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Title:

Effects of Therapeutic Alliance and Metacognition on Outcome in a Brief Psychological Treatment for Borderline Personality Disorder

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Abstract:

Objective: The therapeutic alliance is possibly a crucial factor in treatment for borderline personality disorder (BPD). Among predictors of therapeutic alliance, aspects that have not yet been considered are metacognition or the patient's capacity to be aware of mental states. We therefore explored whether metacognition predicted alliance and if metacognition and therapeutic alliance together predicted outcome in brief treatment for BPD.

Method: In a secondary analysis of a randomized controlled trial, we included $N = 36$ patients with BPD in the current study. The original trial assessed the effects of a 10-session psychiatric standard treatment with or without the added the Plan Analysis and the Motive Oriented Therapeutic Relationship. We assessed the therapeutic alliance session by session (Working Alliance Inventory), metacognition at session 1 (using the Metacognitive Assessment Scale-Revised) and outcome (using residual gains on the Outcome Questionnaire-45.2 between sessions 1 and 10).

Results: A more differentiated capacity to understand the mind of the others at treatment onset predicted an increase of therapist-rated alliance over time. Therapist rated alliance was the only significant outcome predictor ($B = -0.85$, R Squared $= .12$).

Conclusions: More differentiated metacognition predicted therapeutic alliance which in turn affected outcome, thus making metacognition a relevant therapy target early in therapy for BPD. Future studies should expand this investigation to patients with better functioning, treated with different modalities and with longer treatments.

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Borderline Personality Disorder (BPD) is characterized by intense emotions, impulsivity and identity, and interpersonal problems. Psychotherapeutic options exist (Bateman & Fonagy, 2009; Linehan, 1993), but not all patients respond sufficiently, leaving room for the in-depth understanding of patient predictors for good process and outcome, in order to answer the question: what works for whom?

One problem in treatments of BPD is an insufficient therapeutic alliance. A positive and sustained alliance has been linked with therapy outcome across treatment modalities and mental disorders (Flückiger, Del Re, Wampold, & Horvath, 2018; Horvath, Del, Flückiger,C, & Symonds, 2011). As regards BPD, the strength of therapeutic alliance was associated with treatment outcome and retention (Gunderson, Najavits, Sullivan, & Sabo, 1997; Hirsh, Quilty, Bagby, & McMain, 2012; Spinhoven, Giesen-Bloo, van Dyck, Kooiman, & Arntz, 2007).

Yet, it remains unclear which patient predictors contribute to the development of the alliance, and which may hinder its development over treatment. Poor metacognitive capacities are one aspect that may impact the development of the therapeutic alliance and outcome in the beginning of treatment. Meta- cognition refers to the ability to recognize and reflect on mental states, both cognitions and affects of oneself and others, including the ability to use mentalistic knowledge for purposeful social problem solving (Carcione et al., 2010; Dimaggio & Lysaker, 2010; Semerari et al., 2003; Semerari, Carcione, Dimaggio, Nicolò, & Procacci, 2007). Metacognitive capacities include three broad functional domains: firstly, it involves self-reflection, which is the capacity to form increasingly complex ideas about the self (Lysaker & Dimaggio, 2014; Semerari et al., 2007). Higher order capacities include being able to recognize that our ideas do not necessarily mirror reality and to form an integrated view of oneself. Secondly, the under- standing of the others' mind includes the ability to recognize what others think and feel on the basis of overt cues and knowledge of contextual factors and personal history of the target. It also refers to the capacity to appraise the others' perspective as different from our own (Semerari et al., 2007). Thirdly, the mastery domain involves the capacity to solve relational problems and soothe psychological pain on the basis of increasingly complex awareness of mental states and using adaptive strategies that are fed with mentalistic knowledge (Carcione et al., 2011). Such a detailed differentiation of the concept of metacognitive capacity is needed, as it was reported that global scores of metacognition miss the assessment of clinically relevant, and more precise, variety of lower- order functions (Semerari et al., 2005).

Patients presenting with severe mental conditions appear to have

impairments in several lower-order functions of metacognitive capacity (Maillard et al., 2017; Pellecchia et al., 2017; Semerari et al., 2005, 2014, 2015). They have also serious difficulties in using knowledge about mental states for purposeful problem solving (Carcione et al., 2011; Lysaker et al., 2014). In the context of therapy collaboration, it may be assumed that the quality of the patient's capacity of thinking about other's mental states (i.e., the second sub- function outlined above) impacts the level of the therapeutic alliance. Knowledge about the differential role the different types of metacognitive capacities play for alliance formation may help clinicians be more attentive to specific mentalistic operations early in treatment and adapt the treatment accordingly.

Predicting the Therapeutic Alliance in Psychotherapy

Research on predictors of the therapeutic alliance (i.e., both static and dynamic operationalizations) by intake features in treatments for BPD has been scarce, so far. More broadly for any mental condition, we divide predictors into therapist-related, relational and patient-related. As regards therapist-related factors, theoretical background, expertise, and personal characteristics seem important, for example it was shown that therapists with higher facilitative interpersonal skills achieved better client-rated alliance and better outcomes (Anderson, Crowley, Himawan, Holmberg, & Uhlin, 2016). Therapists' attachment predicts the quality of the therapeutic relationship, whereas therapist's immediacy has an overall positive effect on the quality of the therapy relationship, as perceived by the patient (Shafran, Kivlighan, Gelso, Bhatia, & Hill, 2016; Steel, Macdonald, & Schroder, 2017). Depth of interpretations in psychodynamic therapists negatively influenced patients' perception of the alliance (Petraglia, Bhatia, De Roten, Despland, & Drapeau, 2015). Relational factors may influence the alliance; a crucial aspect may be the presence of in- session corrective relational experiences, which were linked with a higher patient-rated alliance, compared to those patients that did not present corrective experiences (Huang, Hill, Strauss, Heyman, & Hussain, 2016).

Patient factors may influence the alliance. The capacity to experience affects in session was linked to a better therapeutic alliance in the following session in patients with depression (Town, Salvadori, Falkenström, Bradley, & Hardy, 2017). Attachment type was related with the therapeutic alliance across a number of studies (Bernecker, Levy, & Ellison, 2014). The number of criteria on narcissistic, borderline, histrionic and antisocial personality disorders predicted alliance in a residential treatment for clients with substance abuse (Outcalt et al., 2016). Outcome expectation is a central predictor of the therapeutic alliance with demonstrated bidirectional influences between alliance and expectation in a sample with depression (Vîslă, Constantino, Newkirk, Ogrodniczuk, & Söchting,

2016). The way patients presented themselves influenced therapist-rated alliance, with persons tending to set agenda, and self-promotion being more positively rated, while persons tending to supplicate elicited more negative reactions. Patients' views slightly differed, and setting agenda had a negative impact on their perception of the alliance, while self-promotion had a positive impact (Frühauf, Figlioli, Böck, & Caspar, 2015).

Among patient's factors, there is evidence pointing to the observation that metacognitive capacities affect the therapeutic alliance. A patient who presents with more differentiated metacognitive capacities is more likely to cognitively construe the person of the therapist and the therapeutic interaction in a nuanced and at least in a slightly positive and welcoming way. Such metacognitive readiness for positive alliance may result in a warmer and more solid interpersonal bond with the therapist. Indirectly, a therapist facing a patient with preserved metacognitive capacities may feel more accepted, welcoming, effective and is less likely to have to work through negative countertransference. Reflective functioning, a measure of the construct of mentalizing (Fonagy, Target, Steele, & Steele, 1998), which shares with metacognition the focus on capacity to understand and regulate mental states, predicted lower therapist-rated alliance in treatment of depression and depression-specific reflective functioning predicted lower patient- rated alliance (Ekeblad, Falkenström, & Holmqvist, 2016). Similarly, in cognitive-behavior therapy for depression, poor awareness of affects had a negative effect on depression improvement: this link was mediated by patient-rated alliance (Quilty et al., 2017). Poor affect awareness tended to predict poor treatment response in group therapy for BPD (Ogrodniczuk, Piper, & Joyce, 2011), though more recent studies did not display such a negative effect (Joyce, Fujiwara, Cristall, Ruddy, & Ogrodniczuk, 2013). Locati, Rossi, and Parolin (2017) found that metacognition, therapeutic alliance and therapy technique interacted with each another in early therapy stages. Metacognition mediated the relationship between the type of intervention and the therapeutic alliance in moments where collaboration among patient and therapist was positive; this effect vanished in the case of a rupture in the therapeutic alliance.

Fostering the Therapeutic Alliance in Borderline Personality Disorder Treatment Using Individualized Case Formulations

Predictor research into the alliance points to the necessity of understanding the patient's intake features in detail, as they are assessed by the therapist or the researcher. Case formulation may help in this task. In a controlled study, Kramer et al. (2014) randomized patients with BPD to two conditions: a) a standard brief treatment based on psychiatric principles (Gunderson & Links, 2014) and b) the same treatment augmented with an individualized

case formulation according to the principles of Plan Analysis (Caspar, 2007). Using such a case formulation favors the appropriate use of the patient's process characteristics, by focusing the intervention on the underlying motives (i.e., motive-oriented therapeutic relationship; Caspar, 2007). Results of the study indicated that whereas both conditions produced comparable reductions in borderline symptoms, the patients receiving the individualized treatment evolved in a slightly more positive way in general symptoms. In terms of the therapeutic alliance, there were no between-condition differences for the patient's view of the dynamic evolution of the therapeutic alliance, but the therapist in the individualized condition rated the alliance more positively over time (Kramer, Flückiger, et al., 2014). This study showed the relevance of an individualized treatment component for process and outcome in the very beginning of therapy for BPD. It was argued that such treatment individualization may moderate the predictive link between metacognitive capacities and therapeutic alliance, and outcome (Kramer & Stiles, 2015).

Hypotheses

In light of reviewed evidence, we investigated the relationships among metacognition, alliance, and outcome in a randomized con- trolled trial for BPD. We hypothesized that metacognitive capacities at intake impact alliance and outcome in the following ways: 1) the higher the metacognitive capacities (related with the understanding of the other's mind) at intake, the higher the therapeutic alliance, from both patient's and therapist's perspectives; 2) the higher the metacognitive capacities (related with the understanding of the other's mind) at intake, the greater the dynamic increase in the therapeutic alliance session-by-session progression, from both patient's and therapist's perspectives; 3) individualization of treatment was a moderator of the link between metacognition and the therapeutic alliance.

METHOD

Design
The present process-outcome study builds on the outcome study by Kramer et al. (2014) on individualizing brief treatment for patients with BPD, and the process-outcome mediation analysis by Kramer, Keller, Caspar, de Roten, and Despland (2017) on a sub- sample of $N = 57$ patients with borderline personality disorder (BPD). In the original study, the patients were randomized to either 10 weekly sessions of brief psychiatric treatment alone (Good Psychiatric Management, GPM; Gunderson & Links, 2014) or to 10 weekly sessions of brief psychiatric treatment with the motive-oriented therapeutic relation- ship component (MOTR; i.e., the individualized or responsive treatment; Caspar,

200$\overset{8}{7}$). The research protocol was approved by the local ethics board (clearance number 254/ 08), as well as the research committee of the university department.

Participants

Patients

Out of the N = 57 patients from the previous process-outcome study, we retained N = 36 patients for the present in-depth analysis of metacognition and the alliance over time. We excluded n= 18 patients with an intake session involving structured assessments (i.e., diagnostic, suicidal or addiction) which may be clinically meaningful, but is unsuitable for process coding of metacognition, n = 1 patient being treated with translator, n = 1 patient with head injury potentially affecting the process coding, as well as n = 1 patient with missing alliance data (N = 36 in total in the sample). Out of these, 16 were attributed to the GPM condition and 20 to the GPM + MOTR condition. At baseline, the two conditions did not differ in terms of age (t(1, 34) = −0.68, p = .50), gender (χ^2 (1) = 1.89, p = .17), employment (χ^2 (1) = 3.55, p = .31), number of BPD criteria (t(1, 34) = −0.32, p = .75), number of diagnoses on axis I (t(1, 34) = −0.07, p = .91) and II (t(1, 34) = 0.27, p = .79), Global Assessment of Functioning (t(1, 34) = −1.62, p = .11), level of OQ-45 symptoms (t(1, 34) = −1.04, p = .31) and level of metacognition at intake (t(1, 34) = 1.68, p =.10). However, the two conditions differed in terms of marital status (χ^2 (1) = 8.80, p = .01), patients from the GPM + MOTR condition being more frequently married than in the GPM one. Psychiatric diagnoses were assessed by trained clinicians with the Mini International Neuropsychiatric Interview (Lecrubier et al., 1997) for DSM-IV axis I and the SCID-II (First & Gibbons, 2004) for DSM- IV axis II. On average, patients had 7.08 (SD = 1.5) BPD criteria.

Therapists

Ten therapists were in charge of the GPM-based treatment: one therapist treated four patients, one therapist treated two patients, one therapist treated three patients, and seven therapists treated one patient. For the GPM + MOTR condition, a total of five therapists were in charge of the patients: one therapist treated eight patients, one therapist treated six patients, one therapist treated three patients, one therapist treated two patients, and one therapist treated one patient. They were six psychiatrists and six psychologists with at least 1 year of psychiatry residency and a basic psychodynamic background. Three therapists were nurses.

Treatments

GPM Condition. Ten weekly sessions of psychiatric treatment for BPD were

offered to the patients (Good Psychiatric Management; GPM; Gunderson & Links, 2014); when needed more treatment was offered to the patients (Kramer et al., 2017), in the sense of a stepped care approach for BPD. A specific manual rendered explicit the adaptation of the principles of GPM treatment to a 3-month brief treatment (Charbon et al., 2019). The 3-month treatment had the following contents: communication about psychiatric diagnoses, comorbidities and psychiatric anamnesis, definition of the principal problems and treatment target, identification of short-term objectives, recognition of and dealing with difficulties interfering with the treatment and finally formulation of the relational interpretations of core conflictual themes.

MOTR Condition. The MOTR condition is the same as the GPM condition, with the additional implementation of an idiographic case formulation following the principles of Plan Analysis and the motive-oriented therapeutic relationship (MOTR; Caspar, 2007), aiming at the individualizing of the initial 10 sessions. Treatment adherence was assessed cross-sectionally for both treatment conditions for both treatment concepts. As expected, both conditions presented with high-level adherence to GPM principles (non-significant difference, Kramer, Kolly, et al., 2014) and the MOTR condition out-performed the GPM condition with regard to adherence to the individualized motive- oriented therapeutic relationship (t (1, 59)= 10.62; $p<$ .00+)

Instruments

Working Alliance Inventory – Short Form (Tracey & Kokotovic, 1989). We used the French version (Corbière, Bisson, Lauzon, & Ricard, 2006) of this 12-item self-report questionnaire. It aimed at asses- sing patient – (WAI-P) and therapist-rated (WAI-T) alliance on a 1 (never) to 7 (always) Likert-type scale. Questionnaires were completed after each therapy session. Internal consistency was excellent (α = .90–.96).

Outcome Questionnaire-45.2 (OQ- 45; Lambert et al., 2004) is a self-report questionnaire designed for assessing three domains of mental health functioning and their change due to treatment: symptom dis- tress, interpersonal functioning, and social role. Items are assessed on a 4-point Likert scale, ranging from 1 (never) to 4 (always). A global score and scores for each subscale are computed. The OQ-45 has been translated and validated in French (Lambert et al., 1996). It was given after first and penultimate sessions. Cronbach's alpha was α = 0.94.

Metacognition Assessment Scale- Revised (MAS-R; Carcione et al., 2010) is an observer-rating scale that provides an assessment of metacognitive abilities and their changes in individuals' narratives. The MAS-R provides a global score as

well as a score for three metacognitive domains and their subfunctions:

1. Understanding of one's own Mind (UM subscale) is the ability of a person to understand his own mental states. The three subfunctions of UM are: 1) the *Monitoring*, which is the recognition and description of cognitions and emotions as well as their links with behaviors; 2) the *Differentiation* or the ability to make the difference between fantasies or beliefs and reality; 3) the *Integration*, which is the ability to construct a unified view of the self.
2. Understanding of Other's Mind (UOM subscale) is the ability to understand others' mental states. It includes 1) the *Monitoring*, which is the recognition and description of others' cognitions, emotions and their links between them and others' behaviors and 2) the *Decentration*, or the ability to put oneself in others' shoes and make hypotheses about others' mental states which are independent from one's own perspective.
3. Mastery (M subscale) is the capacity to use mentalistic knowledge and adopt an active attitude in order to cope with suffering and solve conflicts. Three different levels exist, from a more behavioral to a more metarepresentative level.

All subfunctions are rated on a 5-points Likert scale ranging from 1 = "scarce" (sporadic, poorly articulated, not spontaneous, probing does not generate improvement) to 5 = "sophisticated" (sustained talk about mental states, description are rich, talk of mental states is spontaneous or there is an autonomous elaboration of a question/suggestion). The rating scale gives also the possibility to score "not engaged" when a subfunction does not appear in the transcript.

Procedure

MAS-R Assessment and Rating

Once the outcome study completed, the video-recorded intake sessions of the $N = 36$ patients were transcribed word by word (Mergenthaler & Stigler, 1997). MAS- R ratings were done based on the transcripts. Each transcript was split into inter- action units. Each interaction unit represents one intervention of the therapist and one intervention of the patient (patient/therapist ratings). The total number of interaction units was then divided by three in order to obtain three scoring units for each transcript. This way of doing is first of all practical because the scoring of the entire transcript would imply to keep in mind a huge amount of information and could therefore prejudice the psychometric proper- ties of the scale. Moreover, metacognition is supposed to evolve, to change depending on the topic for example. Accordingly, the sub-division in scoring units allows a more precise knowledge about the level of

metacognition in each part of the session.

Two independent raters, the first and the second authors, along with a Master's degree student, scored each scoring unit. First author is one of the creators of the MAS-R and second author is a psychologist with a 5-year experience in clinical and research settings who was trained for 6 months in the MAS-R scoring of three Adult Attachment Interviews and seven therapeutic sessions (different from those used for the present study). All scorers were blind to any information concerning participants or sessions. A consensus score was used for the data collection.

Statistical Analyses

For the preliminary analyses, inter-rater reliability analysis was conducted using Intra- Class Coefficients (Shrout & Fleiss, 1979) on 20% of the ratings. In order to establish outcome indexes, a Paired sample t –test, and an ANCOVA (between-condition comparison, controlling for symptom level at intake) were conducted. Given the differences between conditions, as defined by design, condition was always introduced as moderator in the analyses (not just on the level of hypothesis 3). The first hypothesis designating the impact of MAS-R on the mean WAI (P and T) was tested using a single regression model for each of the averaged (over time) WAI-perspectives (P and T). Even though the hypothesis concerns the MAS-R subscale of understanding of other's mind (UOM), the other subscales are tested for discriminant predictive validity purposes. The second hypothesis assumed that MAS-R had an impact on the alliance progression over the course of therapy. In order to test this hypothesis, we conducted two parallel (for each WAI-perspective as dependent variable) Hierarchical Linear Models (HLM; Bryk & Raudenbush, 1987) with the following coefficients (on level 1 were the sessions, on level 2 the patients (Level 1: $\gamma_{ij} = \beta_{0j}*(session) + \beta_{1j} + \varepsilon$; Level 2: $\beta_{0j} = \gamma_{00} + \mu_{0j}$; $\beta_{1j} = \gamma_{10} + \gamma_{11}* (MAS-R) + \gamma_{12}*(condition) + u_{1j}$)). In order to control for therapist effects known to be of importance, we introduced a third level on which therapist's effects were modeled: $\gamma_{00} = \pi_{00} + r_{00}$; $\gamma_{10} = \pi_{10} + r_{10}$; $\gamma_{11} = \pi_{11} + r_{11}$. The third hypothesis formulated a link between the process variables (MAS-R and WAI) and outcome, with a particular focus on the moderating effect of the condition (standard vs individualized). In order to test this hypothesis, we used a regression model (method remove) with the most significant (static and dynamic) predictors from the earlier analyses. The method remove is particularly performant in defining a parsimonious model, by maximizing the explained variance by the model.

RESULTS

Preliminary Analyses

MAS-R [12] scoring's inter-reliability was calculated for 20% of the transcripts (N = 15) with Intra-Class Coefficients (ICC). It was sufficient, with a mean ICC (2, 1) =.81 (SD = .17, range = .65 - .96). Both conditions taken together showed a significant pre-post decrease in symptoms (OQ-45: $t(1, 35)$ = 4.16, p = .00+). We also found a marginal outcome advantage favoring GPM + MOTR, compared with the standard condition, when controlling for symptom level at intake ($F(1, 35)$ = 4.05, p = .05). These results were not affected by the patient's marital status (which differed between the conditions).

Does Metacognition Affect the Alliance Average and Progression?

There was no significant predictive link between MAS total at intake and both alliance mean scores. MAS total predicted only 1% of the variance of the patient's mean alliance ($F(1, 35)$ = 0.09; p = .92) and only 5% of the variance of the therapist's mean alliance ($F(1, 35)$ = 0.96; p = .39). This result was consistent across the three sub-scales, for both rating perspectives, and remained unaffected by the patient's marital status. Condition did not moderate this link.

When explaining the alliance progression over the course of the first 10 sessions of therapy, we found that for the patient's perspective, metacognitive abilities at intake did not affect the alliance progression. This was consistent for all sub-scales of MAS-R and was independent from the treatment condition (Table 1). However, for the therapist's perspective, the averaged sub- scale Understanding the Other's Mind (UOM) at intake did affect alliance progression (Table 2). The higher the scores on the UOM, the steeper the slope of the increase in the therapist's coded therapeutic alliance over time. This result remained unaffected by treatment condition nor therapist effects modeled on level 3 of the HLM.

Predicting Therapeutic Outcome with Metacognition, Therapeutic Alliance and Treatment Condition

Given the central role of the therapeutic alliance coded by the therapist in the dynamics of the impact of the MAS, we focused our final analyses on a comparison between the predictive power of patient's vs therapist's coded alliance, together with MAS and condition as moderator, for distal outcome (symptom change after session 10). The linear regression models, method removal, included both static (mean alliance) and dynamic (alliance slope) predictors of out- come. Firstly, we found that the dynamic predictors did not affect outcome significant, but the static did. Secondly, we were able to confirm that the mean of the therapist's coded alliance, was the only significant variable explaining significantly outcome variance (12% of the variance; Table 3). We re-ran these models with the patient's marital

status, yielding a consistent picture.

DISCUSSION

The therapeutic alliance may be an important factor for any treatment, and in particular for patients with BPD (McMain, Boritz, & Leybman, 2015). It is therefore critical to understand central predictors of alliance formation over time. We hypothesized that the capacity to understand other's mental states on the basis of mentalistic awareness, i.e. metacognition (Semerari et al., 2003) contributes both to the therapeutic alliance and outcome, in line with previous evidence (Locati et al., 2017). This study examined whether metacognitive understanding of other's mind at intake predicted therapeutic alliance, measured both from the patient's and the therapist's perspective, and both static and dynamic measurements of the alliance. We also examined whether the individualization of intervention contributed as moderator to this model.

Our first two hypotheses were that baseline understanding of other's mind was linked with therapeutic alliance. The idea was that patients with higher understanding of the others may be quicker in taking the therapist's perspective and constructively use therapist's observations. Whereas neither patients' nor therapists' average assessments of the level of alliance were connected to understanding of other's mind at treatment onset, we found a link between metacognitive understanding of other's mind at treatment onset and the dynamic operationalization of the therapeutic alliance. Therapists assessed the alliance increasingly positively facing patients who had a more developed aware- ness of the mind of the others. One may hypothesize that the patient's manifest capacity to reflect on others (UOM) made the therapist more hopeful or optimistic in terms of his/her assessment of the cooperation; the therapist may also be more and more hopeful with regard to a positive evolution and outcome of patients with more pre- served capacities of reflection on others. Conversely, facing patients who lack capacities to understand others, results suggest that the therapists may appraise them as non- cooperative, hostile or they may feel frustrated or even to some extent useless (Dimaggio, Semerari, Carcione, Nicolò, & Procacci, 2007).

Patient assessments of the alliance, both static and dynamic, remained unaffected by understanding of other's mind. An absence of link between the patient's capacity to reflect on others (and the self) and his/her cooperative stance in therapy may be due to the fact that early in treatment, patients with BPD may either underestimate or overestimate the quality of the cooperation and the possible gains which may be obtained through the therapy sessions. This may influence their assessment of the alliance. Levy, Beeney, Wasserman, and Clarkin (2010) discussed that the global measurement of the patient's self-reported therapeutic alliance

may ignore the more subtle moment-by-moment state fluctuations characteristic of patients with BPD in variables relevant to both cooperation (i.e., therapeutic alliance) and mentalistic abilities. We may also speculate that the treatment was too short, in order for the patient's capacities to affect the mean and the progress of the therapeutic alliance in BPD. There is a chance in fact that with needed time, patients whose self- reflective capacities and mastery grow more will be more capable to use them in order to buffer their own negative perception of alliance and therefore become increasingly cooperative, which may eventually lead to better outcomes (Semerari et al., 2007).

Finally, we may explain this absence of link with the rather severe clinical presentations of the patients in this study. It is possible that the alliance was affected by variables other than metacognition, the latter being overridden by the influence of third variables, e.g., emotion dysregulation, capacity to experience affects in session (Town et al., 2017) and patients' attachment patterns (Bernecker et al., 2014). Results there- fore need replication in other samples, possibly with more preserved socio- economic status and higher functioning measuring other variables which possible influence the link between alliance and out- come.

The observation that no other metacognitive ability functioned as predictor in the present study speaks to the discriminant predictive validity of the specific sub-scales of the MAS-R. Concepts measured by the MAS-R sub-scales UM (Understanding own's mind) and M (Mastery) did not affect the therapeutic alliance in this specific manner. At least from a predictive validity perspective for the therapeutic alliance, the differentiation of mentalis- tic capacities in lower-level functional domains, rather than the use of an aggregated global score, seems promising and should be taken into account in further studies.

Our third hypothesis assumed that therapeutic alliance and metacognition, moderated by condition, predicted outcome. We assumed that higher metacognitive abilities, together with a productive alliance and individualizing treatment contributed to symptom reduction. Results did not support a moderating role of the individualizing condition. They only supported the predictive role of therapist alliance on outcome; meta- cognitive capacities fell short of remaining in the most parsimonious model.

The observation that the individualization of the intervention, here in the form of the motive-oriented therapeutic relationship, did not result in any moderating effect in the context of the present study worth discussing. Individualizing treatment affects therapy process and outcome only under certain circum- stances. When looking at links between metacognitive intake predictors and the therapeutic alliance, both variables with strong predictive validity, the potential

effects of individualizing may have been overridden by these variables. More research is needed in this domain, both using larger samples in the context of randomized controlled methodology for patients with BPD, and using qualitative descriptions of the process of change in these treatments (Kramer, 2019). Also, it has to be explored whether a moderating effect of treatment condition on the link between alliance and outcome is found in therapies specifically tailored to address poor mentalistic capacities (e.g., Bateman & Fonagy, 2004; Dimaggio, Montano, Popolo, & Salvatore, 2015; Dimaggio et al., 2007).

Taken together, our results may be interpreted as preliminary evidence for a sequential model explaining the dynamics of how initial symptom relief is produced in patients with BPD. Intake features of patients with BPD, such as their capacity to reflect on other's mind, may not directly affect initial symptom relief over the first few sessions of therapy, but these features may be mediated by the level of the therapeutic alliance, as rated by the therapist. Such a model may speak to the important role the therapist perception of collaboration plays in the first few sessions of therapy facing a patient with BPD: he/she will have to be able to face patient- related negative aspects such as hostility and be able to prevent ruptures or readily repair them (Eubanks, Muran, & Safran, 2018; Wolf, Goldfried, & Muran, 2017).

Clinical implications of a sequential understanding of change in brief treatments may be found on the level of psychotherapy training. Firstly, therapist receiving training which helps them identify correctly patient's capacities of understanding the other's mind may be able to construe more productive therapeutic collaboration. Secondly, treating patients with BPD, especially severe forms, may elicit many forms of negative counter- transferential reaction in the therapist (Colli, Tanzilli, Dimaggio, & Lingiardi, 2014; Searles, 1988) which range from anger to self-criticism, guilt, anxiety, worry, overwhelming, overinvolvement, pessimism and frustration, leading therapists to losing motivation to retain the patient in therapy (Cleary, Siegfried, & Walter, 2002; McMain et al., 2015).

This study has limitations. For one, our sample involved rather poorly functioning individuals. Therefore, we need to be cautious about generalization to higher functioning samples and different cultural contexts. More- over, the treatment delivered is brief, calling for replication within longer treatments. Variables not measured here may have had an impact on the process and outcome, such as attachment history, maladaptive interpersonal schemas, affect expression and emotional dys- regulation. Future studies need to assess these variables in order to form an increasingly accurate picture of the therapy process.

Overall, our results speak for the importance of assessing metacognition early

in therapy, as its impairment is likely to affect the way the therapist appraises the therapeutic alliance. Mindful of problems in metacognition, therapist may swiftly adapt their interventions, thus buffering its impact and possibly increasing chances of therapy success.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the authors.

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Table 1: Patient's alliance progression as predicted by baseline metacognitive capacity (HLM; $N = 36$)

Variable	Coefficient	robust SE	t (33)	p
Total MAS	-1.89	3.43	-0.55	.59
Condition	2.79	3.91	0.71	.48
Mean UM	-1.97	3.29	-0.60	.55
Condition	2.57	3.94	0.65	.52
Mean UOM	-0.94	3.29	-0.29	.77
Condition	3.00	3.89	0.77	.45
Mean M	-1.32	3.04	-0.43	.67
Condition	3.14	3.74	0.84	.41

Note. HLM: Hierarchical Linear Modeling; MAS: Metacognition Assessment Scale; UM: Understanding of one's Own Mind; UOM: Understanding of Others' Minds; M: Mastery; Condition: Standard General Psychiatric Management vs Individualized (using the Motive-Oriented Therapeutic Relationship Component) General Psychiatric Management.

Table 2: Therapist's alliance progression as predicted by baseline metacognitive capacity (HLM; $N = 36$)

Variable	Coefficient	robust SE	t (33)	p
Total MAS	2.40	3.01	0.80	.43
Condition	0.13	2.76	0.05	.96
Mean UM	0.22	2.56	0.09	.93
Condition	-0.23	2.73	-0.09	.93
Mean UOM	5.62	2.90	1.94	.04
Condition	0.83	2.75	0.30	.77
Mean M	3.01	2.64	1.14	.26
Condition	-0.22	2.55	-0.09	.93

Note. HLM: Hierarchical Linear Modeling; MAS: Metacognition Assessment Scale; UM: Understanding of one's Own Mind; UOM: Understanding of Others' Minds; M: Mastery; Condition: Standard General Psychiatric Management vs Individualized (using the Motive-Oriented Therapeutic Relationship Component) General Psychiatric Management.

Table 3: Predicting symptom change at session 10 with condition, mean alliance and baseline metacognitive capacity ($N = 36$)

Variables	R^2	B	SE	β	t	p
Model 1	.28					
Condition		-9.83	6.58	-0.24	-1.49	.15
Total MAS		10.06	6.82	0.23	1.47	.15
WAI Patient		-0.32	0.27	-0.18	-1.17	.25
WAI Therapist		-0.66	0.39	-0.27	-1.68	.10
Model 2	.25					
Condition		-9.85	6.61	-0.24	-1.49	.15
Total MAS		9.55	6.85	0.22	1.39	.17
WAI Therapist		-0.72	0.39	-0.29	-1.83	.08
Model 3	.12					
WAI Therapist		-0.85	0.40	-0.34	-2.11	.04

Note. Regression model using Stepwise method. R^2 non-adjusted. MAS: Metacognition Assessment Scale; WAI: Working Alliance Inventory. Condition: Standard General Psychiatric Management vs Individualized (using the Motive-Oriented Therapeutic Relationship Component) General Psychiatric Management.