Effects of motive-oriented therapeutic relationship in a ten-session general psychiatric treatment of borderline personality disorder: a randomized controlled trial

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Abstract

Motive-Oriented Therapeutic Relationship (MOTR) was postulated to be a particularly helpful therapeutic ingredient in the early treatment phase of patients with Personality Disorders, in particular Borderline Personality Disorder (BPD). The present randomized controlled study using an add-on design is the first study to test this assumption in a ten-session general psychiatric treatment with patients presenting with BPD on symptom reduction and therapeutic alliance. In total, $N = 85$ patients were randomized. They were either allocated to a manual-based short variant of the General Psychiatric Management (GPM) treatment (in ten sessions) or to the same treatment where MOTR was deliberately added to the treatment. Treatment attrition and integrity analyses yielded satisfactory results. The results of the Intent-to-Treat analyses suggested a global efficacy of MOTR, in the sense of an additional reduction of general problems (*i.e.*, symptoms, interpersonal and social problems; $F(1, 71) = 7.46, p < .00$). However, they also showed that MOTR did not yield an additional reduction of specific borderline symptoms. It was also shown that a stronger therapeutic alliance, as assessed by the therapist, developed in MOTR-treatments, compared to GPM ($Z (55) = 0.99, p < .04$). These results suggest that adding MOTR to psychiatric and psychotherapeutic treatments of BPD is promising. Moreover, the findings shed additional light on the perspective of shortening treatments for patients presenting with BPD.

Key-Words : Borderline Personality Disorder; Motive-Oriented Therapeutic Relationship; Plan Analysis; General Psychiatric Management; Randomized Controlled Trial (RCT); Outcome; Therapeutic Alliance

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Introduction

Borderline Personality Disorder (BPD) is a severe condition generally requiring long-

term treatment [1]. As of today, several treatment models have been developed and have

shown efficacy, either in the form of structured psychotherapy (e.g., [2] [3] [4] [1]), or in the

form of general psychiatric intervention [5] [6] [7] [8]. Long-term treatments bear important

implications from a health economic point of view [9] [1]. In order to optimize treatment

effects at the same time as managing the health system's - and the therapist's - limited

resources, it may ultimately be useful to individualize the therapy offer, instead of delivering

complex treatment packages as a whole. We may argue that optimizing treatments by

individualizing them may help to deliver what is indispensable for a particular individual, and

avoid delivering what is not absolutely necessary. Such a position aims at an integrative

conception of psychotherapeutic and psychiatric management of borderline personality

disorder; this position is advocated by Critchfield and Benjamin [10] for the treatment of

personality disorders in general. The present research aims at understanding the specific

effects of a particular therapy ingredient helping to individualize treatments, the Motive-

Oriented Therapeutic Relationship method [11] - a set of therapeutic relationship heuristics

and intervention strategies - on therapeutic outcome and the progression of the therapeutic

alliance as a marker of the quality of the patient-therapist collaboration in the very first

therapy sessions (until session 10). In addition to informing about the effects of an

individualized relationship intervention as an added therapy ingredient, it is also important to

better understand the therapeutic effects of very short treatments for BPD, in particular from a

psychodynamic-psychiatric perspective. There is evidence with regard to the effectiveness of

short-term psychodynamic treatments, in terms of their overall efficacy [12] and for patients

with PD [13] [14] [15]. Therefore, information on individualizing treatments for BPD, as well as on how to possibly shorten them, seems promising - despite overall treatment recommendation for long-term therapy [5] -, as it bears the potential to optimize and refine on a micro-level established treatment packages for BPD.

Plan Analysis and Motive-Oriented Therapeutic Relationship as therapy ingredient

Plan Analysis (PA), an integrative case conceptualization method and the ensuing relational technique of the motive-oriented therapeutic relationship (MOTR) were defined by Grawe and Dziewas [16] and Caspar [11][17]. The main focus of Plan Analysis is the *instrumentality* of behavior and experience, as means linked with underlying ends: based on the patient's verbal, and in particular nonverbal behaviour, the therapist makes inferences about the implied underlying Plans. The individually formulated Plans are depicted in a graphical form as a Plan structure where the hypothetical motives and Plans "behind" the observed behaviors and experiences, as well as the links between these behaviors, Plans, are represented. Prototypical Plan structures based on aggregated individual qualitative analyses exist, for example, for Borderline Personality Disorder [18]. Based on Plan Analysis, the therapist defines and implements in an individualized way the therapeutic relationship offer for a specific patient, the Motive-Oriented Therapeutic Relationship (MOTR or MOTHER; formerly also called Complementary Therapeutic Relationship [19][11] [20]. The relational-technique principle of MOTR is to ensure that therapy will provide the means to satisfy the patient's needs and motives within the limits of the therapeutic relationship, without reinforcing problematic Plans, behaviors or experiences. For the patient, it is therefore no longer necessary to use his/her problematic means to attain his/her motives or goals, if these goals are satisfied within the therapeutic relationship. The latter is the aim of using MOTR in a proactive way. Since the structure of motives is highly individual, the relationship offer

must be constructed differently for each patient, based on the information collected in the PA

(for an example, see [21]).

Previous findings on the effects of Motive-Oriented Therapeutic Relationship

The use of PA and MOTR has shown to be productive in a variety of settings, beyond

the treatment of BPD. In a naturalistic study conducted by Grawe, Caspar and Ambühl [22],

two treatment forms based on PA (individual and group psychotherapy) were compared to

two treatment forms which are not based on PA (cognitive-behavioral and humanistic

psychotherapies) for patients with various psychiatric disorders. Comparable effectiveness

was found for several outcome coefficients, but treatment retention was significantly greater

in treatments based on PA [22]. The effects of Plan Analysis on therapist interaction

competencies were investigated by means of an experimental study in psychosomatic medical

training [23]. The results indicated that the trainees, advanced medical students, reported

increased levels of interactional competencies and were able in the end of their PA-training to

describe the patients' non-verbal behaviours more precisely and to link it cogently to the

patient's unconscious needs, as well to the therapist's internal reaction to them. Such

productive management of counter-transferential issues was reported to be particularly useful

in the treatment of BPD [24].

Several studies have shown links between MOTR as a relational-technique variable in

psychotherapy and therapeutic outcome. Moderate associations between this individualized

therapeutic relationship and outcome were found. Caspar, Grossmann, Unmüssig, and

Schramm [25] have shown that in particular the non-verbal component of the MOTR – the

therapist moment-by-moment non-verbal motive-oriented complementarity to the client's

Plans activated in session or the therapist's assuring the client that his/her activated specific

motives were not threatened in therapy - was related to the therapeutic outcome in a sample of

inpatients undergoing interpersonal psychotherapy for depression. Using a path analysis

methodology, Schmutz, Berger and Caspar [26] showed that MOTR contributed to

therapeutic outcome to the extent of $r = .59$, independently of general features of the

therapeutic relationship ($r = .50$) in a sample of patients undergoing psychotherapy and

presenting with domineering interpersonal features ($N = 27$). Comparing a sample presenting

with depression to a sample with depression with co-morbid PD, Kramer, Rosciano, Pavlovic,

Berthoud, Despland, de Roten and Caspar [27] found similar results to Caspar et al. [25], but

only for the patient sample with co-morbid PD. Finally, Kramer, Berger, Kolly, Marquet,

Preisig, de Roten, Despland and Caspar [28] showed in a pilot study that MOTR had an

additional effect on the decrease of interpersonal problems across a very short time-frame,

compared to a treatment based on the principles of General Psychiatric Management [24].

Patient-therapist collaboration, as conceptualized by the therapeutic alliance, increased in a

steeper way in the MOTR condition, compared to the comparison group. It needs to be argued

that either these studies suffered from lack of power or did not use accurate methodology to

clearly attribute the effects found to MOTR, by using an experimental design.

The present study aims at contributing to the understanding of the adding effects of

MOTR in a short treatment frame of a variant of General Psychiatric Management (GPM) for

patients with BPD. As such, we postulate an additional effect of MOTR on the decrease of

general and specific symptoms over ten sessions, along with higher markers of patient-

therapist collaboration in the MOTR condition, compared to GPM.

<div align="center">Method</div>

Design

This single-blind randomized controlled add-on trial compared two three-month

treatments for borderline personality disorder: a variant of general psychiatric management

(GPM) and GPM augmented with the Plan Analysis and Motive-Oriented Therapeutic

Relationship (GPM plus MOTR; hereafter called MOTR). All patients were blind to their

allocated treatment condition until the end of treatment; logistic coordinators and MOTR-

adherence raters were blind to the patient's treatment condition; however, the principal

investigator and the therapists were not blind to the treatment condition. All treatments

involved an extended phase of psychiatric assessment and initial treatment, lasting for ten

sessions for both conditions; when indicated, more treatment was proposed to the subjects,

however, this later treatment phase was not object of the present research. All treatments were

conducted at a European French-speaking outpatient university psychiatry clinic. Participants

were recruited between May 2010 and March 2013. The research protocol was approved by

the local Ethics Board (clearance number 254/08), as well as the Research Committee of the

University Department. In accordance to national law, participants did not pay for treatment.

The trial was registered in the ClinicalTrials.gov database (NCT01896024).

Participants

    Patients

Inclusion criteria were the presence of a DSM-IV borderline personality disorder

diagnosis and being between 18 and 65 of age at the time of recruitment. Exclusion criteria

were the presence of a DSM-IV psychotic disorder, mental retardation and substance abuse at

the forefront. Minimal exclusion criteria were formulated, in order to increase external

validity of the trial. DSM-IV diagnoses of BPD were established by trained clinicians or

clinician-researchers for all patients using the Structured Clinical Interview for DSM-IV

(SCID-II [29]; reliability of the DSM-IV axis II diagnoses was satisfactory ($\kappa = .81$). These

analyses were done on independent ratings of video-taped SCID-II diagnostic interviews on a

randomly chosen 10% (9) of all included patients. Co-morbid psychiatric disorders (assessed

by the MINI for axis I [30] and assessed by the SCID-II for axis II) are shown in Table 1. The

assessments, data handling and adherence observer-ratings were done by one research

assistant mainly, with the help of three other research assistants when needed. In the end of

the study, the main research assistant was polled by the study head which showed that she

correctly guessed the treatment assignment in 25% of all included cases; this suggests that she

was sufficiently blind to treatment assignment.

Out of $N = 140$ patients approached for the study, $n = 17$ did not meet the criteria in an

intake assessment and $n = 38$ refused to participate; thus, $n = 55$ were excluded (see Figure 1).

As a result, $N = 85$ patients were randomized into either condition (GPM vs MOTR); $n = 43$

patients were assigned to GPM; $n = 42$ patients were assigned to MOTR. Even if they

accepted the study and were randomized, a total of $n = 11$ patients (5 in GPM and 6 in

MOTR) did not come back after session 1, refusing all initial and further assessment related to

research. Because of design-related constraints (MOTR was only introduced after session 1),

this group of patients was called early non-engagers resulting in missing data. An additional

total of $n = 14$ discontinued treatment between session 2 and 10 (9 for GPM and 5 for

MOTR). In all Intent-to-treat (ITT) analyses, a total of $N = 74$ patients was included (GPM

ITT $n = 38$; MOTR ITT $n = 36$); in all Completer analyses, a total of $N = 60$ patients was

included (GPM Completers $n = 29$; MOTR Completers $n = 31$). Randomization was

performed using an internet-based block randomization program; sealed envelopes were

prepared by an independent researcher and opened when the patient accepted the study.

Therapists

In total, $N = 22$ therapists were involved in the treatment of the patients included (ITT

sample; GPM $n = 13$, MOTR $n = 9$). Therapists were randomized to the treatment condition at

the outset of the study; therefore, each therapist conducted treatments for only one condition.

In the GPM condition, 1 therapist treated 11 patients, 1 therapist treated 5 patients, 2

therapists treated 4 patients, 1 therapist treated 3 patients, 3 therapists treated 2 patients and 5

therapists treated 1 patients each. In the MOTR condition, 1 therapist treated 14 patients, 1

therapist treated 6 patients, 2 therapists treated 4 patients, 1 therapist 3 patients, 1 therapist

treated 2 patients and 3 therapists treated 1 patient each. All therapists had at least 1 year of

psychiatry residency at the time of the study, with an overall average of 2.5 years of clinical

residency. Therapists included psychiatrists and psychologists with at least a basic

psychodynamic background (19), some therapists (3) were nurses; therapists were equally

distributed in both treatment conditions. All therapists were trained at the outset of the study,

and as an ongoing process during the entire study in the model by Gunderson and Links ([24];

see under treatment condition 1). The supervisors had received formal training in

psychodynamic psychotherapy and specific training in clinical management of patients with

BPD according to Gunderson and Links' principles [21]. For the MOTR-condition, training

and supervision were provided by the model developer and an expert in this approach. All

treatments were supervised twice over the course of the process, the first supervision session

taking place right after the intake session, the second in the second half of the process. The

therapists received the same amount of supervision in both conditions. Therapists were

recruited from the pool of therapists working at the outpatient university clinic where the

study took place. Therapists were polled in the end of treatment with regard to the study

central hypothesis and out of the 22 therapists, $n = 2$ (9%) correctly formulated the main study

hypothesis (GPM: $n = 1$; MOTR: $n = 1$), the other 20 (91%) either indicated that they had "no

idea" or formulated a false hypothesis. Given the low prevalence of positive response and its

equal between-group distribution, it can be concluded that therapists were sufficiently blind to

the main study hypothesis.

Treatment conditions

Condition 1: General Psychiatric Management (GPM)

In condition 1, a 10-session treatment for patients presenting with BPD was based on a

psychiatric and psychotherapeutic approach [24], based on an attachment informed etiological

model of BPD. A specific manual was elaborated in order to adapt the GPM treatment

principles enumerated by Gunderson and Links to 10 sessions [31]. The imperatives of this manual are (1) Establishment of reliable psychiatric diagnoses, including co-morbidities and other problem areas, and communication of this information to the patient, (2) Establishment of psychiatric anamnesis, (3) Identification of the main problems to be treated and establishment of treatment focus, (4) Definition of short-term objectives and general enhancement of motivation, (5) Identification of and dealing with treatment-interfering problems, (6) Formulation of relational interpretations of core conflictual themes. One session per week was given; if necessary, short-term inpatient treatment was organized, as was adjunct pharmacotherapy.

Condition 2: Add-on Motive-Oriented Therapeutic Relationship (MOTR)

The MOTR condition differs from the GPM condition, described above, in that a full Plan Analysis (PA) and ensuing MOTR techniques (see above) are implemented during the treatment when indicated. MOTR is "infused" in the process from session 2 to 10. MOTR is implemented after the intake session which serves the therapist as data for the establishment of the PA and the ensuing MOTR.

Treatment fidelity

In order to control for treatment fidelity in both treatment conditions, we applied two distinct assessment procedures to equal numbers of cases from both groups. In order to measure treatment fidelity of GPM, the General Psychiatric Management Adherence Scale (GPMAS [32]; described under Instruments) was given to a subsample of therapists treating 40 patients (GPM condition $n = 20$; MOTR condition $n = 20$). Adherence was assessed in the end of each of the 40 treatments. We did not give the scale to the patients, for two reasons: (1) ethical: the patients had a great amount of items to rate already and it was not possible to add more and (2) empirical: in the original study by Kolla [32], patient's and therapist's scores

presented moderate correlations, suggesting some redundancy between these two

perspectives. We predict that scores do not differ between the conditions.

In order to assess treatment fidelity of MOTR, we used the observed-rated methods of

Plan Analysis and the Motive-Oriented Therapeutic Relationship Scale (MOTR-scale [25]

described under Instruments) for all treatment completers ($N = 60$). The Plan Analysis was

established based on the intake session by an independent rater (not the therapist), the MOTR

was assessed minute-by-minute by an external rater (not the therapist) blind to the treatment

assignment on one randomly chosen session of the remaining sessions. A cut-off of +1 (on the

MOTR scale ranging from -3 to +3) was defined a priori. This means that it was expected that

MOTR treatments get session-average MOTR scores greater than +1 and it was expected that

GPM-based treatments yield session-average MOTR scores smaller than +1.

Instruments

Main outcome

Outcome Questionnaire – 45.2 (OQ-45 [33]). This self-report questionnaire comprises

45 items aiming at assessing results yielded from psychotherapy, including a global score and

three sub-scale scores: symptomatic level, interpersonal relationships and social role. These

items are assessed on a Likert-type scale ranging from 1 (never) to 4 (always); a total sum

score and scores per sub-scale are computed. The scale has been translated and validated in

French [34]. This questionnaire was given at intake and at discharge. Cronbach's alpha for the

current sample was $\alpha = .94$.

Secondary outcomes

Inventory of Interpersonal Problems (IIP[35]). This self-report questionnaire

comprises, in this shortened version, 64 items aiming at assessing interpersonal functioning.

These items are assessed using a Likert-type scale ranging between 0 (not at all) and 4 (very

much); we used the global score which is a mean of all items. The scale was translated into

French by Stigler (1998). This questionnaire was given at intake and at discharge. Cronbach's

alpha for the current sample was α = .94.

Borderline Symptom List (BSL-23[36]). This self-report questionnaire assesses

specific borderline symptomatology using 23 items. As such, it represents a short version of

the more extensive BSL-95 [37] for which excellent psychometric properties were reported.

Similar results were found for the short version [36]. The items are assessed using a Likert-

type scale ranging from 0 (absent) to 4 (clearly present); an overall mean score is computed.

The French translation (Page, Kramer, & Berthoud, 2010) was approved by the authors of the

scale. Cronbach's alpha for the current sample was α = .95.

Working Alliance Inventory – Short Form (WAI-short version [38]; French validation

by Corbière, Bisson, Lauzon and Richard [39]). This self-report questionnaire comprises 12

items and assesses the different dimensions of therapeutic alliance, the bond between patient

and therapist, the agreement on therapy collaboration (goals and tasks). These items are

assessed on a Likert-type scale ranging from 1 (never) to 7 (always); an overall sum score is

computed. This questionnaire is filled in by the patient and the therapist in the end of each of

the ten sessions. Cronbach's alpha for the current sample was α = .92 (patient version) and α

= .91 (therapist version).

Treatment integrity

General Psychiatric Management Adherence Scale (GPMAS[32]). This therapist self-

report questionnaire comprises 48 items aiming at assessing therapist interventions and

behaviors consistent with the psychodynamic-psychiatric approach. These items are assessed

on a Likert-type scale ranging from 1 (not at all) to 5 (completely present); an overall mean

score is computed. This questionnaire is filled in by the therapist in the end of the 10-session-

treatment with regard to the entire treatment delivered for a specific patient. French

translation of the original scale was performed by Kramer and Kolly (2012). Cronbach alpha

for the current sample was α = .90.

Plan Analysis and Motive-Oriented Therapeutic Relationship scale (MOTR [25][11]).

The application of Plan Analysis and the MOTR scale was used to check therapist adherence

to MOTR in the MOTR condition and their non-adherence to MOTR in the GPM condition.

The MOTR scale ranges from –3 (anti-complementary) to +3 (complementary). The

procedure for reliability checks followed Caspar and Grosse Holtforth's [40] requirements:

(1) Plan Analysis (Inter-rater reliability checks following the procedure described by Kramer,

Berger and Caspar [41]), by establishing an individualized and meaningful formulation of the

patient's problems, experiences, Plans and motives; (2) MOTR rating (Inter-rater reliability

checks following the procedure described by Caspar et al., [25]). MOTR rating involves the

sequential assessment of therapist interventions (events), the identification (by the rater) of the

involved patient Plan(s) (derived from the idiosyncratic Plan Analysis) and the coding (by the

rater) of the therapist actual degree of MOTR to the involved Plan(s) in the selected event.

The Plan Analysis methodology relies on the rater's perception of the therapist's accurate level

of responding to a patient (i.e., on the level of acceptable, yet close-to-behavior motives),

minute-by-minute. The accuracy of therapist response is defined a priori by the Plan Analysis

established for each patient. French versions of the scales were available and successfully

applied in earlier studies [27][28]. The reliability sample was defined based on Wirtz and

Caspar's [42] recommendations (a randomly selected 10% of all ratings, for both steps, Plan

Analysis and MOTR). All ratings were done by a total of three raters, reliability established

among pairs.

Procedure

    After the intake interview, the patients met with the program-related researcher who

explained the study to them. Immediately after this, all included patients were randomly

assigned to a condition, either GPM or MOTR. All intake sessions were video-taped. All

remaining sessions were tape-recorded or video-taped. Finally, after this 10-session process,

the patient was oriented towards long-term treatments (*i.e*., psychiatric treatment or

psychotherapeutic treatment program). The current study only focuses on the effects during

the treatment up to session 10. Follow-up data was not analyzed at this point.

Statistical Analyses

At the outset of the study, a power analysis was conducted based on previous research

on the effect of MOTR on outcome variables [28]. With a presumed power of .80, 30% drop-

out rate [43] and a two-tailed alpha of .05, the power analysis yielded a total of $N = 80$

patients to be included ($n = 56$ completers).

All analyses were done using the Intent-to-Treat (ITT) sample with full data sets ($N =$

74 patients); in addition, all patients having completed treatment were included into completer

analyses ($n = 60$ patients).

The test of adequacy of randomization involved *t*-tests for all continuous variables and

χ^2 for all dichotomous variables. Frequency of drop-out was also tested.

In order to test the between-group difference of the main outcome variable (Condition

x Time), an ANCOVA was conducted on the OQ-45 total score and a MANCOVA was

conducted for the three sub-scales, taking symptom level at intake as covariate. Conditions of

application for these analyses were tested beforehand and were fulfilled. We also tested the

effect of time by using repeated measures ANOVAs (Time).

In order to test the between-group differences related the secondary outcome variables,

ANCOVAs were conducted on the IIP and BSL, taking symptom level at intake as covariate

(Condition x Time). Conditions of application for these analyses were tested beforehand and

were fulfilled. We also tested the effect of time by using repeated measures ANOVAs (Time).

All analyses were conducted both for ITT and Completer sample.

In order to test the between-group difference of the therapeutic alliance, two sets of analyses were conducted on both patient and therapist assessments of alliance. First, an univariate ANOVA was conducted to test the between-group effect on the average alliance. Second, in order to address limitations of the averaging of time-dependent scores, *i.e.*, taking into account the alliance progression over ten sessions and the inter-dependency between the data-points [44][45]a two-level Hierarchical Linear Model (HLM [46]) was used. The dependent variable was the therapeutic alliance (patient and therapist assessment), fixed factor was the condition, on level 1 were the sessions, on level 2 the patients (Level 1: $\gamma_{ij} = \beta_{0j}*(\text{session}) + \beta_{1j} + \varepsilon$; Level 2: $\beta_{0j} = \gamma_{00} + \mu_{0j}$; $\beta_{1j} = \gamma_{10} + \gamma_{11}*(\text{condition}) + u_{1j})$.

Bonferroni's corrections were applied where necessary for all analyses. Missing data resulted either in the exclusion of the case (due to early non-engagement) or in the strategy of last observation carried forward (LOCF). Both analyses (LOCF and non-LOCF) were conducted and reported where the result differed. In cases where it did not differ, we used LOCF. All statistical analyses were performed using the SPSS 21 program, except the Hierarchical Lineal Modeling, for which HLM 6 was used.

Results

Characteristics at baseline

Out of the $N = 85$ patients randomized, due to early non-engagement of $n = 11$ patients resulting in missing data, the Intent-to-Treat (ITT) analyses were conducted on the sample of $N = 74$. No between-group effects appeared for all variables at baseline (see Table 1). In particular, for the outcome variables, there were no between-group difference at intake (OQ-45 total :$t(1, 72) = -.62, p = .54$; OQ-Symptom distress: $t(1, 72) = -1.03, p = .31$; OQ-Interpersonal relationships: $t(1, 72) = .01, p = .99$; OQ-Social role: $t(1, 72) = .07, p = .95$; IIP: $t(1, 66) = -1.65, p = .10$; BSL: $t(1, 60) = -.53, p = .60$.

The number of sessions for the completer sample did not differ between the groups,

similar to the ITT Analyses (Mean (GPM Completers) = 8.86 (2.23); Mean (MOTR

Completers) = 8.77 (2.22); $t(1, 58) = .15$, $p = .88$).

The number of patients who needed further treatment (after session 10) did not differ

between the groups (GPM: 20 (69%); MOTR: 22 (71%); $\chi^2 (1) = 0.03$, $p = .86$).

Treatment attrition and integrity

Attrition was composed by two aspects: (a) early non-engagers in treatment (only

coming in for session 1 and refusing the research assessment); (b) treatment discontinuation.

Points (a) and (b) together showed 31% ($n = 25$) of attrition (GPM: $n = 14$; MOTR: $n = 11$).

Thirteen percent ($n = 11$) of the randomized participants were early non-engagers (GPM: $n =$

5; MOTR: $n = 6$) and 16% ($n = 14$) discontinued treatment after session 2 (GPM: $n = 9$;

MOTR: $n = 5$; $\chi^2 (1) = 1.16$, $p = .28$).

Adherence to GPM was measured in the end on $n = 40$ treatments ($n = 20$ per

treatment condition) and showed high treatment integrity for both the GPM condition (Mean

= 4.32; SD = 0.37) and for the MOTR condition (Mean = 4.37; SD = 0.26), which did not

differ between the conditions ($t(1, 38) = .58$; $p = .57$).

Adherence to MOTR was measured on all treatment completers ($N = 60$) using the

individualized paradigm of assessment described above. The results showed high treatment

integrity for MOTR (Mean total = 1.55; SD = 0.44; range 1.00 – 2.75; Mean verbal = 1.28;

SD = 0.57; range 0.43 – 2.67; Mean non-verbal = 1.78; SD = 0.39; range 1.17 - 2.83) and

notably lower presence of the MOTR-variable in the GPM-condition (Mean total = 0.45; SD

= 0.38; range -0.46 – 1.00; Mean verbal = 0.31; SD = 0.59; range -0.63 – 1.00; Mean non-

verbal = 0.59; SD = 0.45; range -.36 – 1.42). The between-group difference regarding the total

score of the MOTR-scale was highly significant ($t(1, 59) = 10.62$; $p < .00$). No cases were to

be excluded due to false negatives of the total score (*i.e.*, below-threshold adherence in the

MOTR-condition) or false positives of the total score (*i.e.*, above-threshold presence of

MOTR in the GPM-condition).

Reliability checks were done on 10% of the sample (*n* = 3 randomly chosen cases per

condition, six in total) for the Plan Analysis and MOTR. With regard to Plan Analysis, the

total mean correspondence between two independent raters on qualitative material was

65.83% (SD = 2.91; range 62 – 70). With regard to the MOTR ratings, Spearman rank

correlations between the ratings of two independent raters were mean rho = .83 (SD = .13;

range .70 – 1.00) for the verbal component, mean rho = .82 (SD = .12; range .61 – 1.00) for

the non-verbal component and mean rho = .84 (SD = .09 ; range .71 – 1.00) for the entire

scale. These reliability checks of the MOTR adherence ratings were considered excellent.

Treatment integrity was therefore highly acceptable for both conditions.

Primary outcome

For the ITT analyses (see Table 2) using ANCOVA (*i.e.*, symptom level at intake as

covariate), there was a main between-group effect (Condition x Time) on the total score of the

OQ-45 ($F(1, 71) = 7.46$, $p < .00$, at the level .05/4). Using MANCOVA (*i.e.*, symptom level at

intake as covariate) on the three subscales (Condition x Time), there was a nearly significant

effect favoring MOTR ($F(3, 67) = 2.50$; $p = .06$). Analyzing each sub-scale separately, they

are all significantly different between the conditions in terms of outcome (see table 2). Using

repeated measures ANOVAs, there is a systematic time effect for all patients taken together,

in favor of symptom reduction between intake and discharge.

The Condition x Time effects remained stable for the completer-analyses (ANCOVA

total score OQ-45: $F (1, 59) = 5.26$, $p = .02$; MANCOVA including symptom distress: $F(1,$

$59) = 4.30$; $p = .04$; interpersonal problems: $F (1, 59) = 3.43$; $p = .07$; social role: $F (1, 59) =$

3.83; $p = .05$; all reported results at Bonferroni's corrected significance-level of $p = .05/4$).

Secondary outcomes

For the ITT-analyses (see Table 2), there were time-effects, but no between-group effect for the secondary outcomes (IIP and BSL). However for the completer-analyses, the IIP presented a nearly significant effect in the MOTR condition, compared to the GPM condition ($F(1, 50) = 3.22$; $p = .07$). For the BSL, there was no between-group effect for the completers ($F(1, 51) = .09$; $p = .77$).

Therapeutic alliance

For the therapeutic alliance (see Table 2; $n = 57$), there is no between-group effect neither for the patient's nor the therapist's mean ratings. However, when using HLM, we observed a therapist effect favoring the alliance progression in MOTR-treatments (coefficient = 0.99; SE = 0.49; t-ratio = 2.03; df = 55; $p = .04$) which was not found for the patients (coefficient = 0.01; SE = 0.52; t-ratio = 0.02; df = 55; $p = .98$). This result is depicted in Figure 2 using the raw data of the therapists' ratings per session, over time.

Discussion

This is the first study which has systematically assessed the effects of adding Motive-Oriented Therapeutic Relationship (MOTR) to a treatment based on the principles of General Psychiatric Management (GPM) for Borderline Personality Disorder (BPD). We postulated that MOTR had an adding effect on therapeutic outcome and on the quality of the collaboration between the patient and the therapist. Results partially confirmed this assumption.

Individualizing the treatments for patients with borderline personality disorder

Individualizing treatments, in particular a variant of general psychiatric management by using the MOTR produces more symptom reduction, in particular in terms of distress. It also produces, over time, an increasingly positive therapist assessment of the patient-therapist collaboration. However, individualization of treatment did not have any additional impact on specific borderline symptoms scale. We hypothesize that because GPM is a treatment aiming

specifically at containing and diminishing the borderline symptoms, there might actually be

very little room for improvement of the effect within such a short time frame. This hypothesis

is supported by the significant pre-post effect for borderline symptoms in both treatment

conditions. Moreover, it was somewhat surprising to us that whereas the therapists'

assessment of alliance in MOTR increased significantly more compared to the therapists' in

GPM, this was not the case for the patients' assessment of the therapeutic alliance. This

finding is in contrast to Kramer, Berger et al.'s results [28] on a small sample where a

between-group effect was found for the patients' assessment (but not for the therapists'). This

result is also to some extent in contrast with the effect on the quality of the therapeutic

alliance, as rated by the patient, in a quite different therapy context based on schema-therapy

[47]. In order to explain these divergences, we hypothesize that in MOTR treatments, the

increasing quality of the collaboration facing patients with BPD is only apparent to the

therapist in these beginning therapy sessions; the patient in the MOTR condition actually sees

the collaboration in the same fashion as in the GPM condition (*i.e*., increasingly better), but is

perfectly unaware of the implicit interaction focused on motives. The treatments might have

been too short to actually show effects on the patient's perception of the therapeutic alliance

which may be measurable only after some time. The results found by Schmutz et al. [26]

would support these explanations, where a direct effect of MOTR on therapeutic outcome was

found, without a mediating effect for the therapeutic alliance, as rated by the patient.

Alternatively, we must admit there might have been a moderate ceiling effect at stake in this

data set, as patients tended to rate alliances quite high in this sample. The lower levels of

therapists' alliance ratings, compared to the patients', excluding a potential ceiling effect for

the therapists, would support this explanation. One might also argue that the therapist-only

effect on the alliance may be due to a self-fulfilling prophecy; the therapist might have been

aware that MOTR aimed at fostering increasingly good alliances and might have rated

accordingly. While this might be the case, we also argue that according to our poll, the

therapists were mostly unaware of the study main hypothesis which should control for such an

effect.

MOTR has shown in this study its relevance as treatment ingredient in the context of

an approach that has no theoretical link with the original Plan Analysis concept. This result

points to the added-value of MOTR when integrated or combined with an established

treatment form. The effect sizes of the present add-on study are slightly larger than reported in

a recent meta-analysis on all additive studies in psychotherapy ($d = .0.14$ and $d = 0.28$ which

are interpreted as small, but significant additive improvements [48]). Larger effects sizes in

our study might be due to the specific nature of MOTR, a relationship technique much closer

to what Ahn and Wampold [49] called the common factors in psychotherapy. MOTR can be

called an individualized descriptor of the "how" of an intervention, beyond empathy,

unspecific resource actuation and positive regard, truly tuned in on the level of the individual

patient's authentic and central motives and needs. The specific technique used (*i.e.*, here the

psychiatric-psychodynamic intervention, the focus on problems and motivation for treatment

and so on) becomes thus the "what" of the intervention [21].

The present study has also confirmed to some extent the results by McMain et al. [7]

on the effects of treatments based on GPM-principles. GPM and its derivatives as APA

informed psychiatric and psychodynamic treatment [5] has the potential of becoming an

important treatment form for borderline personality disorder due to its detailed description of

clinical procedures, close to a manual, and a convincing attachment-based etiological model

of the disorder [24]. Albeit most patients in our sample needed further treatment, their pre-

post effect sizes are impressive, given the 10-session time-frame. This is consistent with

some of the literature on the effects of short-term dynamic psychotherapy for personality

disorders [13] [14]. This phenomenon might be explained by the generic model of

psychotherapy change [50] where the initial therapy phase is characterized by remoralization (*i.e*., accessing hope for change, developing new objectives, feeling understood and held in a nurturing therapeutic environment) which correlates on average with some initial symptom relief. In particular, the acceleration of the rate of change might be greater in more symptomatic samples, such as patients presenting with PD [15] and MOTR seem to play a facilitating role in this process.

Limitations and future directions

We need to acknowledge a number of limitations to the present study. This study only examines 10 sessions of treatment; we do not know what the effect of our variables is in longer-term treatments. In order to increase external validity of the trial, we limited the number of exclusion criteria. Therefore, we cannot rule out the influence of co-morbid disorders, variations in the level of intelligence, as well as the presence of co-interventions that were clinically indicated (*i.e*., medication, social intervention, alcohol counseling, short-term inpatient treatment) on the treatment outcome. Our primary outcome was self-reported which is subject to responder bias. An analogue criticism may be addressed at the GPMAS as therapist self-report which may be considered as important limitation. Our sample had a high female prevalence; insufficient power prevented us from testing the hypotheses using sub-groups.

Nevertheless, this study is a step towards understanding the effect of explicitly and deliberately individualizing intervention strategies (by using PA/MOTR as a particular method to do so) and if idiosyncratically informed therapy is worth to be done, more research is needed to understand its mechanisms of change. Also, if it is true that the specific effect of MOTR on the patients' view of the quality of collaboration needs more time to develop, a similar study on a longer treatment frame is needed to address this assumption. Finally, it

remains an open question if individualizing other established treatments of BPD would

produce similar effects as observed in the current study.

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Table 1.

Characteristics of the patients as a function of group at baseline ($N = 74$)

Variables	Condition			
	GPM ($n = 38$)	MOTR ($n = 36$)		
	N (%)	N (%)	χ^2	p-value
Female	30 (79)	21 (58)	3.67	.08
Marital status			7.14	.13
Never married	22 (58)	11 (31)		
Married	7 (18)	16 (36)		
Separated, divorced	9 (24)	9 (25)		
Employment			1.66	.65
Unemployed	31 (82)	25 (69)		
Protected activity	1 (3)	1 (3)		
Part-time	2 (5)	4 (11)		
Full-time	4 (11)	6 (17)		
Medication			.04	.84
Yes	23 (61)	21 (58)		
Current DSM-IV diagnoses			4.07	.32
Depressive disorder	26 (68)	30 (83)		
Anxiety disorder	6 (16)	7 (19)		
Eating disorder	5 (13)	5 (14)		
Substance abuse	31 (82)	23 (64)		
Intelligence limitation	3 (8)	3 (8)		
Sexual disorder	5 (13)	4 (11)		
Attention disorder	2 (5)	2 (6)		

Axis II cluster A	5 (13)	6 (17)		
Axis II cluster B	10 (26)	13 (36)		
Axis II cluster C	4 (11)	8 (22)		
	M (SD)	M (SD)	*t*	*p*-value
Age	30.95 (11.00)	34.64 (9.97)	1.51	.14
Education (number of years)	10.82 (2.00)	11.75 (1.63)	2.20	.06
Number of sessions	7.32 (3.63)	8.00 (2.94)	.88	.38
GAF	57.63 (7.77)	61.14 (8.27)	1.88	.07
Number of BPD symptoms	6.68 (1.34)	6.69 (1.43)	.03	.98
Current axis I disorder	1.92 (.91)	1.88 (1.14)	.13	.89
Current axis II disorder	.50 (.76)	.64 (.76)	.78	.44

Note. Intent-to-Treat sample. GPM: General Psychiatric Management; MOTR: Motive-

Oriented Therapeutic Relationship. All diagnostic information in co-morbidity with DSM-IV

Borderline Personality Disorder (BPD).

Table 2.

Therapeutic outcome as a function of treatment assignment for 10 sessions of treatment ($N = 74$)

Outcome	Condition		Time - effect ANOVAs		Condition x Time - effect M/ANCOVAs	
	GPM ($n = 38$)	MOTR ($n = 36$)	$F(1, 72)$	ES	$F(1, 73)$	ES
OQ-Total			36.51**	0.59	7.25*	0.64
Intake	94.50 (26.38)	98.14 (23.66)				
Discharge	86.13 (25.41)	75.97 (25.37)				
-Symptoms			43.89**	0.63	5.50*	0.60
Intake	56.87 (16.65)	60.64 (14.74)				
Discharge	50.63 (16.71)	46.39 (15.89)				
-Interpersonal			22.30**	0.48	5.13*	0.46
Intake	22.55 (7.35)	22.53 (7.43)				
Discharge	22.53 (7.43)	17.61 (6.77)				
-Social Role			5.21*	0.23	5.51*	0.49
Intake	15.08 (6.38)	14.97 (6.95)				
Discharge	14.97 (5.98)	11.97 (6.41)				
IIP			20.74**	0.36	1.59	0.39
Intake	1.67 (.53)	1.90 (.59)				
Discharge	1.54 (.65)	1.60 (.61)				
BSL			6.35**	0.28	.00	0.06
Intake	1.74 (.92)	1.87 (.96)				

Discharge	1.51 (.97)	1.58 (.99)		
Therapeutic Alliance				
- Patient	58.09 (14.44)	54.62 (13.07)	1.04	0.25
- Therapist	50.52 (9.17)	50.87 (9.59)	.02	0.04

Note. Intent-to-Treat-Sample (excluding missings); GPM: General Psychiatric Management; MOTR:

Motive-Oriented Therapeutic Relationship; OQ: Outcome Questionnaire – 45.2; IIP: Inventory of

Interpersonal Problems; BSL: Borderline Symptom List - 23; ES: Effect size (Cohen's *d*). Time-

effect: Repeated measures ANOVAs; Condition x Time-effect: MANCOVA (OQ-symptoms, OQ-

interpersonal, OQ-social role): $F(3, 67) = 2.50$; $p = .06$; ANCOVAs (separately OQ-total; IIP; BSL);

IIP for subsample $n = 61$ (df = 59); BSL for sub-sample $n = 61$ (df = 59); Therapeutic alliance for

sub-sample $n = 57$ (df = 56). Bonferroni's correction applied $p = .05/4$ (4 tests; one MANCOVA and

three additional ANCOVAs).

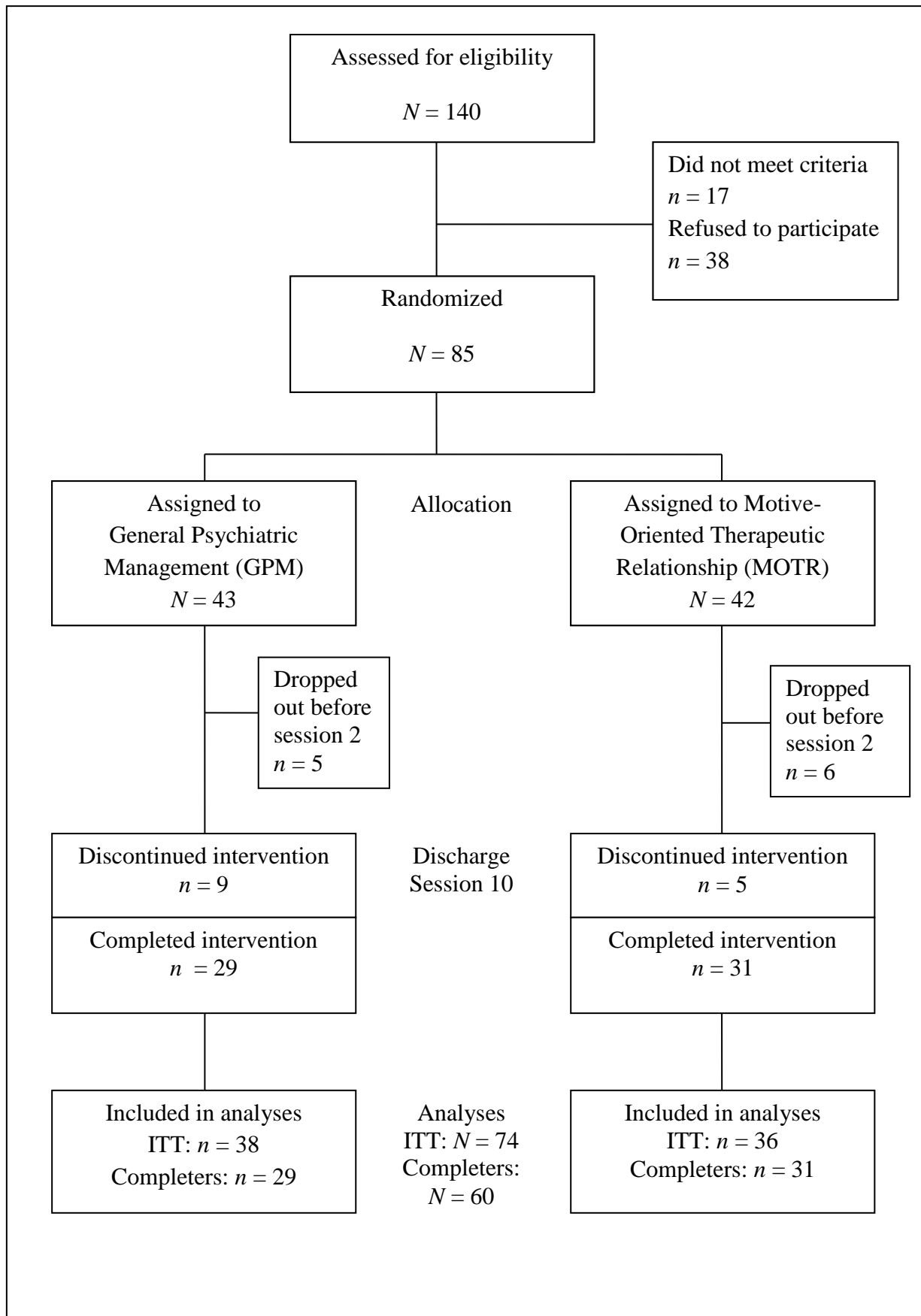** $p < .01$; * $p < .05$

Figure 1. Flow chart

Figure 2.

Hierarchical Linear Modeling of differential alliance (WAI) session-by-session progression, therapist ratings, as a function of treatment condition (*n* = 57)