorrect solutions.

Participants are explicitly told that what matters is developing a capacity for flexible thinking, to view social interactions from multiple perspectives and potentially find solutions that work. Therefore, feedback from the actors of a role-play and of the other group members is fundamental in providing the protagonist with knowledge about how his/her solutions are received by others and what kind of mental states they elicit. Finally, the 16th session reviews participants' experience of the program and the process of change. This include reasoning about gains the group brought. Here staying well plans are devised for individuals to apply their learning from during the program in everyday life are devised.

MIT-G also includes 3 individual sessions. One pre-treatment session aims to elicit narrative episodes, begin forming an understanding of interpersonal schemas, develops therapeutic alliance and agrees treatment goals and tasks. One mid-program session aims at reviewing the schema-formulation, thinking about progress and discussing difficulties with the group or in real life. The third session after group termination helps reflect on gains, consider outstanding issues and devise practices aimed at sustaining change. To illustrate MIT-G we now describe the case of one patient enrolled in the first randomized controlled trial, in the Centro di Psicologia Clinica of Modena (Popolo et al., 2018). The aim of the case illustration is to give a detailed description of how the experiential work can be enacted.

Case Illustration

Presenting Problem

Marco, 22 years of age, had been in treatment in a public clinical psychology outpatient unit for two years, presenting with pronounced depression, and problems both at University and in social relationships. Marco had experienced interpersonal difficulties since adolescence He is the youngest of 4 children and lived with his parents.. Marco stated he had always felt misunderstood and tended towards detachment both from his family and with peers. Marco adhered to rigid moral principles. As a result his social network was extremely narrow, he had never had a romantic relationship and had only two friends. He studied medicine and stated study as his only activity, which he did with perfectionistic tendencies. Marco always felt in competition with peers in many different contexts. He climbed recreationally, again with marked competitive tendencies. Beside competition, he never displayed any real interest in the things he did and tended to disengage from activities because of boredom.

Diagnosis and assessment

Assessment was performed by a clinical psychologist, not one of the group therapists. Validated Italian translations of the assessment instruments were used. Marco experienced Narcissistic PD, with obsessive-compulsive, avoidant and passive-aggressive traits as assessed with the SCID-II (First et al., 2003). Maladaptive schemas were assessed with the Young Schema Questionnaire (YSQ; Saggino et al., 2018), showing heightened schemas of abandonment, abuse-mistrust, submissiveness and unrelenting standards. He had problems in emotion regulation assessed via the Difficulties in Emotion Regulation Scale (DERS; Sighinolfi et al., 2010). In particular he had diminished capacity to recognize and describe own feelings and didn't trust in his capacity to pursue in goal-oriented behaviors. Marco also reported having poor impulse control, although this was not in line with his narratives in treatment, as he presented as behaviorally inhibited. It is likely that, due to his obsessive-compulsive PD features, he had unrealistic expectations of complete control over his social behaviors, ergo subjectively he felt he was unable to control himself, while behaviorally he presented as overcontrolled. Scores on the CORE-OM (Palmieri et al., 2009) revealed clinically significant problems in the domain of personal problems

(see Tab.2). Metacognition was assessed with the Metacognition Assessment Scale-Adapted version (MAS-A; Lysaker et al., 2005; Semerari et al., 2003). Marco reported problems in every domain: self-reflection, understanding the mind of the others and use of psychological knowledge to cope with problems.

First individual session

During the first individual session, one of the therapists had jointly reconstructed the dominant interpersonal schema. Mario was primarily driven by social rank considerations. He felt a need to be appreciated and admired but expected others would criticize him. In such situations his self-esteem would be threatened and he felt he would be exposed to feeling unworthy and inferior, a self-image he could not tolerate. Therefore, as a coping response he avoided social contacts. When he felt criticized he also reacted with anger as he felt the perceived attack to be unjust. Marco could not tolerate the thought of his feelings being subjugated. Consequently he suppressed anger due to fears of losing control, which would expose him to scorn and ridicule, leading to social rejection. In situations where he appraised the other as not praising him, he instead resorted to perfectionism as another dysfunctional coping strategies, also typical of many individuals with PD (Dimaggio et al., 2015; 2018). Additionally, although Marco achieved success at school, he was unable to amend his image of self-as-flawed, therefore continued to punish himself via unrelenting moral and performance standards.

In everyday social interactions he still reported a need to be admired, but perceived failure. His difficulties in appraising the mental state of others made him feel that they were distant and impossible to understand, thus he felt incapable of emotional attunement. The motivation for exploration and playfulness was shut down to the point where he had difficulties recognizing his interests, resulting in a sense of flatness, lack of meaning and emptiness. As coping mechanisms to overcome loneliness and apathy, and to sustain his positive self-image, he overtrained, particularly via climbing. He did not have stable romantic relationships. He reported that the few affairs he had

ended when his partners lost patient with his criticism and lack of validation towards them.

Course of treatment: first session

Writing a short autobiographical episode concerning the motivational system at stake.

After the first psychoeducational part, participants are invited to write down a specific autobiographical memory concerning the motivational system at stake. During session 1, focused on social rank, Marco wrote down the following episode:

> "Last summer, late infancy/early teens. My grandparents' home by the countryside, with my grandma', my great-uncles, my cousins of first and second degree. We were playing *cops and robbers*, we passed most of summer days playing it. My cousins lived in a huge villa, with an enormous garden, full of trees and plants, plantations and old empty houses. Obviously, competition began in order to see who was more athletically fit, strongest, fastest, more able to hide or find where the others were, smartest. I was the smallest, I grew late, so I had more difficulties and was the object of mockery. I was aware of this disadvantage, so I found tricks in order to escape from cops or to frame thieves. I hid myself in place they could not predict, searched for escape routes and so on".

This is not yet what we would consider in MIT as a *good* narrative episode, as it is not located in a specific moment in time. Moreover, Marco simply provided general features of the narrative, but did not provide insights on mental states, both his own and the others'. Therefore, one therapist told Marco they selected his episode, but asked for a more specific memory where he experienced a sense of inferiority.

Marco was happy for having been chosen, which demonstrated his need for admiration was present even in the group, but he felt under pressure – "all eyes were on him". This increased his difficulty in recalling a specific episode and he started worrying that he had not written his narrative correctly. The therapist validated his need to be approved and stated that it is normal in such a context, especially because it was the first session and he did not know anyone. Marco then

remembered that the goal of the therapist is not to judge the quality of the narrative but to getting closer to his personal experience. Marco felt validated and he recalled a specific memory.

M: mhhh, I remember a night, I must have been ten. We were by my grandma's and my cousins were selecting the teams. The two oldest had to decide with whom I would team, in order to balance the groups. I was the smallest, and slowest, so bringing a disadvantage.

T: how did you feel then?

M: less then them, less capable, inferior.

Now the episode is clearer, with space and time boundaries. There is reference to mental states and actors appear with some characteristics. Marco starts describing his own thoughts and feelings as well as the intentions of the others. The therapist asked for more details on the episode in order to give context:

M: I was trying to persuade them that with me we would have won, and that I would do my part. I run like hell, hide in impossible places, once even in the laundry basket. I wanted to surprise them. They had to know that I was weakest but also the smartest.

Role Play

The first role-play is aimed at increasing awareness of mental states, in particular as Marco had only described his thoughts and actions, but seemed barely aware of his feelings. First the therapists summarized to all the group the details of the scene, then they chose the participants who will play the cousins and then the role-play begins.

Cousin 1: we make two teams, one of three, one of two. By the way the largest will include Marco who's worth a half, given he's the smallest and the sloppiest.

Cousin 2: alright, but we have a 5 points bonus, we are less.

Cousin 3: no more than 2 points, Marco doesn't count anything, it is enough for him that we let him play.

During the role-play the patient acting as Cousin 3 starts laughing and so do the others. At that point Marco's expression changes, his face gets darker and he lowers his gaze. Both therapists noted that in that moment Marco looked sad, but this did not appear in his language, as he soon reacted and protested.

M: what a bunch of assholes you are. First, I'm not sloppy at all, I always find cool solutions, while you don't. I'm not half, I'm twice the man than any of you.

Cousin 1: yes, yes, gnome (laughing between his teeth), now you're the best… you're right, what matters is that we begin.

Cousin 2: ok, we give you 3 bonus points and we have Marco with us, shall we begin?!?

M: I'll let you see damn bastards

It is noteworthy, that the actors have actually entered into the scene, experiencing emotions, from scorn and despise in the role of the cousins. The therapist asked Marco if when saying: "Damn bastards" he experienced the anger he seemed to express. He replied adamantly that he was hating his cousins. Until that moment he had only reported feelings of inferiority, weighing his value against his cousins', but had not named anger.

The next step is to role-reverse. The therapists invited Marco to play Cousin 3, the one who was more spiteful towards him. When, as Cousin 3, he said that Marco does not count for anything, his face changed and turned to anger. His voice raised and he looked stronger. In this role Marco appeared distant and spiteful. Surprisingly, he changed the script:

Cousin 3 (Marco): Well, you should not have any bonus. We should have one for having Marco in the team.

When, after the roleplay the therapists inquired what he had experienced, Marco reported that as Cousin 3 he did not want to involve Marco in the game, and that he despised and wanted to reject him. At that point he felt an intense anger – interpreted as evidence that even if he was in the cousin's role, he had returned to a self-position of feeling humiliated and rejected.

Discussion: promoting metacognitive monitoring

After the role-play, there is time for group discussion, whereby self-reflection is promoted first and then exploration of theories of the others' mind. Questions to the protagonist and to the other actors are typically: "What did you feel in that moment? What did you think when saying or doing that thing?". One therapist inquired to Marco about his emotions:

T: So Marco, overall how did you feel during the play?

M: Not respected. My cousins wanted to make me feel inferior.

T: And this attempt by your cousins to make you feel inferior, how that made you feel?

M: I felt anger mounting, I wanted to make them pay, to retaliate.

The therapist entertains possibilities that the anger at being slighted is usually preceded by painful feelings such as sadness or shame (Pascual-Leone & Greenberg, 2007). With this rationale in mind, one therapist inquires about other possible states, linked to sadness or shame for example, that Marco could have experienced.

T: Very good, you noted you were angry. I can see it very clearly. I wonder if you have experienced other emotions as well?

M: I Don't know. I just felt so upset.

As noted, Marco had poor self-reflective capacity, in particular in the domain of metacognitive monitoring. Therefore, the therapist insisted he focused on his feelings and tried to recognize and name them. Herein the therapist provides a scaffolding, harkening back to the information provided during psychoeducation and anchoring his observations into Marco's nonverbal behavior.

T: Marco, during the beginning of the play when you were acting as yourself, your face changed and for a moment you looked down, maybe sad. We also thought that sadness was underlying your written episode, and we were curious if this idea matches your experience. This would be consistent with the things we described when talking about social rank, that is

when humans feel belittled and despised they typically feel sad or ashamed. Is it possible that before anger some sadness was in your mind?

M: Yes, maybe a tinge of sadness, but anger was much more, for sure.

With the metacognitive scaffolding provided by the therapist, Marco's self-reflective capacities slightly increases, and he starts recognizing feelings, ranging from the more intense (anger) to more subtle (sadness). Thanks to role-reversal, he was better able to connect his anger to actual (rather than perceived) criticism – (he enacted the critical cousin), something he did not realize beforehand.

This type of inquiry is then addressed to the other actors and then the group participants, with the same questions, firstly focused on self-experience. Next, awareness of thought, feelings and intentions of others is promoted. Participants are asked to link their hypotheses about other experiences to explicit cues. In the case of Marco for example, the therapist was not completely convinced he was aware of having experienced sadness. The therapist worried that Marco was trying to please him and he remained aware of anger only. Therefore, he first asked Marco if he was completely convinced of the presence of a tinge of sadness. Marco was doubtful. The other group members then observed that he looked sad in many instances, and that they had noted that anger come as a reaction to some kind of pain he displayed in his face and in his body, for example when he lowered his shoulders at a certain point.

Discussion: promoting differentiation

Another element promoted during the discussion is differentiation, that is the metacognitive capacity to question the truth-like validity of one's own ideas, to see things from different perspective and to change ideas about mental states in light of new evidence. Protagonists of the role-play are asked questions like: "You said you thought those feelings and experienced these emotions because you interpreted the situations that way. Has your perspective changed after the role-play? Can you think of a different interpretation? Are your convictions about yourself the same

or did they change? Are your ideas about the reasons underlying other's behaviors the same or do they differ?".

Other group members are asked questions like: "You said that while listening to the story before the role-play you thought and felt certain things about the story-teller. Is this typical of you when hearing about these kinds of interactions? Did the role-play change your mind? What is your idea about what passed through the mind of the protagonist and of the other actors now? Is this something you would have expected before the role-play?". In this way flexibility of thinking is promoted. We emphasize that MIT-G (as with other metacognitively oriented approaches e.g. Lysaker & Dimaggio, 2014; Lysaker & Klion, 2017) is not about teaching ideal behaviors or correcting maladaptive ones, instead it focuses on promoting flexibility of thought about interpersonal interactions, helping persons use their metacognitive capacity in order to see the world from different angles. It also encourages individuals to question their own rigid interpretations of events and discover nuances in the others, understanding others see things in a way that differs than our own. Participants are thus guided to discover their subjective experiences is not caused by the facts, but by their interpretations of events, and if that changes, their experience does it as well.

Course of treatment: second session

Writing a short autobiographical episode concerning the motivational system at stake.

During the second session devoted to a motive, role-play has an additional aim of improving mastery (i.e. metacognitively derived problem-solving). Individuals are helped to use their richer understanding of minds in order to find creative solutions to old problems. Marco displayed growth in this capacity during session 4 where group inclusion was the motive at stake.

Marco wrote the following episode:

"A few days ago at the university, we were asked to form group of seven in order to prepare for an exam in groups. Since the beginning of the lesson, some components of the team and girls of the group of university friends, which I belong to, organized a sub-group of seven

people, without sharing this information with everyone. We came to know that only at the end of the day.Some of the guys of the excluded groups and myself, of the same group of friends working together, have let the girls note that, in a not so polite way. Basically a dynamic has been created where we felt rejected and somewhat hurt and betrayed. The ones who's been excluded convinced the components of the workgroup to split and form a new group, leaving alone the girls who organized the first group secretly. I felt hurt at the exclusion, but then I've been taken into the other group and I witnessed this childish prank".

Marco still defaulted to reporting facts, adopting a detached observer perspective. At the end of the episode, he spoke in the first person and started using emotional words: "hurt, betrayed". He described himself passively: "I've been taken. Marco also did not do anything autonomous in order to handle the situation and regulate his emotions. He only said that together with the others "(we) have let the girls note that, in a not so polite way", but it remained unclear who decided what to do, how much Marco endorsed this behavior, and what he felt about what was happening.

Before role-playing one therapist asked Marco to speak in the first person and describe how much he shared in the group the decision that he had recounted:

T: … so what did you mean with 'not so polite' and, did you share this communication to the girls?

M: I said to them they've been dishonest, we are a group who does everything together. It would have been fair to tell us they wanted to do it differently.

T: While you were saying these things how did you feel?

M: I felt hurt because I felt excluded, soon after I got angry because they acted as silly babies.

Now Marco spoke in the first person and his thoughts and feelings were clearer. Later he would say that at the beginning it was not only that he had difficulties in recognizing what he experienced, but he was afraid that the group judged him. When he perceived the therapist's stance as validating and then he felt more freedom of expression.

Role Play

At this point, there was enough information about the intentions underlying Marco's behaviors to role-play the episode. This time after a first enactment, the scene will be replayed with attempts at finding new solutions, aiming to improve mastery. Usually the protagonist is asked to think of different strategies. Only if nothing comes to mind the group will give suggestions, which the protagonist may decide to utilize. Importantly, at this moment it is possible that the group members offer strategies that are part of their own maladaptive schemas. For example, they may suggest to avoid, give up or please the other. In this situation the therapists note appreciation for the effort and the contribution of group member to the discussion but gently note that they are reasoning guided by their own schemas. Moreover, the therapists may let them note later than even if their strategy may not have been effective, their contribution has been useful for finding an effective solution.

The therapist first asks Marco to think about different solutions:

T: So, we know you felt excluded, hurt and angry at the idea of being unfairly cast out. You decide to react and to display your anger by saying the girls they were dishonest. This time we will role-play with a focus on possible alternative strategies in order to deal with the sense of unfair exclusion and the associated emotions.

The scene is set at the very moment in which Marco and his peers discover having been excluded.

M: hey boys, have you seen these three bitches. They made everything among their own, without telling us anything.

Friend 1: Yes, look, I could not see it coming, it's two years we get along together and we do practically everything together.

Friend 2: I don't understand why they behaved this way. What's the payoff? Maybe they think we are too low and if they include us they risk a poor grade

M: What??? Too low? Who? We??? Come on! Our average marks are way better than theirs, sum the three of them and you don't have one decent… I really want to know, come on, let's lay into them.

Marco goes and talk with the girls.

M: I have not understood. How come you didn't tell us anything? You thought we are low? Or you found someone better to work with? Well, now we'll see who's better and who get the best marks. Or, given you get along so fine with the others, go out with them at night, we have something better to do.

Friend 1 and 2 do not say a word, they nod and smile, sneering at them with their eyes.

Girlfriend: Do you know what's going on? Fuck! Better we don't talk anymore.

During the role-play Marco is more active than it appeared from his written narrative. After the role-play he reported that he felt a sense of interpersonal efficacy, something he had rarely experienced. The strategy is nevertheless quite dysfunctional and it ended up with a deterioration in the relationship. Before re-playing the scene in order to try and enact different mastery strategies, the therapist let Marco note that very likely he was not driven primarily by the wish for group inclusion during the role-play, but from social rank. Marco wanted to retaliate and re-establish rank after having felt belittled, so he reacted in the very same way that in the episode with his cousins - passing from underdog to topdog and making the other feel inferior. Marco agreed with this formulation, and stated that he wanted to try a different strategy. He also noted that he still felt distress from breaking these bonds.

T: So Marco, do you now want to try and imagine a different behavior in order to search for a better solution to your wish for inclusion?

M: We can go and say: hey girls, that's not the way you do it, we felt hurt, what's the point in that. Now we exclude you and we'll do a better job.

There is a slight change in this hypothetical reaction, as Marco was less verbally aggressive and displayed feelings of vulnerability in the interaction. Nevertheless, his action was still driven by the wish to re-establish rank and retaliate and the main emotion appearing in his face and actions is anger. The other group members come with their own solutions. Stefania, 20 yrs. old, presenting with Dependent PD suggests:

> S: we could play that Marco goes to the girls with his friends… dunno'… maybe in a moment when they are writing, and say: hey girls, we've been hurt because it was important to us to do that task together, given we are a team. I don't understand why you did leave us out. But is important to clarify things in order not to ruin our bond. After all it didn't happen anything among us.

The group members think this strategy may be effective and Marco agrees. Marco is asked to play the part of one of the girls, while the patient who played Friend 2 now plays Marco. This is how Marco replies after having listened to the discourse suggested by Stefania:

> Girlfriend (Marco): I'm sorry you've been hurt. We didn't think that could happen, we just wanted to finish the work and in that moment we were together with these other guys, so we started working without giving it a second thought.
>
> Friend 1: ok, that is fine but, what do we do now?
>
> Girlfriend (Marco): I don't know… Next time we do it together for sure.

Discussion: promoting understanding of others' minds and mastery

In the discussion following this new role-play (aimed at finding more adaptive solutions based on awareness of mental states) it is important to reflect on the mind of others' and exploring the effects of their actions. This is particularly important when exploring the impact on others on one's new behaviors. For the individual, discovering that others have different reactions when the

individual acts in ways that they would have not tried before is a key goal of MIT-G. Patients may realize that others' behaviors may change when they act differently, and possibly these reactions may be consistent with their hopes and wishes. We then promote nuanced guesses about what the others think and feel, and how they would react to such offerings. Therefore, after the role-play aimed at promoting mastery, the protagonist and all the group members are explicitly asked to offer their reflections and evaluate if the strategy adopted was effective, based on their evaluation of the mental states of the protagonists.

T: Marco, how did you feel about the second time? Did something change when you faced the situation where the actor impersonating you used a different strategy?

M: First time I felt excluded and very upset. Sorrow and anger went up and down. The second time, in particular when I was playing the girl, I noticed that eventually there was not so much anger among us. We cleared things up so we were not so distant.

T: In particular, how did you feel when, in the role of the girlfriend, Marco addressed you?

M: To be honest, I had some difficulties entering in the role. It felt strange, I was still angry. But then, when I heard Friend 1 saying he felt bad, I changed a bit. I don't know precisely what happened inside of me, but it felt like new, unexpected.

T: Can you help me and understand what did you feel and thought in that moment?

M: Well… seeing myself not angry but trying to communicate instead of insulting her kind of forced me to answer differently than just saying ****. I saw that Friend 1 was wanting to talk so I did myself. I felt sorrow seeing he was hurt at the exclusion, I almost felt the need to settle things....

T: How this new solution sounds in term of conflict resolution?

M: Better. It made us talk without arguing. It looks like we wanted to confront each other but not wanting to fight.

Marco could then benefit from the new solution and gained a different sense of how conflict can be solved if one sticks to own wish and express it, without hurting others. Moreover, consistent with the rationale of MIT (Dimaggio et al., 2015; 2017), he was now more in contact with a basic goal. In this case the goal was group inclusion which interrupted the previous maladaptive coping strategy of resorting to fight in order to deal with a sense of inferiority.

Outcomes

Subjective outcomes

At the end of the program, Marco subjectively evaluated his experience as good and reported he become progressively more involved in the group. He reported initial difficulties in getting along with other members and recalled feeling distant and different. Marco noted he had limited capacity for empathy. For example, during session 8 one member spoke about pain for having being neglected by his father. The other group members felt for him and resonated this, whereas Marco could only say he was angry but could not say why and against whom. At this point he felt more distant after having discovered his reaction was different. During the last session he reported feeling more integrated and could freely interact with others, and regularly attended all the sessions in spite of his university commitments.

Outcomes assessment.

Efficacy has been evaluated with a single case research design. Changes in scores on key variables from pre-treatment to post-treatment, and at 3-month follow-up were calculated using reliable change indices for individual data (Morley & Dowzer, 2014). Normative data was drawn from reference samples for the CORE-OM (Evans et al., 2002) and the Italian validation of the Difficulties in Emotion Regulation Scale (Giromini et al., 2012). Total score on the CORE-OM decreased over the course of treatment. With regard to key outcomes symptoms decreased, and both wellbeing and social functioning improved over treatment, as evident from changes in the CORE-OM subscales (indicated by reductions in scores, see Table 2). All improvements were sustained at

follow-up. Emotion regulation also improved over treatment, with reliable change indices met at follow-up.

As regards metacognition, all aspects were improved. Before the program, Marco could hardly name any emotions and was unable to form a nuanced picture of the others' mind. He also struggled to consider that people had their own unique perspective, presenting as egocentric. After the program Marco was better able to describe his feelings, and recognize his thoughts as subjective. He also became better able to understand that others have minds on their own and that he is not the center of others' thoughts. As regards Mastery, Marco moved from a tendency to suppress behavior and avoid, to decide to voluntarily enact behavior aimed at solving social problems. In doing so, he enacted this with a richer understanding of how others' minds operate.

Marco reported he had become more adept at recognizing his feelings, in particular anger and sadness emanating from interpersonal relationships. He was better able to recognize the activation of social rank concerns, and when engaged in that system he was more capable of understanding the intentions of others, rather than biasing towards his schema-driven expectations of criticism. Consequently, he could search for alternative solutions to interpersonal conflicts and problems.

After terminaton of therapy Marco started a romantic relationship with a woman of his age. He went out with old friends he had not seen for long and when engaged in social contacts he tried to keep the conversation going instead of distancing himself. He was regularly attending University classes after the troublesome interruption. All results were sustained at a 3 month follow-up (see Table 2)

INSERT TABLE 2 ABOUT HERE

Conclusions

Metacognitive Interpersonal Therapy in Groups (MIT-G) has been manualized as a cost-effective option for PDs, characterized by behavioral and emotional inhibition and overcontrol. The key premise of MIT-G is that providing information about the main human socio-relational motives and typical reactions to these drives, can be used to improve awareness of mental states thus facilitating more purposeful problem solving. Through improvements in metacognition and via practice of this capacity in the group patients can broaden their range of solutions to everyday problems. In this case study, Marco's experience of MIT-G was associated with significant improvements in his social life. This highlights the usefulness of this brief and structured approach, and emphasizes the benefit of a combination of psychoeducational and experiential aspects.

There are a number of open questions after the positive outcomes reported in our pilot RCT (Popolo et al., 2018). Results need replication in larger samples and with treatment delivery by clinicians other than its developers. Understanding and dismantling the key mechanisms of change are also relevant research questions. For instance, was psychoeducation useful? Or was the key ingredient the experiential aspect? Was symptomatic change supported by the improvement in metacognition or was metacognitive change an epiphenomena, with the core mechanism being a change in maladaptive interpersonal schemas? Furthermore, did Marco change his appraisal of self and others, with the results that this change made him freer to explore states of mind both in himself and in the others? Or was the reverse true, that is with improved metacognitive capacity Marco become better able to form more nuanced views of self and others leading to change his schemas? Was there an effect of nonspecific factors such as a group cohesion and therapy alliance? Future studies using large scale trials and case-series' are required in order to address these questions.

We also speculate that that the sequence of the interventions is also crucial to success. By first providing information about human motives and the typical thoughts and feelings people have when driven by a given motive, the therapy paves the way for a different appraisal of social relationships. Second, writing down specific episodes and enacting in the group should both improve metacognition and give the patient a sense that relationships, with the group members, may

take on a different quality during therapy. Finally, through attempts at finding different mentalistic solutions to social problems during role-play and via the richness of perspective offered by group discussion, patients can potentially improve their agency over social problems, becoming more flexible in their social interactions. Overall, it seems that the core concepts of MIT - delivering therapy for PD with the goal of making patients aware of their maladaptive schemas, identify their healthy self, and practice attempts at pursuing relevant life goals consistent with their innermost wishes – are fundamental to the success of the intervention. Utilizing a growing capacity to make sense of mental states for this purpose should therefore be an effective driver of change. Future research will help further test MIT's effectiveness and elucidate mechanisms of change.

Compliance with Ethical Standards

Conflict of Interest Raffaele Popolo declares that he has no conflict of interest. Angus MacBeth declares that he has no conflict of interest. Flaviano Canfora declares that he has no conflict of interest. Daniela Rebecchi declares that she has no conflict of interest. Cecilia Toselli declares that she has no conflict of interest. Giampaolo Salvatore declares that he has no conflict of interest. Giancarlo Dimaggio declares that he has no conflict of interest.

Informed consent Informed consent was obtained from the individual participant included in the study.

Studies Involving Human Participants All procedures performed in studies involving human participants were in accordance with the ethical standard of the local ethics committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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Table 1:

Elements of the session	**Characteristics**	**Duration (approximate)**
Psychoeducation		
Warm-up	Reflections about last week	10 minutes
Psychoeducation: theory	Description of the motivational system	10 minutes
Psychoeducation: Presentation of material	Videos, power points etc.	10 minutes
Discussion	Group discussion on theory and on video material	20 minutes
Break		10 minutes
Experiential		
Writing an autobiographical episode	Episode concerning the motivational system at stake	10 minutes
The therapists read the episodes and decide who will be the actors		10 minutes
Role-playing	First play and reverse	10 minutes
Discussion	Semi-structured discussion in order to promote metacognition.	30 minutes

Table 2: Change on key variables for symptoms, psychological function and metacognition

	Baseline	Post-Treatment	3-month Follow-up	Reliable Change Post Treatment	Reliable Change Follow-Up
CORE-OM Total	17.9	7.9	7.1	Yes	Yes
Subjective Well Being	22.5	10	5	Yes	Yes
Problems	16.7	6.7	6.7	Yes	Yes
Functioning	17.5	8.3	8.3	Yes	Yes
Risk*	1.7	0	0	No change	No change
DERS Total	85	74	62	No change	Yes
Metacog. Self	3.5	5.5	-	N/A	N/A
Metacog. Others	1.5	2	-	N/A	N/A
Metacog. Decentr.	0.5	0.5	-	N/A	N/A
Metacog. Mastery	2	5	-	N/A	N/A

Note: * Risk score was subthreshold at baseline.