A metacognitive remediation group-approach for people with schizophrenia: The metacognition-oriented social skills training (MOSST)

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❧ ABSTRACT. In questo articolo descriviamo il *metacognition-oriented social skills training* (MOSST), un programma in 16 sedute per pazienti con schizofrenia. Il MOSST mira a migliorare le capacità di comprensione e di azione sociale dei pazienti attraverso un allenamento sistematico del funzionamento metacognitivo. Attraverso una serie di compiti - sia di osservazione e descrizione di scene sociali che di role-play - i pazienti imparano a comprendere gli stati mentali, propri e altrui, sottesi al comportamento in vari domini dell'esperienza interpersonale. Nell'articolo verrà illustrata la struttura del MOSST, le abilità sociali target, i diversi compiti che lo compongono insieme con una serie di tecniche volte a massimizzare l'espressione del funzionamento metacognitivo. Tra questi, vi è un certo tipo di comunicazione - chiamata comunicazione mentalizzante - utilizzata al fine di rendere estremamente intelligibili, accessibili e trasparenti gli stati mentali dei conduttori, potenziando così le capacità dei partecipanti di comprendere e riflettere sugli stati mentali altrui e, di riflesso, sui propri. Inoltre, vengono illustrati in dettaglio principi metodologici e modalità di esecuzione del role-play in un'ottica metacognitiva. In ultimo, verranno descritti i risultati di ricerche di feasability e di outcome che sostengono l'utilità di applicare il MOSST con pazienti affetti da schizofrenia, both out- or in-patients.

❧ SUMMARY. *In this paper we will describe the metacognition-oriented social skills training (MOSST), a 16-session program for patients with schizophrenia. MOSST aims to improve patients' understanding and social action skills through a systematic training of their metacognitive functioning. Through a series of tasks - both observation and description of social scenes and role-playing exercises - patients learn to understand both their own and others' mental states underlying behavior in various domains of interpersonal experience. The paper will illustrate the structure of MOSST, the target social skills, its different tasks as well as a series of techniques aimed at maximizing the expression of metacognitive functioning. Among these, there is a certain type of communication - called mentalizing communication - used to make the mental states of the conductors extremely intelligible, accessible and transparent, thus enhancing the participants' abilities to understand and reflect on the mental states of others and, consequently, on their own. In addition, methodological principles and methods of performing role-plays are illustrated in detail from a metacognitive perspective. Finally, the results of feasibility and outcome research studies will be described to support the usefulness of applying MOSST with both out- or in-patients suffering from schizophrenia.*

Keywords: *Metacognition, Metacognitive interpersonal therapy, Psychosis, Metacognition-oriented social skills training*

INTRODUCTION

Rationale

The metacognition-oriented social skills training (MOSST: Ottavi, D'Alia et al., 2014; Ottavi, Pasinetti et al., 2014) was created to respond to some unsolved problems in the integrated treatment of schizophrenia. It is based on some theoretical and methodological premises.

MOSST is based on a model of metacognition which tends to consider social perception and social action in a unified and interdependent way: there is no perception of the world without some actions on the world (Merleau-Ponty, 1945). Perception and action, thus, constitute two poles of a continuous and inseparable arc of social interaction. We learn to perceive and interpret social signals by acting within social transactions. For this reason, the central learning-action tool in MOSST is the role-play exercise, in which observation, action, and participation coexist and take place together.

Besides, MOSST aims to develop both the reflective and inferential dimension of metacognition, and the pre-reflective and implicit one. In other words, it wants to be as ecological as possible, limiting computer-based or paper-pencil tasks, and maximizing the relational and intersubjective dimension. This happens through the focus on role-play exercises, and on a particular type of communication that we have called mentalizing communication (Ottavi & Menichincheri, 2013; Ottavi & Sabatini, 2012).

Furthermore, MOSST focuses on stimulating in the patients the awareness of both the cognitive and the emotional aspects during social exchanges as well as promoting both third-person and first-person mindreading at the same time.

Being reserved for patients with severe mental illness, MOSST aims to be pleasant, light, and self-motivating to maximize compliance and reduce dropout rates. Finally, having to be implemented in public health contexts, MOSST is structured as to be cost and time effective.

FORMAT

Like most of the interventions of cognitive remedy or social skills training (Bellack, Mueser, Gingerich & Agresta, 2004), MOSST foresees a strong structuring of the sessions.

Each session deals with a different social skill, it has a specific order of development, and therefore it requires considerable training of the trainers.

MOSST can be addressed, with some variations, for both chronic and early patients, as well as for in- or out-patients. Exclusion criteria are the presence of mental retardation, neurological disorders/epilepsy, substance abuse for more than six months, and affective psychosis.

Groups should be of from 5 to 10 people. The sessions are sixteen, one per week.

The group is led by two psychotherapists. They should have experience in leading groups with patients with schizophrenia and be trained in the metacognitive approach to psychopathology. Therapists are assisted by a variable number (depending on the structuring of the group) of mental health workers trained to support patients in some MOSST tasks, which we have called metacognitive facilitators (henceforth MF)

Program structure

The structure is themed: each session is dedicated to the exploration of a specific social skill. The social skills chosen as the target of MOSS are 16, as many as the sessions, and divided into 3 domains:
– Conversation skills
– Assertiveness skills
– Conflict management skills.

The Conversation domain includes 4 skills: listening to others, greeting others, keeping a conversation alive, and starting and ending a conversation.

The Assertiveness domain includes 8 skills: making a request, rejecting a request, making compliments, receiving compliments, asking for information, expressing unpleasant feelings, expressing positive feelings, suggesting an activity.

Finally, the domain Conflict management includes 4 skills: negotiating and seeking a compromise, making a constructive criticism, responding to a non-constructive criticism, making apologies. The sequence of the sessions respects the criterion of the progressive emotional complexity of the topics covered. It starts with simple skills and a neutral or positive emotional content and continues towards more complex skills that involve access to negative emotional content.

The social skills are:

1. greeting others
2. listening to others
3. asking for information
4. starting and ending a conversation
5. keeping a conversation alive
6. receiving compliments
7. making compliments
8. making a request
9. rejecting a request
10. negotiating and seeking a compromise
11. suggesting an activity
12. making a constructive criticism
13. responding to a non-constructive criticism
14. making apologies
15. expressing unpleasant feelings
16. expressing positive feelings.

The last session is not the most complex. However, as regards the emotional connotation, it is important to conclude the training with a session in which the patients practice being in a positive mental state, and they share positive feelings with the other members of the group.

Sessions structure

Each session lasts two hours: 60 minutes for the first part, 15 minutes of break, and 45 minutes for the second part.

Part I is that of *observation reflection*: it consists of various warm-up exercises, aimed at stimulating different portions of the patients' metacognitive function (Lysaker, Dimaggio & Brüne, 2014; Salvatore, Dimaggio, Ottavi & Popolo, 2017). About the "Self-reflectivity" sub-function, MOSST has two tasks. The first is: "Remember an episode".

Exercise 1a: "Remember an episode"

The task consists in recalling a memory of an autobiographical episode in which the patient is confronted with the target social situation. For example, a recent occasion in which he/she found himself/herself in the occasion of wanting to reject a non-constructive criticism, or the last time he/she greeted someone. The conductors ask to answer some questions written on a worksheet and related to the specific episode. The questions are aimed at exercising predominantly the dominion of self-reflectivity, but they do not

neglect the understanding of the others' mind and decentering. E.g., for the skill "Greeting others", exercise 1 includes the following questions (the metacognitive subfunction affected by the question is indicated in brackets and in italics, according to the formulation of M.A.S.-a; Semerari et al., 2003): How (through what behaviors) did you greet the other? (*Behavioral identification*);

What were your thoughts/ideas during this meeting? (*Cognitive identification*);

How did you feel/what did you experience? (*Emotional identification*);

Did that interaction happen the way you expected? (*Differentiation*);

Make an ABC, in which A = behavior of the other; B = thoughts/evaluations; C = emotion. (*Relationship between variables*);

How do you think the other felt? How would you have felt in the same situation? (*Understanding of Others' Mind and Decentering*).

As mentioned, the questions are preprinted on worksheets that the conductors deliver to the participants at the beginning of each session.

Patients with more skills can fill in the forms on their own, while those with more basic dysfunction are supported by the MFs.

Exercise 1b: "Questions and answers"

The previous exercise sees the group dissolve temporarily to make the participants work alone or in pairs with the MFs.

In exercise 2, the group re-aggregates to rediscover its function of mutual stimulation and understanding of different points of view. The trainer asks some participants (usually a couple, in rotation) to tell the episode they worked on in exercise 1 and asks them the same questions on the worksheet. In this way the participants are encouraged to assume different and multiple perspectives and to "read" similar or different mental states from their own, thus stimulating the understanding of others' mind and the metacognitive decentering.

A work more aimed at understanding the mental states of others is proposed in the second part of the first phase, called precisely "Understanding others' mind", and includes two more exercises.

Exercise 2a: "Watch a short scene"

The two trainers play a skit simulating the topic

of the session. The setting and content of the various role-plays of this phase are suggested on worksheets prepared for the trainers. In this phase, the role-plays contain a peculiar feature, which can be the complexity of the mental states involved, and/or the modulation of the mental states of one of the actors based on the other's behavior. An example of complexity is the following skit from session n. 3, "Asking for information":

"The trainer T speaks to the secretary (trainer Y) of a doctor's office where he/she has to book a specialist visit. He/She asks a) the price of the visit, and b) the issuance of an invoice, arousing some reticence in the secretary, who becomes annoyed at the request and insistence. The trainer T shows himself/herself embarrassed in asking these questions and irritated by the secretary's reticence".

An example of modulation of mental states (deducible from the facial expressions and behaviors of the main actor) is the following, taken from session n. 5, "Maintaining conversations": The target subject (T) walks through the streets of Rome with a friend (Y). He admires the landscape and shows enthusiasm (JOY) for the situation. Y talks about novels and new authors, T starts playing with his mobile and yawning (BOREDOM). Y therefore changes the subject and starts talking about cinema, T is now interested, he/she asks questions with an active and participatory attitude, telling a funny anecdote. Y participates in the conversation by adding a detail to the story that causes T's astonishment (SURPRISE).

Exercise 2b: "Questions and answers"

After viewing the skit, participants are asked to write down what they observed on a worksheet, answering questions focused primarily on the mental states of the actors in the skit. The questions, which the participants should answer with the help of the MFs, are the following: How did the protagonist behave? (Facial expressions, tone of voice, gestures, posture, proxemics, and direction of gaze). What might have been the protagonist's thoughts/evaluations? What emotions might the protagonist have felt? How would you have felt in the same situation? What would you have thought? How would you have behaved?

This exercise takes about 10 minutes, after which the trainers question the group, and one of them writes the correct answers on a paper board.

The break to follow, lasting 15 minutes. During this time, the metacognitive trainers and facilitators remain with the group to create an informal atmosphere in which they keep exercising the mentalistic skills of the patients. For example, practitioners can have light and informal conversations with patients, but by revealing their own mental states and asking them questions about their own and others' mental states ("Oh, did you meet your brother yesterday? What did you feel / think when you saw him? And when did he leave? How do you think he felt?").

Part II is reserved for role-playing exercises. It consists of three moments: instructions, execution, and feedback.

Role-play: Instruction

The section reserved for instructions about the target social skill is divided into two parts.

The first, like traditional social skills trainings, consists in collecting, together with the group, a series of behavioral indicators for the target social skill. For example, for the skill "Responding to non-constructive criticism" (session n. 13), the behavioral instruction involves the following steps: a) Look at the other person and speak to him/her firmly, calmly and seriously; b) Point out to the other the behavior he/she had, and how you felt; c) Explain to the person why you think his/her criticism is not constructive (Try to be precise and as analytical as possible); d) Suggest another way to deal with you ("I would like that when it happens that ...", "If you want to tell me this, you could express yourself in this way ...").

The second section of instruction is an original aspect of MOSST. It concerns metacognitive education, that is the indicators of mental states inferable from behavior. The group needs to answer questions on the motivations of the subjects involved in the relational exchange, and the mental states involved. E.g., for session n. 13:

What is the motivation that drives me to reject non-constructive criticism? For example: affirming one's value, being respected, safeguarding oneself, restoring equity.

What could the other person's desire be? For example: communicate and let his/her negative image of us prevail.

In what state of mind could I best refuse a non-

constructive criticism? For example: calmness, firmness, decision, assertiveness, seriousness, anger (functional).
What would I like the other person to feel and think?
E.g.: respect, authoritative and more realistic view of us, surprise.

The results of both instructions should be written on a paper board. The answers should emerge from the group brainstorming. To encourage the inquiry, the trainers are supported by suggestions included in the "trainers' worksheets".

Role-play: Execution

At the end of the instruction, the trainers perform a short modeling role-play, and then they start the patients' role-play exercises. In MOSST, the role-plays are performed simultaneously by all patients with the conductors or with the MFs, spreading in pairs throughout the classroom. Furthermore, each patient performs both the target role (for example, the listener) and the reciprocal role (the one who is listened to). In this way, all patients have the opportunity to practice with a sufficiently socially capable partner, such as a facilitator or a group leader. Furthermore, by performing the role-play in isolated pairs, the problem of shame or performance anxiety that often pollute the expression of the role-play is minimized, allowing the subject to get into the role.

Role-play: Feedback

This is the most consistent and innovative part of MOSST. The subjects involved in the role-plays interpret the main and complementary roles alternately, so both provide the other person a feedback immediately after the exercise. The therapeutic feedback is given by the MF (or by one of the conductors) to the patient, and must be characterized by the presence of metacognitive elements. In other words, the feedback should show the mental state of the MF/conductor that was evoked by the patient's action during the role-play. To ease the task, the MFs/onductors are trained to give the feedback according to the Ma.T.E.R. model (Ottavi, Pasinetti et al., 2014), acronym for Marker, Thought, Emotion, and Response.

Role-play: The Ma.T.E.R model

According to the model's indications, the feedback starts from reporting the behavioral markers that caused the given cognitive and affective response in the other person. Then the MF/conductor discloses his/her thought about the patient's behavioral marker and, subsequently, the emotion linked to the thought[1]. Finally, the MF/conductor verbalizes the reaction he/she would manifest in a real situation in response to the patient's social behavior.

E.g., we report a feedback formulated in session n. 8, dedicated to the ability "Making a request". The patient - who actually works as a stock man in a supermarket - asks a colleague (the MF) to grant him a shift change at work because he had to go with his mother to the doctor: "Well, I noticed that you had a warm tone of voice, you looked me in the eye, and you accompanied your request by frowning [*behavioral marker*]. I thought you had a problem and that you were sincere in asking for that shift change because you were in trouble [*immediate thought*]. This made me feel empathy towards you and I felt compelled to help you. I would have felt guilty in refusing your request [*emotion*]. In such a situation I would have accepted your request without problems. If this had had a high cost for me, at least I would have done what I could to accommodate you [*possible response of the other*].

This is a validating feedback, with the purpose of reinforcing a functional social behavior or a pattern of behaviors. The same communicative scheme applies to a corrective feedback, which has the purpose to correct incongruous social behavior on the patient's communicative purposes. For example, in the case you greet a friend with the aim of communicating the surprise and joy of meeting him, but you do it with a serious and still face, with a sad tone of voice, and so on.

A patient (Chiara) performs the role-play "Making a request". The skit involved Chiara asking the MF (in the skit she is a roommate of the group home where she lives) to do the cleaning instead of her.

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1. To be noticed, in the section related to emotion, the metacognitive facilitator/trainer should communicate not only categorical emotions (Ekman, Levenson & Friesen, 1983; Izard, 1971; Plutchick 1984), but also the nuances relating to the presence of "vital affects" (Stern, 2010) according to four axes: 1) axis of vitality vs devitalization, 2) axis of restlessness vs calmness, 3) axis of heat/intensity vs coldness/ detachment, 4) axis of coherence vs incoherence.

She makes the request in a cold tone of voice, and with no valid reason for her request. After the role-playing exercise, the MF asks Chiara for a self-evaluation feedback on how she felt, and what mental state she thinks she evoked in her partner. The evaluation that Chiara gives is quite confused both on the side of self-reflection ("I don't know ..., I was normal, but I didn't feel in control of myself") and on that of understanding the others' mind: "Yes ... maybe you understood my request… but I don't know if I convinced you". At this point, it's up to the MF to give her feedback and she does it following the Ma.T.E.R.

"Well, Chiara, I'd like to give you a feedback on what I saw, thought and felt while we were acting. Then you will tell me what you think about it, ok? Keep in mind that what I will say correspond with what I would probably have thought and felt if I had been in a similar real situation, and if I were unaware of your current life situation".

[A premise like this is made only in the first sessions. After the third or fourth session, the patient generally has well understood the exploratory, collaborative, and experimental nature of the feedback, and there is no longer the risk that he can mistake it for a negative judgment.]

"I noticed that you did not show any emotion with your face or voice in expressing your request. You also didn't give me any valid reason to support your request [*behavioral marker*]. This made me think you didn't need to and that you didn't want to get tired doing the cleaning. Also, I tended to see your request almost as a pretense and an attempt at manipulating me, as if I had to accept the change [*immediate thought*]. This reading of your behavior caused me a certain irritation and an urge to rebel against what I saw as an attempt to escape your responsibilities, and to demand something from me that was your responsibility. I didn't understand the reasons for your request, so I felt no emotional participation. So, I felt a desire to fight what I considered a small abuse at that moment [*emotion*]. Probably, if it were a real situation and I didn't know you, I would get stuck, and I wouldn't accept your request, or I'd invent an excuse not to do it [*possible answer of the other*]".

In mentalizing communications (Ottavi & Menichincheri, 2013; Ottavi & Sabatini, 2012) like that, it's important not only what it is said, but also *how* it is said. To affect intersubjectivity, namely the most embodied component of understanding mental states (Gallese, 2003), it is necessary to communicate by making extensive use of the body, especially facial expressions. For this reason, facilitators are trained to give feedback in a very expressive, and in some ways even theatrical way, to make mental states unambiguous and extremely transparent. For example, a MF, in the feedback following the role-play "Receiving a compliment" (session n. 6), wants to communicate a doubt about the patient's intentions. The latter responded to a compliment of his clothing with an expressionless face and no change in his tone of voice. This made the MF questioning whether the compliment met the patient's favor or not. In the *thought* section of the Ma.T.E.R. the facilitator exposes doubtful thoughts to him, accompanying them with gestures and unequivocal facial expressions: he frowns conspicuously and puts a hand to his mouth, as if to reproduce the prototypical posture of the attitude of doubt and uncertainty.

Aims of role-play

The main purpose of role-playing exercises in MOSST is not the correct execution of social behavior. Rather, the aim is to make the patient fully aware of the implicit purposes in his own conduct (for example, the purpose of signaling the positivity of the relationship with an acquaintance through the greeting), and of the effects that his observable behaviors produce in others (e.g., the other person understands the positive signal and becomes vitalized, or notes ambiguity and feels tension), to be able to evaluate whether there is a correspondence between one's own aims/intentions and real effects on the others. This mentalistic awareness should have positive repercussions on the subject's social performance, as it will motivate him/her to model his/her interpersonal behavior to satisfy the desired social goals. More generally, the understanding of the mental states underlying any social behavior is essential to be able to master a wide and flexible range of mastery strategies, and become able to regulate interpersonal relationships, to pursue desires, and to solve conflicts (Semerari et al., 2003).

EVIDENCE

Two trials by Inchausti et al. (2017) tested the MOSST.

First Trial

The first (2017) is a feasability study. 12 participants (10 males, 2 females) were recruited from two mental healthcare services in Navarra (Spain), 10 of them concluded the protocol of 16 sessions. The sample was with a mean age of 36.40 years (SD = 11.60), and a median level of secondary education. Candidates met criteria for schizophrenia, schizoaffective disorder, or delusional disorder. Exclusion criteria were concomitant substance abuse, moderate to severe learning disabilities or developmental disorders, major neurological illness, impaired intellectual functioning (*Wechsler Adult Intelligence Scale – IV*, Full Scale IQ score <70).

Measures

Psychosocial functioning was assessed using the *Personal and Social Performance Scale* (*PSP*; Apiquian et al., 2009), and metacognition with the *Metacognition Assessment Scale – Abbreviated* (*MAS-A;* Semerari et al., 2003). In addition, acceptability and subjective impact of the intervention were assessed by a 10 item anonymous self-report scale at the end of each session to evaluate the session's enjoyableness, usefulness and effect on daily social functioning.

Results

Important effects are found on: social functioning (d = −.83) measured with PSP, and on metacognition (d = −.73), obtained with the MAS-A.

It is worth highlighting the positive progress on psychosocial functioning of patients (d = −.83), especially in relation to the increase of useful social activities (d = 1.01) as well as personal and interpersonal relationships (d = 1.61). The magnitude of these effect sizes was clearly larger than those reported in other studies analyzing the impact of standard SST.

Regarding change in metacognition, MOSST produced overall improvements on self-reflectivity (d = −.59) and understanding the other's mind (d = −.96). Although some progress on decentering was also observed, these changes were weaker (d = −.44).

The large effect of MOSST on psychosocial functioning might be explained in terms of metacognitive gains.

Regarding feasibility, the dropouts rate (16.7%) was acceptable, and was similar to other comparable studies in psychosis.

Second Trial

The second trial (Inchausti et al., 2017) is a randomized controlled trial, published in *Schizophrenia Bulletin*. The outcomes of MOSST (36 patients; 16 sessions) and conventional SST (33 patients; 16 sessions), both in addition to treatment as usual (TAU), were compared; age 18-65. Evaluation at the end of the protocol (4 months) and follow-up at 6 months.

Measures

- *Primary outcomes*

Psychosocial functioning was assessed with the *Social and Occupational Functioning Assessment Scale* (*SOFAS*; Goldman, Skodol & Lave, 1992; Morosini, Magliano, Brambilla, Ugolini & Pioli, 2000) and the *Personal and Social Performance Scale* (*PSP*; Apiquian et al., 2009). Metacognition was assessed with the *Metacognitive Assessment Scale – Abbreviated* (*MAS-A*; Semerari et al., 2003).

- *Secondary outcomes*

Psychotic symptoms were assessed with the *Positive and Negative Syndrome Scale* (*PANSS*) (Peralta & Cuesta, 1994). Depression and anxiety were rated to control emotional distress using the *Beck Depression Inventory – II* (*BDI-II*; Beck, Steer, Ball & Ranieri, 1996) and the *Beck Anxiety Inventory* (*BAI*; Beck, Steer & Garbin, 1988) respectively.

The conventional SST intervention (Bellack et al., 2004) involved 16 weekly group-sessions in which the same social skills and role-playing exercises of MOSST were trained but the therapists did not assist or stimulate the metacognition of participants.

Results

Twenty-two participants (61%) received the full MOSST protocol of 16 sessions. Similarly, twenty participants (60%) received the full conventional SST protocol. Thirty-five (97%) participants in the MOSST and 33 (100%) in the conventional SST received at least 8 sessions of each intervention, which is considered minimal exposure to interventions.

- *Primary outcome: psychosocial outcome*

There were statistically significant between-group differences at post-treatment with large effect sizes in favor of MOSST on the SOFAS ($p<.01$, between-group $d = 1.63$) and PSP total ($p<.01$, between-group $d = 1.03$). This superior effect of MOSST remained significant at follow-up assessment with also large effect sizes on both SOFAS ($p<.01$, between-group $d = 1.43$) and PSP total ($p<.01$, between- group $d = .88$).

Concerning the PSP subscales, there were statistically significant between-group differences with large effect sizes in favor of MOSST at follow-up on a) socially useful activities, b) personal and social relationships, and c) disturbing and aggressive behaviors ($p<.01$, between-group $d = -1.15$, $-.75$, and $-.74$ respectively).

- *Primary outcome: Metacognition*

With regards to the MAS-A scores, there were significant between-group differences on the MAS-A total score with large effect sizes in favor of MOSST at post-treatment and follow-up assessment ($p<.01$, between-group $d = .79$ and $.70$ respectively). Metacognition, as expected, only improves in the MOSST group.

- *Secondary outcomes*

There were significant between-group differences on the BDI-II and BAI mean scores with large or medium effect sizes in favor of MOSST at both post-treatment ($p<.01$, between-group $d = -1.45$ and $-.70$ respectively) and follow-up assessment ($p<.01$, between-group $d = -1.09$ and $-.99$ respectively). No between-group differences emerged on any of the PANSS subscale scores. A subsequent analysis by item found, however, significant relative effects of MOSST on PANSS passive social withdrawal item (N4), anxiety item (G2), depression item (G6), and active social avoidance item (G16) at post-treatment ($p<.01$, between-group $d = -.54$, -74, -1.12, and $-.62$ respectively) and follow-up assessment ($p<.01$, between-group $d = -.57$, $-.79$, $-.98$, and $-.81$ respectively).

Both treatments rated positively by the participants, with better ratings for the MOSST in "usefulness of the sessions" and "daily social functioning after the sessions".

CONCLUSIONS

Metacognition-oriented social skills training has proven to be a promising program in the functional recovery of social cognition of patients with schizophrenic spectrum disorders. The considerations that we can draw are:

- We believe that the improvement in social performance can be attributed to the systematic training of the metacognitive function both in the domain of understanding the others' mind and in that of self-reflectivity. The latter is an aspect of originality compared to other metacognitive remediation programs that are based more, if not exclusively, on the theory of mind alone. The basic idea is that to understand social situations and to behave more confidently in them, we must have an understanding of the mental states at stake, and what drives us (purposes, motivations, intentions). We believe that the clarity on our mental states is crucial because the understanding of the others' mind is fully possible only if we can rely on a well-represented library of our own mental states, from which we can "simulate" the mental states of others (Goldman, 2006). Therefore, it is not possible to achieve social recovery by training only the theory of the mind.

- Metacognition can be addressed by means of direct questions to the patient, as well as by displaying therapist's own mind in action, by means of metacommunications or mentalizing communications. Showing the mental functioning of the therapist and the contents that emerge in it during a protected relational exchange (role-play) has an impact on the patient's metacognitive functioning, greatly underestimated in the literature on social cognitive remediation of schizophrenia.

- A well-structured, time-limited, group, and cost-effective program can achieve excellent results in improving the social cognition of patients with schizophrenia if it includes and develops a) both cognition and emotion, b) both third-person and first-person mind reading, c) both observation and action, and participation. Besides, it should be effective on d) both the reflective, inferential dimension and the pre-reflective, implicit one (in MOSST, the latter is addressed both by making the mind of the MF/conductors transparent, and with the "theatrical" characterization of emotions). Finally, e) it must be pleasant (especially with the most serious patients), f) ecological (no computer-based or pencil-paper) and g) massively relational and intersubjective.

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