

## Running Head: SOCIAL INTERACTION IN BORDERLINE PERSONALITY

### Social Interaction Patterns, Therapist Responsiveness and Outcome in Treatments for Borderline Personality Disorder

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### **Abstract**

**Objectives:** Inflexible social interaction patterns are defining features of borderline personality disorder (BPD). Specific beliefs about the self and others may be activated across interaction situations, often leading to instable relationships. It may be pivotal to address these difficulties in early treatment phases, through appropriate therapist responsiveness, which means an adaptation of therapist's activity to their client's behaviors using emerging information in the process (Stiles, 2009).

**Design:** In this process-outcome study, responsiveness is operationalized by the motive-oriented therapeutic relationship (Caspar, 2007), based on the Plan analysis case formulation. The present study assesses the interplay between social interaction problems and therapist responsiveness, explaining symptoms at discharge and the therapeutic alliance.

**Method:** In total,  $N = 50$  clients with BPD entered the study, and standard and responsive treatments were compared. Social interaction patterns were assessed by the newly developed borderline interaction patterns scale (BIPS), applied to recorded material of three sessions per therapy. Outcome was measured by general symptoms (OQ-45), borderline symptoms (BSL-23), interpersonal problems (IIP), as well as the therapeutic alliance (WAI).

**Results:** Results suggest that in standard treatment, social interaction patterns are neither related to outcome nor the therapeutic alliance. In responsive treatment, more activation of social interaction patterns predicted better outcome on IIP and lower therapist ratings of the alliance.

**Conclusions:** The conclusions seem promising for specific effectiveness of responsive treatments in particular in the interpersonal problem area of BPD. Identifying social interaction patterns early in treatment may be a crucial pathway to change for BPD.

### **Practitioner Points:**

- Responsive therapy activating social interaction patterns may be crucial for better outcome.
- Future research should focus on mechanisms of change in early treatment phases for BPD.

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- New scale for assessing social interaction patterns specific to borderline personality disorder.

**Keywords:** borderline personality disorder, therapist responsiveness, therapeutic alliance, motive-oriented therapeutic relationship, social interaction patterns

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OUTCOME IN TREATMENTS FOR BORDERLINE PERSONALITY DISORDER

INTRODUCTION

Social interaction patterns in clients with borderline personality disorder (BPD) seem to be particularly inflexible, causing negative consequences (Zanarini & Frankenburg, 2007). BPD was defined by the presence of repetitive patterns of interpersonal and emotional instability, along with an unstable sense of self, dysregulated emotional experience and biased processing of self-representations, reflections about the self and limited metarepresentational abilities (APA, 2013; Di-maggio, Semerari, Carcione, Procacci, & Nicolò, 2006; Livesley, 2017; Maillard et al., 2017).

In interpersonal interaction, individuals with BPD tend to non-consciously act in “manipulative” ways (Bland & Rossen, 2005), in order to satisfy their needs. A core pain may be the origin of the sometimes enormous efforts trying to bind the significant other to oneself (Linehan, 1993; Trull, Useda, Conforti, & Doan, 1997). Dysphoric states or negative attributions may influence the way an individual interacts with the significant other (e.g. Sieswerda, Barnow, Verheul, & Arntz, 2013). The present paper aims at understanding the impact of observed in session social interaction patterns in clients with BPD on the therapeutic alliance and outcome in the early course of treatment. We are specifically interested in comparing this impact in two types of treatment: a) a standard treatment for BPD, b) an individualized treatment, assuming that the latter diminishes the impact of in session social interaction patterns (Stiles, Honos-Webb, & Surko, 1998).

**Social interaction problems in borderline personality disorder**

Gunderson and Lyons-Ruth (2008) proposed an interpersonal hypersensitivity phenotype model for BPD explaining its volatile interpersonal presentation. They highlighted that the interpersonal style of these clients is combined of intense needs for closeness and intense fears of abandonment, leading to a highly reactive socially exaggerated interpersonal behavior. Neurobiological

findings point out high vigilance of social stimuli and stress reactivity in clients with BPD, which seems to be a core mechanism (Frick et al., 2012; Gunderson & Lyons-Ruth, 2008). Reactions of the environment to these behavior patterns may have an impact on the individual's core negative assumptions about the self and relationships (Zanarini & Frankenburg, 2007). Social learning from early negative interactional cycles can also result in fundamental impairment in social cognition; as such, experiential inconsistency, mistrust and hypervigilance may be the bedrock of the daily social experience in clients with BPD (Fonagy, Luyten, Allison, & Campbell, 2017). Mistrust may concern information from the self, one's self-efficacy and the social world, all three potentially maintaining dysfunctional social interaction patterns.

In addition to the generic interpersonal hypersensitivity, clients with personality disorders may present with more specific schemes underlying their interpersonal behaviors, i.e., assumptions about relationships and identity, which are related to their motives (Sachse, 2003). These may consist of self-evaluations, in combination with assumptions about how relationships work and what to expect from them; it is assumed that these schemes underlie the social interaction patterns. Empirical evidence, gained with various methodologies, point towards the observation of BPD as disorder of both dysfunctional social interaction patterns and dysfunctional underlying cognitive assumptions about the self and the relationships (e.g., Domes, Schulze, & Herpertz, 2009; Schmahl et al., 2014). Initial evidence trying to link session social interaction patterns and outcome in treatments for BPD point to the conclusion that less problematic social interaction observed in the client with BPD in the beginning of therapy predict better outcome at the end of treatment (Kramer & Sachse, 2013). Importantly, this study used minute-by-minute observations of the therapy process, enabling conclusions on the level of the actual in session interaction.

**Therapist appropriate responsiveness in treatments for borderline personality disorder**

We define therapist responsiveness as therapist behavior that is affected by emerging (client) process characteristics (e.g. Kramer & Stiles, 2015). Adapting the therapeutic process to the client's individual characteristics and behaviors may be productive for clients with highly pervasive social interaction patterns (McMain, Boritz, & Leybman, 2015). It was noted that the use of an individualized case formulation may help to do so (Caspar, 2007).

Therapist responsiveness can be operationalized by the motive-oriented therapeutic relationship (MOTR), based on a method of individualized case formulation with a particular focus on the explanation of observed social interaction patterns: Plan Analysis (PA; Caspar, 2007). Through the observation of behaviors, emotions and statements of the client, the therapist defines behavior-underlying motives and relates (non-)conscious strategies with concrete behavior to these motives. PA focuses on interpersonal patterns, among others, and seems especially useful for clients with interaction difficulties, and can be helpful to respond appropriately to interaction challenges (Caspar, Grossmann, Unmüßig, & Schramm, 2005). Such individualized intervention heuristics may help increase the quality of therapeutic alliance, a robust predictor of successful treatment, by focusing on transforming alliance ruptures into therapeutic breakthroughs (Safran & Muran, 2000). Grawe, Bernauer and Donati (1990) concluded, that the presence of the responsive component lessened the otherwise strong links between intake predictors and outcome. The effects of the motive-oriented therapy relationship component on outcome in a brief treatment intervention for BPD were tested in a randomized controlled trial (Kramer, Kolly et al., 2014). The researchers showed significant, but small on average, between-group effects on therapeutic outcome favoring the responsive treatment. The responsive treatment group showed more symptom reduction, and it led the therapists to rate the collaboration with the client in increasingly positive ways. Kramer, Flückiger et al. (2014) found evidence that clients with BPD treated according MOTR principles reported more self-esteem experiences and presented with greater alliance-outcome correlations,

compared to the standard treatment counterparts. Kramer et al. (2017) examined early change in coping strategies in short term treatment for BPD and demonstrated that change in behavioral coping mediated the link between condition (responsive vs standard treatment) and symptom change. In a subsequent study on interpersonal agreeableness as moderator of change, it was shown that the client's agreeableness in the beginning of therapy was related with symptom change in the standard condition, but not in the responsive treatment (Zufferey, Caspar, & Kramer, 2019).

Based on this body of literature, we hypothesized that the client's in session social interaction and the therapist appropriate responsiveness influence each other. In such research, an observer-rating instrument for describing the in session frequencies of social interaction patterns is preferably used to describe the clinically relevant phenomenon; self-report measures have limitations, as they may capture the self-representation rather than the actual interaction. Research capturing the latter, carried out within a therapy-approach independent and integrative framework, holds high promise for the understanding of the interplay between social interaction patterns and therapist responsiveness in therapy for clients with BPD.

### **Research questions**

The present study aimed at contributing to the understanding of the interplay between social interaction patterns and therapist responsiveness, with focus on explaining the therapeutic alliance and outcome in brief treatments for clients with BPD. 1) We assume that social interaction patterns are related to and predict therapy outcome. The less intense the social interaction patterns are in therapy, the fewer symptoms should be present in the client, and the better the therapy outcome is expected. 1a) In addition, we hypothesize a moderating effect of therapist responsiveness on the expected link between social interaction and outcome. We expect that when realizing the motive-oriented therapeutic relationship, the otherwise strong link between social interaction pattern and

outcome is diminished. 2) Secondly, a negative link between social interaction patterns and therapeutic alliance is expected. 2a) Again, we expect a moderating effect for the motive-oriented therapeutic relationship, lessening the link between social interaction patterns and the therapeutic alliance.

## METHODS

### *Design*

The present study is based on a sample of a previously published outcome study, as part of the randomized controlled trial (RCT; Kramer et al., 2017;  $N = 57$ , based on a sample of Kramer, Kolly et al., 2014). This study's design is an RCT with an add-on design comparing two brief treatments for BPD. One is a variant of a standard treatment, based on the Good Psychiatric Management (GPM; Gunderson & Links, 2014), and the other is the standard treatment augmented with PA and MOTR (hereafter referred to as responsive treatment). In each condition, the clients received ten sessions of treatment in a public psychiatry service. The first session and the SCID-II interviews were recorded on video, and one session from the middle of the therapy process and one session towards the end of the therapy process were recorded on audiotapes. All recorded sessions were transcribed. The study was approved by the ethics board and participants did not get any compensation for their participation (see Kramer, Kolly et al., 2014).

### *Participants*

#### **Clients**

Inclusion criteria were the presence of a DSM-IV BPD diagnosis, an age between 18 and 65 years and mastery in the French language. BPD was diagnosed by trained clinicians or clinical researchers, using the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II; First, Spitzer, Williams, & Gibbons, 2004). Exclusion criteria were the presence of a DSM-IV psychotic disorder, mental retardation or current substance dependency. In this study, a



sub-sample of the study by Kramer et al. (2017) of  $N = 50$  clients was used. Inclusion criteria for the sub-sample were: presence of audio and video material of at least three sessions and complete outcome measures from sessions 1 and 10, which is why  $n = 7$  cases from the original sample were excluded. Sociodemographic characteristics of the clients included in the present study are shown in table 1.

### **Therapists**

Twenty-two therapists were recruited in the clinic. All therapists were trained in GPM treatment and nine therapists received additional training in PA and MOTR (described in Kramer, Kolly et al., 2014).

### **Raters**

The rating of the video and audio material of the sessions was done by two raters, using the Borderline Interaction Patterns Scale (BIPS). Both raters were psychology students at the end of their Master studies. They were trained by one of the BIPS authors and were blind to condition, hypotheses, and outcome data.

### *Treatments*

The standard treatment was a 10-session version of GPM, which is a standardized, psychodynamically-oriented manual for BPD treatment (Gunderson & Links, 2008; 2014). Its focus lies on early disruption of attachment in relation to emotional dysregulation and providing necessary psychoeducation about the specific disorder. The responsive treatment was the same brief treatment to which PA and MOTR was added during sessions 2 to 10. Therapists received training in PA and MOTR principles. In the GPM condition,  $n = 23$  clients were treated by  $n = 13$  therapists, in the MOTR condition, there were  $n = 27$  clients and  $n = 9$  therapists.

GPM-Adherence, measured by the General Psychiatric Management Adherence Scale (Kolla et al., 2009), was high in both conditions (standard:  $M = 4.32$ ,  $SD = 0.37$ ; responsive:  $M =$

4.37,  $SD = 0.26$ ); no between-condition effect was found (Kolly, Despland, de Roten, Marquet, & Kramer, 2016). Adherence to MOTR was assessed by the observer-rated methods of PA and the MOTR complementarity scale (Caspar et al., 2005). As expected, the two conditions showed a significant difference in complementarity according to MOTR principles ( $t(48) = -7.85, p < .00$ ), with  $M = 1.58, SD = 0.46$  in the responsive treatment and with  $M = 0.55, SD = 0.38$  in the standard treatment.

### *Instruments*

**Outcome Questionnaire – 45.2** (OQ-45; Lambert, Gregersen, & Burlingame, 2004) is a self-report questionnaire aimed at assessing the results of psychotherapy. These items are assessed on a 4-point Likert-type scale. This questionnaire was filled out by clients at intake, mid-therapy and at discharge. Cronbach's alpha for the current sample was very good with  $\alpha = 0.94$ .

**Inventory of Interpersonal Problems** (IIP; Horowitz, Rosenberg, Baer, Ureno, & Vil-lasenor, 1988) is a self-report questionnaire. The short version aims at assessing interpersonal functioning. These items are assessed by a 5-point Likert-type scale. This questionnaire was given to the clients at intake and at discharge. Cronbach's alpha for the current sample was very good,  $\alpha = 0.94$ .

**Borderline Symptom List** (BSL-23; Bohus et al., 2009) is a self-report questionnaire assessing specific borderline symptomatology. It comprises 5-point Likert-scaled items. Clients received this questionnaire at intake and discharge. Cronbach's alpha for the current sample was very good,  $\alpha = 0.95$ .

**Working Alliance Inventory – short form** (WAI-short version; Horvath & Greenberg, 1989), a self-report questionnaire to assess the therapeutic alliance. These items are assessed on a 7-point Likert-type scale. Clients (WAI P) as well as therapists (WAI T) filled out the questionnaire

at the end of each session. Cronbach's alpha was also excellent for this instrument with  $\alpha = 0.92$  (WAI P) and  $\alpha = 0.91$  (WAI T).

**Borderline-Interaction-Patterns Scale** (BIPS; Kramer & Sachse, 2016), a rating scale aiming at assessing the client's social interaction patterns from the perspective of an independent observer, using 8 items, nested within 3 subscales. The Likert-type scale is ranging from 1 (absent) to 3 (high). It comprises the areas of specific interaction patterns, deduced underlying motives and dysfunctional schemes and expressed core assumptions related to trust. There is a manual guiding the rater in the process of assessing interactions problems based on audio/video and transcript information from a psychotherapy session.

#### Subscale 1: Interaction Patterns (4 items)

In this section of the BIPS, the interaction patterns are rated. This subscale comprises the items or categories (based on Sachse, 2003) of a) client's images (i.e., presentation of Self), b) interaction constraints (i.e., implicit demands from the interaction/ evoking specific reactions), c) interaction manoeuvres (i.e., complex presentation of Self/ interaction scripts/ interaction strategies) and d) relationship tests (i.e., relationship testing in the therapy context/ undermining the therapeutic process), with each category rated separately depending on the momentary intensity. These behaviors may be offensive, border crossing and may (in particular in non-therapeutic settings) impair the relationship.

#### Subscale 2: Relationship motives and dysfunctional schemes (1 item)

Motives and dysfunctional schemes are rated together on a single item, as they are conceptually intertwined. In the following, this subscale will be referred to as Motives. There are six relevant motives (Sachse, 2013; see Table 2). Raters judge how many of the motives are outlined or implied by the client and thus are of parallel height in the hierarchy of needs. The dysfunctional schemes are formed by the person matching the important motive. It contains schemes about the

self or relationships, as differentiated in Table 2. Intensity of motives and schemes activated in the session is rated globally on a Likert-type scale ranging between 1 (absent) and 3 (high).

Subscale 3: Core Trust Assumptions (3 items)

The core trust assumptions may be understood as distrust schemes. Barnow et al. (2009) speculate that there are three core schemes in BPD. They assume that clients with BPD see the world and others as dangerous and themselves as powerless and vulnerable in it. Furthermore, they think that clients with BPD have general feelings of being bad and unacceptable. In the BIPS, the core trust assumptions are divided into three categories.

The first category is the client's distrust in one's own affects, internal world and knowledge of the world. This may imply that all kinds of situations are potentially dangerous, and decisions are uncertain. The second category is the client's distrust in his/her self-efficiency. These clients assume that they cannot perform important actions in their life themselves and that they cannot protect their personal boundaries. They might not know their borders, which can lead to a high sensibility when their territory is endangered. The third category involves core assumptions about mistrusting others, seeing them as unreliable. It involves the assumption that negative traits are weighed more than positives, and if they see something positive in someone else they cannot trust it.

In general, in order to reflect a social interaction pattern, the manual (Kramer & Sachse, 2016) recommends second-by-second ratings which should be collapsed across minutes and at least material from three different therapy sessions. This should increase ecological validity of the ratings.

*Procedure*

After the trial was completed, the raters underwent a 4-month training period in the rating scale on clinical material that was different from the study material. Once they achieved satisfactory reliability on independent cases stemming from this different sample, the  $N = 50$  cases were rated. The rating of BIPS was based on video- or audio material, supported by transcripts. The latter were established based on Mergenthaler and Stigler's (1998) recommendations. In accordance with the recommendations of the BIPS manual, the raters had tapes and transcripts from three sessions: 1) session one (beginning), 2) session four or five (mid therapy) and 3) session seven or nine (close to the end of the 10-session therapy). In total,  $N = 150$  sessions were rated. For six sessions, the rating was only based on either the transcript or the audio/video due to limited data. The second-by-second ratings were collapsed into global ratings over an excerpt of minutes 10-20 into each session. This particular excerpt, defined a priori (Sachse, Schirm, & Kramer, 2015), was chosen because the first 10 minutes tended to focus on entering the therapy sessions, whereas the present study focused on in session social interaction behavior as part of the elaboration of central themes, which was more likely to appear after 10 minutes into the session. All deviations in session number or time fragment, when only the therapist was speaking, were noted by the rater to ensure interrater reliability. In accordance with the manual, each client received one score for each item/subscale across the three sessions assessed, with the highest rating over treatment course building a final score for the problematic social interaction patterns in therapy. The respective weighting of the second-by-second rating and the global case-based assessment across three fragments over time is explained in the rating manual (Kramer & Sachse, 2016).

### *Statistical Analyses*

Intra-class correlation (ICC (1, 2); Shrout & Fleiss, 1979), was used to determine the interrater reliability on the level of each case, both for the entire scale and per subscale separately (interaction patterns, motives/schemes, core assumptions about trust). Using random effects allowed

to calculate consistency with elimination of statistical outliers. Of note, in order to estimate the inter-rater reliability of the one-item sub-scale 2 (motives/schemes), a Pearson correlation ( $r$ ) was computed. To test the adequacy of randomization, the variables of both groups were compared using  $t$ -tests for continuous and  $X^2$ -test for dichotomous variables.

To test hypotheses 1 and 2, Pearson correlation analyses, then linear regression analyses, were carried out for the entire sample. To consider differences in symptom-level at the beginning of therapy, partial correlations were used to assess the relationship of the BIPS subscales and the outcome variables (along with the therapeutic alliance for hypothesis 2). For hypotheses 1a) and 2a), these analyses were carried out condition by condition (stratified), based on the results of a previous ANOVA which had tested for the interaction effect for outcome on the respective impacts of social interaction patterns and therapist responsiveness. For this sample, no missing data were found in the variables of interest (i.e., dataset completeness of 100%).

## RESULTS

### *Reliability*

For the entire scale, intra-class correlation coefficients (1, 2) averaged on .64 (SD = .34, ranging from -.5 to .89) with 70% of the scores higher than .70 and 90% higher than .47. According to Koo and Li (2016) scores from .5 to .75 are considered moderate. Intra-class correlation analysis showed two outliers (Clients 3385/score 0 and 3331/score -.5). Both cases had been rated early in the process, when the raters just finished training. To see how the reliability coefficient changes after eliminating these two cases, the random effect method was applied. The subsample contained then  $n = 18$  interrater scores (36% of the sample) and intra-class correlation averaged on .76 (SD = .11). The outliers were excluded in reliability measures but included in the preliminary and outcome analyses. Furthermore, inter-rater reliability were computed pairwise on the level of the three subscales of the BIPS, with the following results: a) Subscale 1: Borderline interaction patterns

(average ICC (1, 2) = .63 (SD = .32); b) Subscale 2: Relationship motives and dysfunctional schemes (average Pearson correlation  $r = .99$ ); c) Subscale 3: Core trust assumptions (average ICC (1, 2) = .80 (SD = .28). Global Cronbach's alpha of the BIPS was  $\alpha = .62$  (95% CI [.44, .76]).

### **Preliminary Analyses**

Inter-item correlations reveal that trust assumptions about others are conceptually related to motives and dysfunctional schemes which also have relationship characteristics with  $r = .30$  and they are related to the relationship items of the interaction patterns subscale (interaction constraints  $r = .35$ , interaction manoeuvres  $r = .42$ , tests  $r = .33$ ). Trust assumptions about the self correlate with assumptions about one's own effectivity ( $r = .37$ ), the motives subscale ( $r = .33$ ) and tests ( $r = .33$ ), implying that the focus on doubts about the self occurs in various facets. The interaction pattern subscale shows high inter-item correlations in itself with  $r > .30$ . The link between tests and interaction constraints is weaker with  $r = .20$  and tests are unrelated with interaction manoeuvres ( $r = .07$ ). The subscales interaction patterns and core trust assumptions correlate significantly with  $r = .39$ ,  $p = .01$ , and core trust assumptions are linked with motives ( $r = .42$ ,  $p = .00$ ). Interestingly, no correlation for motives and interaction patterns was found ( $r = -.05$ ). Consistent with the original study by Kramer et al. (2017), the independent sample  $t$ -tests ( $df = 48$ ) showed no between-condition differences with regard to the means of all relevant variables, including the BIPS total score and subscales (Table 3). Table 3 shows the comparison of mean symptom scores at intake and discharge for both treatment groups. In the responsive treatment group, symptoms changed significantly between intake and discharge for each outcome measure. In the standard treatment group, symptoms change significantly between intake and discharge for borderline and interpersonal problems, but not general symptoms.

Overall, an ANOVA informed about significant interaction effects condition\*social interaction patterns ( $F(1, 46) = 15.14$ ;  $p = .00+$ ) for symptom level in the end of treatment. Therefore,

it is justified to explore and test each condition separately, in the sense of a sample stratification. In order to do this, Pearson correlations, partial correlations and regression analyses were carried out per condition in all remaining analyses.

### **In session social interaction patterns and symptom levels**

The first hypothesis stated that the more intense the problematic social interaction patterns, the higher the symptom severity after treatment, and in particular that (1a) this link was moderated by therapist responsiveness.

For the standard treatment, the BIPS total score and the subscale core assumptions related to trust correlated strongly with interpersonal problems assessed at discharge ( $r(18) = .55, p < .01$ ;  $r(18) = .67, p < .01$ ). A correlation between the intensity of activated motives/schemes and borderline symptoms of  $r(19) = .45, p < .05$  was found. However, when controlled for symptom levels at intake, all these significant correlations vanished for the standard treatment, leaving a matrix without any significant correlations (see Table 4).

For the responsive treatment, BIPS total score and core assumptions related to trust correlated negatively with IIP assessed at discharge ( $r(24) = -.48, p < .05$ ;  $r(24) = -.41, p < .05$ ). When controlled for symptom level at intake, the correlations were even stronger ( $r(24) = -.68, p < .01$ ;  $r(24) = -.49, p < .05$ ) and became significant for the subscales motives and schemes ( $r(24) = -.41, p < .05$ ) and interaction patterns ( $r(24) = -.52, p < .01$ ). Table 4 summarizes the correlations and partial correlations.

Linear regressions were conducted where significant links were found, only for the responsive condition. The three BIPS subscales were included in a linear regression with interpersonal problems as dependent variable as they showed all significant partial correlations. The regression model was highly significant with  $F(3, 22) = 34.97, p = .00+$  and  $R^2 = .83$ . More specifically for the stepwise regression, the core assumptions related to trust did not reach significance ( $B = -.09,$



$p = .42$ ), but the observed intensities of motives/schemes and in session social interaction patterns – together with IPP at intake – predicted IIP scores at discharge ( $B = -.24, p = .01, 95\% \text{ CI } [-.40, -.08]$ ;  $B = -.36, p = .00, 95\% \text{ CI } [-.56, -.16]$ ).

### **In session social interaction patterns and the therapeutic alliance**

To test if more intense social interaction patterns in the sessions is linked with lower therapeutic alliance, we conducted again correlation and regression analyses per condition in stratified approach.

In the standard treatment, no significant correlation between BIPS and the alliance were found. In the responsive treatment, the intensity of the interaction patterns showed a significant negative correlation ( $r(25) = -.46, p < .05$ ) with the therapeutic alliance rated by the therapist (see table 4). The more intensive the interaction patterns were, the lower the therapist rated the alliance quality in the responsive treatment. Testing BIPS subscale interaction patterns as independent variable in a regression model explaining therapist rated alliance in the responsive condition yielded that 21.3% of variance could be explained by this model ( $F(1,25) = 6.78, p = .02$ ). Interaction patterns significantly predicted therapist rated therapeutic alliance ( $B = -7.92, p = .02, 95\% \text{ CI } [-14.18, -1.66]$ ).

## DISCUSSION

The aim of this study was to examine the interplay between in session social interaction patterns in BPD and therapist responsiveness, explaining outcome and the therapeutic alliance. We used a newly developed observer-rated scale, the Borderline Interaction Patterns Scale (BIPS), and therapy outcome was operationalized as symptom level in the end of the brief treatment (controlling for the symptom level at intake). The study differentiated between a brief psychiatric (standard) treatment and a responsive treatment within a randomized design; the responsive treatment used the concepts of Plan Analysis and motive-oriented therapeutic relationship (Caspar, 2007). It

was assumed that in session social interaction patterns were positively related to symptom level measured at the end of the brief treatment (Breil & Sachse, 2011; Kramer & Sachse, 2013). It was also expected that the intensity of in session social interaction patterns have a stronger link with symptom level in the standard treatment than in the responsive condition, because in the latter, therapists were trained to address specifically and proactively the social interaction patterns in their case formulation and intervene by proposing a focus on the underlying core motives (e.g. Dimaggio et al., 2012; Stiles, 2009). Surprisingly, the results disconfirmed these assumptions.

### **In session social interaction patterns, the therapist responsiveness and the therapeutic outcome**

It appeared that in the standard psychiatric treatment, social interaction patterns remained unrelated with therapy outcome. These non-significant findings may indicate that in standard treatment, other processes than social interaction patterns are relevant for explaining the course of therapy and outcome, e.g. regulation of emotions, coping strategies and a focus on the interpersonal hypersensitivity helping to enhance social affiliation (e.g. Ibraheim, Kalpakci, & Sharp, 2017; Kramer et al., 2017; Lis & Bohus, 2013). This non-significant result can also be explained by the short timeframe of the treatment. GPM for BPD is a highly structured therapeutic approach with no time limit, in the beginning often focusing on psychoeducation and diagnostic disclosure. Effects of addressing social interaction patterns might arise in later stages of GPM treatment (Gunderson & Links, 2014) which should be tested in a further study.

In the responsive condition *more* in session activation of social interaction patterns was linked with *less* interpersonal burden in the end of brief therapy. In contrast to our hypothesis, activating the social interaction patterns early in responsive therapy – a place where the client may feel particularly welcome because of the therapist's individualized relationship offer with regards to the client's Plans and motives – may be associated with a more productive therapy process and outcome. Several explanations are possible. Firstly, according to Grawe (2000), the processual

activation of core contents— such as social interaction patterns – is a central active principle explaining the effects of psychotherapy. The psychotherapeutic relationship may activate personally relevant social interaction patterns, which then become the focus of clarifying interventions in the context of a safe therapeutic relationship. The responsive condition might be more intense from the beginning of therapy, provoking the client to unconsciously activate more of the interpersonal problems (Sachse, 2003). Secondly, instead of focusing on underlying motives from the start as expected, it is possible that responsive therapists prepare for possible interaction games and can proactively act complementary to the client's motives once they show interaction games. They may be able to work with these problematic patterns and make sure the client does not need to use such patterns, because the underlying motive is already satisfied in this context (Caspar et al., 2005). To activate social interaction patterns early in therapy can allow the client to learn to handle them and to be at the core of their social everyday life struggles, which could lead to a feeling that therapy is helpful (Desrosiers, Saint-Jean, & Laporte, 2016). Doing so may involve a certain risk, that activating these interaction patterns early could be too intense for some clients, resulting in an initial negative client reaction to the therapeutic relationship and therefore risk of rupture, or termination of therapy (Martino, Menchetti, Pozzi, & Berardi, 2012). Yet in this study there was no indication of lower client rated alliance for the responsive condition, these risks may not apply to this specific sample. Thirdly, activated social interaction patterns could be linked with transference patterns as they present early in therapy (Clarkin, Yeomans, & Kernberg, 1999). In particular in the treatment of BPD, it was hypothesized that the here and now activation of transference patterns is central and particularly productive for symptom reduction. So far, we do not know whether the in session social interaction patterns assessed in this particular study are linked to the individual's transference contents or not.

**In session social interaction patterns, the rapist responsiveness and the therapeutic alliance**

We hypothesized that for the standard treatment, more activated social interaction patterns would be associated with lower therapeutic alliance, while in the responsive treatment it was assumed that therapists can handle social interaction patterns better with no link with the therapeutic alliance. Again, for the standard treatments, results showed no significant links. In the responsive treatments results showed: the *more* intense the interaction patterns, the *lower* the alliance as rated by the therapist. A possible explanation for this finding is that the relationship engaging potential of the motive-oriented therapeutic interventions helps the therapist to be rather realistic about the possibility of collaboration and the achievement of change in early in treatment (Kramer, Flückiger et al., 2014). It is possible that the motive-oriented therapists focused more intensely on possible alliance ruptures and noted a bigger difference between “easy” patients and patients with high manipulative strategies (Caspar et al., 2005; Safran & Muran, 2000).

Client rated alliance was unrelated with in session social interaction patterns. It is possible that these clients with BPD remain unaware of the therapist focus on motives, and by the same token, unaware of the potential benefit for them. This is similar to the idea that the quality of therapeutic relationship in clients with BPD may be difficult to assess for the clients, in particularly in these early sessions (Caspar & Berger, 2011).

### **Limitations and implications**

The study bears several limitations. It should be noted that the study contains a limited number of observations, the sample size of  $N = 50$  split up in two conditions is considered small and no a priori power analysis was conducted. The highly controlled design strengthened the internal validity of the conclusions. The BIPS used a three points Likert-type scale which may be unable to pick up fine-grained differences in intensity. BIPS and WAI are treated as global constructs in this study, assessed by averaged scores across several time points. They undergo fluctuations during the therapeutic process, which were not accounted for in this study. While inter-rater reliability

of BIPS was good – suggesting acceptable internal validity –, discriminant validity for the subscales of BIPS could be limited as interaction manoeuvres, images and constraints conceptually overlap. This might contribute to the unexpected results of the study. Clearly, more definite validation data and psychometric properties of this observer-rated scale is needed in independent samples. Symptoms and problems were assessed only by self-reported measures. However, the design of the study included a reliable observer-rated assessment enabling to rule out possible shared variance due to the methodology of assessment. The influence of other variables like medication or comorbidity has not been controlled for and can therefore not be excluded. Finally, the link found between in session social interaction patterns and symptom level concerns the same time frame (i.e., 10 sessions of treatment), so no conclusion with regard to directionality of effects may be drawn.

In conclusion, the study contributes to the understanding of how therapy for BPD works in the very beginning of treatment and what client processes may be fostered in productive interventions. Therapist responsiveness may be even more crucial than initially assumed for the role of activated social interaction patterns early in treatment. It stands out that for standard treatments, in session activation of social interaction patterns does not affect outcome. It makes sense that in psychiatric treatments, in session social interaction patterns are understood as “business as usual” when working with clients with BPD, with no implication for alliance and outcome. For responsive treatments, in session activation of social interaction patterns goes along with better outcome in BPD. Therapists focusing on the underlying motives ensure that these patterns are responded to in an optimal manner. Future research should also examine long-term effects of therapist responsiveness, in its interplay with the client’s social interaction patterns.

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Table 1

Sociodemographic characteristics of the sample

Variables	Condition (N = 50)		X <sup>2</sup>	df	p
	Standard (n = 23)	Responsive (n = 27)			
female	19 (83%)	14 (52%)	5.24	1	.02 <sup>1</sup>
Marital status			7.36	2	.03*
Never married	13 (57%)	6 (22%)			
Married	4 (17%)	13 (48%)			
divorced/separated/ widowed	6 (26%)	8 (30%)			
Employment			2.67	3	.45
Unemployed	19 (83%)	18 (66%)			
Full-time	0	1 (4%)			
Part-time	1 (4%)	4 (15%)			
Protected activity	3 (13%)	4 (15%)			
Medicated	16 (70%)	18 (67%)	.05	1	.54 <sup>2</sup>
Axis-I Comorbidities			6.89	6	.33
1	6 (26%)	12 (44%)			
2	13 (57%)	11 (40%)			
3- 6	3 (13%)	4 (16%)			
Axis-II Comorbidities			1.24	3	.75
0	12 (52%)	14 (52%)			
1	7 (31%)	9 (33%)			
2	3 (13%)	4 (15%)			
3	1 (4%)	0			
	M (SD)	M (SD)	t		p
Age (years)	31.96 (9.43)	34.7 (9.62)	-1.02 <sup>1</sup>		.32
Years of education	11.00 (2.00)	11.78 (1.55)	-1.55 <sup>1</sup>		.13
GAF	58.70 (9.20)	61.52 (8.15)	-1.15 <sup>1</sup>		.26
BPD Symptoms (range 5-9)	6.70 (1.49)	6.63 (1.42)	.16 <sup>1</sup>		.87
MOTR-Adherence	0.55 (0.46)	1.58 (0.46)	-7.85 <sup>1</sup>		.00*

Note. MOTR = Motive-oriented therapeutic relationship. All comorbidities refer the DSM-IV BPD diagnosis. GAF = Global Assessment of Functioning (0-100). Variance of homogeneity for the *t*-test is met. \* two-tailed, *p* < .05, <sup>1</sup> df = 48, <sup>2</sup> one-tailed.

Table 2

Overview of the Borderline Interaction Problems Scale (Kramer & Sachse, 2016)

<i>Subscale 1: Borderline Interaction Patterns</i>		
<i>Aspect</i>	<i>Example</i>	
Images	“I am weak, I am helpless, I am burdened, I am traumatised.”	
Constraints	“Take responsibility, help me, save me, spare me, you have to be there for me, comfort me.”	
Interaction Manoeuvres	“Always me, silly-game, victim of circumstances, poor me.”	
Tests	Attacking the therapist in his role or personally (“you don’t understand me, you are incompetent”), undermining the therapeutic process (not answering, act sexually provoking, suicide threats, bringing up delicate subjects to avoid central content.	
<i>Subscale 2: Relationship motives and dysfunctional schemes</i>		
<i>Relationship motive</i>	<i>Schemes about self</i>	<i>Schemes about relationship</i>
Appreciation	“I am a piece of shit.” “I am completely unacceptable.” “I can’t do anything.”	“In relationships, I will be depreciated, criticized and devalued.”
Importance	“I am worthless.” “I am harmful for others.”	“I don’t count in relationships. In relationships, I won’t be taken serious and I will be ignored.”
Reliability	“I don’t deserve that others stay with me.” “I drive others out of my relationships.”	“Relationships are not reliable. I will always be left.”
Solidarity	“I don’t deserve to have someone be solidarize with me.”	“Relationships are never solid. I can’t trust anyone. No one cares.”
Autonomy	“I can’t defend my autonomy.”	“Others patronize and control me.”
Borders/ Territoriality	“I can’t protect my borders, I can’t defend my territory.”	“Others overstep my borders. Others wreak damage in my territory.”
<i>Subscale 3: Core Assumptions about Trust</i>		
<i>About</i>	<i>Content</i>	
Self	One’s own affects and knowledge are not valid sources of information about oneself and they are no basis for decision making.	
Self-efficiency	One’s abilities do not lead to constructive effects and are insufficient, it is not possible to protect one’s own personal borders effectively.	
Others	Others cannot be assessed validly and do not show reliable positive traits.	

Table 3

Between group effects borderline interaction problem scale, symptoms at intake and discharge and the therapeutic alliance

Variables	Condition		<i>t</i> -Test (df = 48)	<i>p</i> -value
	Standard ( <i>n</i> = 23) <i>M</i> ( <i>SD</i> )	Responsive ( <i>n</i> = 27) <i>M</i> ( <i>SD</i> )		
BIPS Total	1.91 (0.40)	1.98 (0.34)	-0.61	.55
Interaction Patterns	1.86 (0.41)	1.93 (0.48)	-0.60	.55
Images	2.13 (0.55)	2.26 (0.66)	-0.75	.46
Constraints	1.78 (0.74)	1.70 (0.72)	0.38	.70
Manoeuvres	2.09 (0.67)	2.19 (0.74)	-0.49	.63
Tests	1.43 (0.59)	1.59 (0.50)	-1.02	.31
Motives/Schemes	2.09 (0.67)	1.96 (0.65)	0.66	.51
Core Trust Assumptions	1.93 (0.58)	2.04 (0.43)	-0.77	.44
Self	1.74 (0.75)	1.74 (0.81)	-0.01	.99
Effectivity	1.87 (0.81)	2.18 (0.68)	-1.49	.14
Others	2.17 (0.78)	2.18 (0.88)	-0.05	.96
OQ-45 intake	86.61 (30.95)	102.00 (19.87)	-2.05 <sup>1</sup>	.05*
OQ-45 discharge	78.30 (30.79)	80.74 (22.03)	-0.33	.75
BSL-23 intake	1.72 (1.06)	1.90 (0.88)	-.61	.54
BSL-23 discharge	1.40 (1.06)	1.57 (0.92)	-.59	.56
IIP intake	1.60 (0.56)	1.97 (0.60)	-2.27 <sup>2</sup>	.03*
IIP discharge	1.45 (0.73)	1.70 (0.53)	-1.31 <sup>3</sup>	.20
Mean WAI (Client)	57.86 (15.08)	55.19 (12.57)	0.68 <sup>2</sup>	.50
Mean WAI (Therapist)	51.23 (8.06)	52.88 (8.28)	-0.69 <sup>4</sup>	.49

*Note.* For BSL-23 in standard treatment *n* = 21 at intake and discharge. For IIP in standard treatment *n* = 22 at intake and *n* = 20 at discharge, in responsive treatment *n* = 27 at intake and *n* = 26 at discharge. WAI (Client) = client perspective of therapeutic alliance, WAI (Therapist) = therapist perspective of therapeutic alliance. \* two-tailed, *p* < .05, <sup>1</sup> df = 36.36. <sup>2</sup> df = 47. <sup>3</sup> df = 33.37. <sup>4</sup> df = 46.

Table 4

Pearson (partial) correlations between borderline interaction problems, the therapeutic alliance and outcome, by condition

	Condition							
	Standard				Responsive			
	BIPS	IP	Motives	CTA	BIPS	IP	Motives	CTA
at discharge								
OQ-45	.27	.07	.24	.34	-.20	.03	-.33	-.30
BSL-23	.16	-.12	.45*	.25	-.03	.09	-.21	-.09
IIP	.55*	.31	.25	.67**	-.48*	-.30	-.36	-.41*
WAI P	.19	.12	-.03	.25	-.04	-.02	-.14	.01
WAI T	-.01	-.10	.26	-.03	-.30	-.46*	.04	.03
Controlled for variable at intake								
OQ-45	-.08	-.13	-.01	-.01	-.08	.19	-.34	-.28
BSL-23	.04	-.20	.36	.14	.05	.13	-.06	-.06
IIP	.30	.22	.05	.36	-.68**	-.52**	-.41*	-.49*

*Note.* BIPS = Borderline Interaction Problems Scale (total scale), CTA = Core Trust Assumptions (sub-scale), IP = Interaction Patterns (sub-scale), WAI P = client perspective of therapeutic alliance, WAI T = therapist perspective of therapeutic alliance. \* two-tailed,  $p < .05$ . \*\* two-tailed,  $p < .01$