RUNNING HEAD: Emotion-based Narrative in Borderline Personality Disorder

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Change in emotion-based narrative as a potential mechanism of change in a brief treatment for borderline personality disorder

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Abstract

Background: The move from inconsistent and problematic autobiographical narrative to a more coherent and reality-based narrative construction of the Self has been discussed as potential mechanism of change in psychotherapies for personality disorders. So far, little empirical evidence exists that demonstrates in a time-dependent design the role of narrative construction in the treatment of borderline personality disorder, in particular when it comes to understanding the integration of body-related information from the affective system with the autobiographical narrative. The present study aims at demonstrating change in emotion-based narrative markers over brief psychiatric treatment and to assess the impact of these changes on subsequent symptom change.

Methods: A total of $N = 57$ clients with borderline personality disorder were assessed at three timepoint over the course of four months of brief psychiatric treatment, within the context of a secondary process-outcome analysis of a randomized controlled trial. Symptom change was assessed using the OQ-45.2 and emotion-narrative change was assessed using the Narrative-Emotion Process Coding System to code client's in-session speech in terms of problem, transition and change markers.

Results: All three emotion-based marker categories evidenced significant changes in the assumed direction. The reduction in problem emotion-based narrative markers (e.g., empty story telling) between session 1 and 5 into the treatment predicted the symptom reduction assessed between session 5 and 10.

Conclusions: Emotion-based narrative construction may be a suitable method to study the pathway of change towards a more coherent and reality-based narrative construction of the Self-in-interaction-with-the-Other. Reduction of emotion-based problem-marker may be a

promising candidate for a mechanism of change in treatments for personality disorders which should be tested in a time-dependent controlled design.

Key-Words: Borderline Personality Disorder; Emotion-based narrative; Narrative; Psychotherapy; Process

Key Practitioner Statements:

- Working towards the integration of emotional and narrative processes may prove effective and relevant in treatments for borderline personality disorder
- Early narrative change, before session five into the treatment, may prove to be core to the further symptom reduction in the work with clients with borderline personality disorder.

Introduction

Telling a story goes hand in hand with activating emotions, but it remains an open question whether such an emotion-narrative processes help to explain the effects of psychotherapy for severe personality disorders.

Psychotherapy for personality disorders

Borderline personality disorder (BPD) is a severe clinical disorder associated with a high degree of emotional, interpersonal, and behavioral dysfunction. The conception of personality disorders (PD) is currently being expanded by the introduction of dimensional constructs (Bach et al., 2022; Hopwood et al., 2018), which include both severity indexes (i.e., a range from mild to severe) and trait domains which, taken together, explain the personality dysfunction. The specific category of BPD is associated with severity markers of PD (Sharp et al., 2015) – in particular suicide attempts and thinking, self-harming behaviors and impulsivity –, is associated with the level of dysfunction and, at times, with indicators of interpersonal complex trauma (Maercker et al., 2022). A recent meta-analysis (Setkowski et al., 2023) concludes that psychotherapy for BPD is moderately effective: however, the mechanisms of change in treatments for BPD remain unclear (Hoglend & Hagtvet, 2019; Kazdin, 2009; Kramer, 2019; Kramer et al., 2024). Five pathways of change have been anchored both in dimensional conceptions of PDs and in psychotherapy research on mechanisms of change and five functional domains may be understood as starting points of pathways of change in PDs (Kramer et al., 2024). They are: a) change in emotional processing, b) increase in interpersonal effectiveness, c) development of a coherent sense of self, d) improved self-reflectiveness (and interrupted impulsivity) and e) development of a reality-based and coherent narrative. While the most consistent evidence suggests change in emotional processing as the strongest mechanism of change (Kramer et al., 2020, Samson et

al., 2024, Sonderland et al., 2023), no studies to date have explored for PDs the pathway of change from inconsistent narratives to the development of a reality-based and narrative construction of the personal story in a rigorous time-dependent design (Kramer et al. 2024).

The role of reality-based and coherent narratives for adaptation

Basic memory research has moved away from a linear model of memory, which proposes that current experiences are stored in episodic memory, then consolidated in some form of a long-term memory structures that do not change (Nader et al., 2000). Recent research has demonstrated that, under certain circumstances, consolidated long-term memory structures can, in fact, be changed and updated (Lane et al., 2015, 2020; Schiller et al., 2010; Speer et al., 2021). In humans, changes in the memory system occur when memory structures are activated alongside information that is novel or inconsistent with the current experience: in this situation, it is hypothesized that memories enter a labile state through re-encoding processes (Nader et al., 2000, Schiller et al., 2010, Speer et al., 2021). It was posited that the new information itself does not have to present with a particular emotional valence, but the juxtaposition between the old memory and the discrepant and novel information involves emotional arousal and active meaning-making processes, that integrate emotion with autobiographical memory structures (Hupbach et al., 2007; Lane et al., 2020, Levenson et al., 2020, Pascual-Leone et al., 2020). In order to lead to lasting and fully adaptive change in daily life, the new narrative will have to be rehearsed through repetition and reinforcement (through processes of either modification, strengthening or erasure of an old memory structure; Ecker, 2021; Elsey et al., 2018). Such processes may take more time in clients with PDs (De Panfilis & Lis, 2023); despite these difficulties, the assumption that memory updating processes be core to psychotherapy for PDs remains highly relevant, in particular in the light of their demonstrated role for the treatment of post-traumatic stress disorder (Brunet

et al., 2018; Carpenter et al., 2016; Macaulay & Angus, 2019; Paivio & Angus, 2017; Paivio & Pascual-Leone, 2010).

Such narrative-emotion processes are particularly relevant during the process of telling elements of one's autobiography, as is the case in psychotherapy. This activity involves the process of reflection on oneself, the skill of taking a critical distance towards oneself, as well as using information from the body's activation and emotional system for the active process of meaning-making. As such, narrative-emotion processes represent a dialectical synthesis between biologically wired systems of emotion with personal memory, and the individual's meaning constructed from these systems (Greenberg, 2015). It is the integration between the *lived story* and the *told story*: one cannot exist without the other, according to the dialectical-constructivist model (Angus, 2012; Greenberg & Pascual-Leone, 1996).

Developing these integrative processes has been studied in psychotherapy from a variety of methodological perspectives. Enhanced emotional integration and narrative self-coherence has consistently been related with good outcome in psychotherapy, across different types of treatment modalities using the Narrative Emotion Process Coding System (NEPCS; Angus et al., 2017, 2019). The latter identifies ten distinct emotion-based narrative markers that clustered into Problem, Transition and Change subgroups, based on their empirically demonstrated association with therapy stage and client outcome. Problem markers (Same Old Story; Empty Story; Unstoried Emotion; and Superficial Story) identify dysregulated, undifferentiated emotional states expressed through incoherent, rigid, repetitive, and maladaptive self-narratives. These markers may reflect underlying processes involved in the maintenance of the presenting clinical problem, predominate in early stage therapy, and predict poor outcome when they persist beyond the early stage of therapy. Transition markers (Reflective Story; Experiential Story; Competing Plotlines; and Inchoate Story) indicate increased access to, symbolization of, and reflection on internal experience, and the

destabilization of maladaptive beliefs. Transition markers are associated with recovery, and tend to occur earlier in therapy for recovered clients, and later in therapy for clients who remain symptomatic at termination. Finally, Change markers include reports of specific novel adaptive responses (the Unexpected Outcome marker) and articulation of new, more coherent, agentic understanding or views of oneself (Discovery Story marker). Change markers are associated with recovery. The latter are the highest level of narrative-emotion integration and may entail a well (re-) consolidated memory about the self and others, involving highly complex representations, the productive use of affect, the productive integration of contradictory information, contributing to adaptive interpersonal actions (Angus & Macaulay, in press; Gonçalves et al., 2011). The presence of any change markers, along with specific transition markers, predict outcome in psychotherapy (Angus et al., 2019). Among the transition markers predicting outcome, Competing plotline, Inchoate and Reflective were noted (Alexio et al., 2021; Angus et al., 2017; Angus & Macaulay, 2023; Boritz et al., 2012, 2014, 2016; Khattra et al., 2019). This literature supports the conclusion that narrative-emotion processes may support a more agentic representation of the self, as having a clear and and desired impact on the social world that proactively invites reciprocity.

Narratives in clients with personality disorders

Narratives in clients with PDs are generally more confused, poor, and lack the essential consistency between autobiographical content and emotional experience (Kramer & Timulak, 2022). Glaser et al. (2010) used ecological momentary assessment and compared the paranoid and other reality-inconsistent contents in clients with any PDs with clients with BPD: they found that intensity and fluctuation of these markers in everyday life were highest in BPD. These processes are linked with a diffused identity and other identity problems described in different conceptualizations of PDs (APA, 2022, Kernberg, 1984; Livesley, 2003). Beeney et al. (2015) showed in a card-sorting task that clients with BPD showed more

difficulty in selecting consistent descriptors of the Self over time (across a time window of three hours), compared to controls. These difficulties were related with specific activation in the brain, in particular in the precuneus and the posterior cingulate, regions where self-referential information is being processed. Using ecological momentary assessment, Scala et al. (2018) showed that the level of clarity of the concept of the Self moderated the intensity of negative affectivity, in particular on urges to self-harm in clients with BPD (along with other psychological difficulties). Identity processes may impact the psychopathology on a variety of levels.

While these studies on identity processes offer an overall view on the impact of identity problems on the Self, they do not include the narrative process. When studying narratives in relationship with identity in PDs, several specific problems were identified. These were: structural features (e.g., low consistency over time), affective aspects (e.g., change of emotional valence within the story told), and issues of misconstruction of the autobiography (e.g., using abstractions, or using inferences that may fit the story, but not the facts; Lind et al., 2020). In addition, clients with PDs often contruct narratives which tend to move from the description of positive emotions and events to negative outcomes (called a contaminative narrative), rather than in the opposite direction (denoting the desired resolution of tension in the narrative; Lind et al., 2020). Contaminative narratives cohere closely to NEPCS Problem marker Same Old Storytelling that has been associated with poor treatment outcome, when found predominantly in middle and late stage therapy sessions (Angus & Macaulay, in press).

In psychotherapy for BPD, subjectively perceived control over the narrative, or « agency » over the self-in-interaction, has been shown to change the most over time, compared to other features of the narrative construction (structure and consistency, affective elements and the autobiographical construction; Lind et al., 2019 ; 2020, 2022). Adler et al.

(2012) showed in a qualitative study involving $N = 47$ single cases that the subjectively perceived agency (but not the consistency) changed the most over the course of psychotherapy. Agency related with indicators of mental health in these individuals. These studies did not lay a focus on the integration between narrative and emotion processes affecting identity in clients with PD throughout psychotherapy. At the interface between emotional activation and reflectivity in psychotherapy for BPD, Kivity et al. (2021) showed that client reflectivity in response to specific therapist interventions had a down-regulatory effect on the expression of emotions in session: this process was linked with good outcome in transference-focused psychotherapy. It is interesting to note that client self reflectivity is identified as a key NEPCS transition marker and has been found to be associated with good treatment outcomes in a range of therapy approaches (Angus & Macaulay, in press).

Taken together, these different lines of research indicate that identity-related narrative processes are highly relevant in BPD, and in particular are related to an increase in perceived agency of the self-in-interaction. It is still unclear whether the integration between affective and body information (the *lived* story) and the narrative (the *told* story) is essential for this client population and if these complex processes contribute to good psychotherapy outcome.

Brief treatment for borderline personality disorder

For the domain of BPD, it has been observed that the client's access to any of the evidence-based psychotherapies is generally insufficient (Gunderson, 2016). The identification of this treatment gap for PDs (Iliakis et al., 2019) has led to the development of principle-based "good-enough" brief psychiatric interventions – brief Good Psychiatric Management (GPM) – which address the core interpersonal problems related with severe PDs (Choi-Kain et al., 2016), before a client may eventually move – step up – towards a more complex and comprehensive evidence-based psychotherapy. Preliminary evidence suggests that such brief psychiatric treatments, lasting up to four months, may have initial benefits for

symptom change and the therapeutic alliance for clients with BPD (Kramer et al., 2014, 2022, Kramer, 2024). Given the importance of narrative construction in BPD, it is of utmost importance to understand whether such change is observed in brief GPM and whether these changes predict symptom change.

The present study

The goal of the present study was to explore the pathway of change from inconsistent narratives to the development of a reality-based and coherent narration of the personal story, in clients with BPD undergoing brief GPM. We assessed the emotion-informed narrative process in brief GPM for BPD. The NEPCS was applied to client in-session speech in GPM over time and we tested whether (1a) the frequency of in-session Problem markers decreased over the course of treatment and (1b) the frequency of in-session Transition markers increased over the course of treatment. We hypothesized that (2) changes in emotion-informed narrative processes in the early treatment (i.e., before session five) predicted treatment outcome.

Method

The present process-outcome study is a secondary analysis of a two-arm randomized controlled trial which aimed to demonstrate the effect of the add-on motive-oriented therapeutic relationship (MOTR) in addition to a 10-session Good or General Psychiatric Management (GPM; Kramer et al., 2014; Kramer et al., 2017). This main study has described small to medium between-group effect sizes ($0.06 < d < 0.64$) favoring the added component of the MOTR in the decrease in psychological distress, over brief treatment lasting four months. More treatment was offered for the clients who needed it.

Sample

A total of $N = 57$ clients were included (see the original study by Kramer et al., 2017). Inclusion criteria for the present study, in addition for the ones described by the original study, were tape- or video-recorded sessions of sufficient quality and complete outcome data

at three time-points. Thirty-eight (67%) clients self-identified as female and *n* = 19 (33%) self-identified as male. The clients had a mean age of 33.70 years (SD = 9.9; ranging from 20 to 55). All clients were French-speaking and had a DSM-IV diagnosis of BPD, as diagnosed by the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (First, Spitzer, Williams, & Gibbons, 2004). All additional diagnostic information with regard to this sample is summarized in Table 1.

Treatments and treatment integrity

The present process-outcome study used data from the original trial, the basic treatment was a 10-session short version of GPM (General Psychiatric Management; Charbon et al., 2019). Interventions according to the GPM model aim at increasing the client's awareness in the interpersonal hypersensitivity model, by using psychoeducation. The latter involves mainly the discussion of situational material where fluctuations of attachment-states alternate. The therapist provides an explanation of the client's response patterns to the interpersonal stress (Gunderson & Lyons-Ruth, 2008). The add-on component was the use of the individualized case formulation method called the Plan Analysis (Caspar, 2007) and the implementation of the responsive interventions according to the case formulation (MOTR) during the 10 therapy sessions over four months. If needed, clients received more treatment after the four months. Treatment integrity was assessed by applying the two scales validated within each of the therapy models. As reported by Kramer and colleagues (2014), there was good to excellent treatment integrity for both the GPM condition (GPM adherence scale: Mean = 4.32; SD = 0.37) and the MOTR condition (Mean = 4.37; SD = 0.26). This did not differ between the conditions ($t(1, 38) = .58$; $p = .57$). Greater adherence to MOTR in the GPM plus MOTR condition (Mean = 1.55; SD = 0.44), compared to the GPM condition (Mean = 0.48; SD = 0.39; $t(1, 56) = 10.53$, $p = .00+$), was found.

Instruments

Outcome Questionnaire-45.2 (OQ-45; Lambert, et al., 1996). This self-report questionnaire encompasses 45 items and measures the level of distress. The validation coefficients of the original English version are satisfactory, as well as for the French version used in the present study. Cronbach's alpha for this sample was .95.

Narrative-Emotion Process Coding System 2.0 (NEPCS; Angus et al., 2017). The NEPCS is an observer-rated, video-based, method that aims at assessing the quality and degree of emotion-narrative integration in psychotherapy sessions, by using 10 distinct client markers clustered within three global categories (i.e., Problem, Transition and Change markers). Problem markers involve Same old storytelling, Empty storytelling, Unstoried emotion storytelling and Superficial storytelling. Transition markers involve Competing plotlines, Inchoate storytelling, Experiential and Reflective storytelling, and Change markers involve Unexpected outcome and Discovery storytelling. In addition, each minute that contains over 50% of therapist talk receives the code No client marker. A standardized manual is used for coding. Coding is done on a minute-by-minute basis and each session yields a profile of the frequency of each of the 10 markers. The revised version (2.0) of the NEPCS presents with good validity and reliability, as demonstrated in a number of diverse samples (see Angus et al., 2017). For the present sample, a total of n = 45 sessions were rated by pairs of two raters (26% reliability sample of the total of N = 171 sessions rated) and the average inter-rater reliability was high (ICC (1, 2) = .87).

Procedure

Outcome was assessed with the OQ-45.2, which was measured at pre-therapy, mid-therapy (i.e., after session 5) and post-therapy, and residual gain scores were computed for each of the outcome measures across time. We selected three sessions per case for process analyses: early (session 1), session at mid-treatment (session 5) and late (session 9). Session 1 was chosen to capture information from the very first contact and session 9 (or penultimate)

was chosen to capture information from the late therapy process (i.e., the last session entailed a more structured process). All interviews were video- or audio-recorded. These $N = 171$ therapy sessions (for the $N = 57$ sample, three per case) were transcribed word by word using the method defined by Mergenthaler & Stigler (1997). The transcripts were anonymized and given a code, so the inference which session it was, was prevented to a large extent. Five Master's level students served as raters for the present study. All raters had at least 4 months of training prior to study, offered by the developer of the scale; reliability was checked in the end of the training phase using different material and the results were satisfactory (Intra-Class Correlation Coefficients (ICCs) > .75). Raters were unaware of the study hypotheses.

Data Analytic Strategy

For the preliminary analyses, a series of *t*-tests, and independent Paired Sample *t*-tests were conducted. In order to test hypothesis 1 (a, i.e., decrease in Problem markers, and b, i.e., increase in Transition markers), we conducted Hierarchical Linear Models (Bryk & Raudenbush, 1987) for which session is on level 1, nested within clients on the level 2 (predicting the narrative marker; of note, we only focus on the change in the markers), following the formula: Level 1 (sessions): $Yij = \beta_{0j} + \beta_{1j}$ *(narrative marker) + ε; Level 2 (clients): $\beta_{0j} = \gamma_{00} + \mu_{0j}$; $\beta_{1j} = \gamma_{10} + \gamma_{11}$*(overall mean of narrative marker) + u_{1j}. In order to test hypothesis 2, we computed a linear regression-based model explaining late symptom change (reduction in OQ-45 between session 5 and 10) by early emotion-narrative changes (between sessions 1 and 5), controlling for level of OQ-45 at intake. SPSS and HLM6.2 were used for data analysis.

Results

Preliminary results

In total, we analyzed $N = 7695$ minutes using the NEPCS, out of which at each time point a mean frequency of 11 minutes was coded as "no client marker" ($N = 1881$), leaving $N = 5814$ NEPCS codes, each lasting one minute, to be included in the current study.

No beween-condition effects for the frequences of NEPCS categories have been observed (see Table 1), which allowed us to consider both sub-samples (GPM vs GPM plus MOTR) together in one omnibus analysis for the test of the hypotheses.

Emotion-based narratives over time

The first hypothesis (1a and b) assumed change in emotion-narrative markers over the course of brief therapy. We tested the change in Problem markers (Table 2), and Transition markers (Table 3) over the three timepoints. We added the test of change in Change markers over the three timepoints as exploratory analyses (without hypothesis; see Table 4). We found an overall reduction in Problem markers over time and a specific reduction in Empty and Superficial story telling. We found an overall increase in Transition markers over time and a specific increase in Reflective storytelling. We found an overall increase in Change markers over time, and a specific increase in Unexpected outcome story telling.

Predicting symptom change by change in Problem markers early in treatment

In order to test the second hypothesis (2), we performed a regression model predicting symptom change between session 5 and 10 on the main score of the OQ-45, by the decrease in frequency in Problem markers between sessions 1 and 5, by controlling for level of OQ-45 at intake. The test was significant (beta = 0.40; SE = .17, $t(54) = 2.29$; $p = .02$; adjusted R square = .08). A similar test was not significant for the change in Transition markers (beta = 0.17; SE = .31, $t(54) = 1.29$; $p = .20$; adjusted R square = .01) nor change in Change markers (beta = 0.14; SE = 2.15, $t(55) = 1.06$; $p = .30$) between sessions 1 and 5, predicting symptom change between sessions 5 and 10.

Discussion

The present process-outcome analysis had as objective to explore the pathway of change from inconsistent and problematic narratives to the development of a reality-based and coherent narration construction of the personal story, for clients with BPD undergoing brief treatment. We are particularly interested in the progressive integration of the lived story with the told story, between emotional experiences and the more reflective autobiographical narrative and its role for outcome in a time-dependent design.

Our study suggested that in brief psychiatric treatment over four months, one of the core changes that takes place in the spontaneous in-session speech of clients, as they reflect about themselves, is the reduction of Problem markers and the increase of Transition markers. Over the course of four months of treatment, clients use less Same old story and Superficial story telling. Overall, clients present with increasingly more Transition markers over the course of four months of treatment: this involves, for example, the strengthened presence of Reflective story telling which involves the identification and explanation of a general pattern of experience or behavior by developing hypotheses on own or other's internal states, in particularly in relationship with emotional states. Overlapping partially with the construct of mentalizing in the literature on PD (Fonagy & Luyten, 2009), such in-session client reflective stances have rarely been studied in the actual therapy hour (see for exceptions Kivity et al., 2021), but rather in specifically developed contexts proposing client-specific prompts, for example in adult attachment interviews (e.g., Levy et al., 2007). The literature is still inconsistent with regard to the prediction of subsequent symptom changes by the actual in-session activity of reflective narrative (Kivity et al., 2021; Levy et al., 2007; Maillard et al., 2019). The fact that the current study did not find a significant link between changes in Reflective storytelling, when observed in the actual client in-session speech when reflecting on oneself, and symptom change may speak to this inconsistency. The reflection on one's autobiographical history may well become more frequent over time in the case of clients with

BPD, but this increase does not represent what is leading to symptom change (i.e., the precise mechanism driving the change). One explanation for this result may be the rather inclusive definition of the Reflective storytelling NEPCS marker. Reflective storytelling is coded when a client's narrative includes any reflection on the self and others, but does not differentiate the client's relationship to the issue they are speaking about or the type of the activated affective state (i.e., either being angry or being sad) as they elaborate on the topic. Another explanation may be that for clients with BPD, changes in the narrative markers may have to be anchored more directly in their emotional processing which may drive directly the symptom reduction (Samson et al., 2024; Sonderland et al., 2023).

Finally, Change markers increase significantly over the course of treatment, but the overall frequency of any of these markers at any given timepoint in the current study remains low. In essence, these markers represent rare events, with a frequency close to 0, at any moment in the therapy. Given this context, the increase in Unexpected outcome storytelling may reflect a fluctuation which should be interpreted with some caution.

We observe that narrative changes are associated with outcome. Consistent with predictions (Kramer, 2024), the reduction of Problem markers (observed in-session between sessions 1 and 5) predicted the symptom reduction later in treatment (observed between sessions 5 and 10). Clients who present over time with lessened dominant and over-generalized story contents (in the sense of Same old story), lessened situationally external, unanchored and unemotional talking about oneself (in the sense of Empty story), lessened disruption of the narrative by undifferentiated emotion, or emotion that does not relate with the content of the story (in the sense of Unstoried emotion) and lessened hypothetical and emotionally removed, and more specific descriptions of the Self and others (in the sense of Superficial story) are the ones who benefit from therapy the most. Narrative-emotion changes occur from the very first month of treatment onwards, even in a psychiatric treatment which

may be designed to contain the client's main interpersonal problems and reduce symptoms. According to our analysis, these effects were similar in both treatment arms, but caution needs to be applied when generalizing to different therapy approaches.

While the present study was framed as a process-outcome analysis, and not as a study on mechanisms of change, emotion-based narrative, in particular the reduction of problem markers, thus becomes a plausible candidate for a mechanism of change in psychotherapy for PD (according to Kazdin's definition, 2009). This conclusion in consistent with changes in identity-narrative observed in clients with PDs (Lind et al., 2021). Our study highlights the relevance for PDs of a dialectical-constructivist model, explaining what on the surface may look like interpersonal problems and lack of interpersonal skills (Kramer & Timulak, 2022) may actually be a matter of (lacking) integration between emotion and meaning-making. By adopting a dialectical-constructivist perspective on change in PDs (Angus, 2012; Greenberg & Pascual-Leone, 2001), similar to clients with complex trauma, it may be possible to assess change on a minute-by-minute basis and study the minute-by-minute progression of integration between affective and identity-narrative components of the Self. The method used in the present study, the Narrative-Emotion Process Coding System (Angus et al., 2017), is particularly suited for this purpose, as it takes into account both the fundamental principles of affective change in any psychotherapy (Pascual-Leone, in press; Pascual-Leone, & Kramer, 2023), and the (positively) updated autobiographical memory. Our study used a time-dependent design where the assessment of the process is terminated before the outcome was measured. Assessing the change in 10 NEPCS process markers – at the minute level - over three sessions across psychotherapy clearly goes beyond global evaluative constructs measured at one moment in therapy (e.g., assessment of emotion regulation or mentalization). The current study clearly goes beyond the evaluation of point correlations between a potential mechanism of change and outcome (Teachman et al., 2024). The NEPCS, along with other

process-based measures, avoid this level of global evaluation, while at the same time reflecting the heart of the clinical complexity.

It is interesting to note that the present study did not find a significant relationship between Transition and Change markers and therapy outcome. In previous studies, these groups of markers were discussed as particularly productive for the explanation of change over time (Angus et al., 2019). Two reasons may explain these divergent results: a) the short time frame of assessment may account for the specific impact of reduction of Problem markers (and not the other groups of markers) on outcome, and b) the nature and complexity of the studied psychopathology may account for the specific impact related with the reduction of problem markers on outcome. Specifically, we note a low base rate in Competing plotlines in the present sample. We speculate that this low frequency may be related with the severity of the psychopathology, which may also explain the low base rate in Change markers in the present sample. In brief treatments, the clients with BPD may continue to use more frequently the Same old storytelling and thus a contaminative narrative moving from the description of positive emotions towards negative ones, without fully integrating all discrepant information. As discussed by De Panfilis et al. (2022), memory updating processes may be more difficult to achieve in clients with PDs, or may require more time due to the complex interactions between the memory of invalidating (or traumatic) interpersonal experiences with the narrative construction processes. Updating negative memories into a more positive, coherent and fact-based narrative about the self-in-interaction-with-others is particularly difficult in these cases (Bohus et al., 2021; Maercker et al., 2022; Paivio & Angus, 2017; Paivio & Pascual-Leone, 2010). Despite this difficulty, the current study demonstrates that specific change is initiated early (in the form of reduction of specific Problem markers) and suggests that deeper transformative change may occur in longer time frames which should be studied in further research.

The next step in the demonstration of a mechanism of change is a controlled study in which a mediator (i.e., NEPCS changes) is tested in an experimental design, explaining outcome (i.e., symptom decrease). The effect of the therapist intervention, or type of therapy approach, was not tested in the current study (Angus & Macaulay, in press; Kramer et al., 2024). For the next step in the study of emotion-based narrative processes themselves, the identification of patterns of process markers indicating change (or absence thereof; Pascual-Leone et al., 2021) would contribute to a more dynamic understanding of flexibility in the narrative process itself (Boritz et al., 2016).

The current study has a number of tentative clinical implications. The pathway of change from undifferentiated, confusing or problematic narrative to a reality-based, coherent, and emotion-anchored autobiographical elaboration of the self-in-a-historical-context bears a lot of potential in the treatment of severe PDs. So far, it may have been overlooked that the progressive lessening of specific problematic narrative markers (Empty and Superficial story telling, presence of disruptive emotional experiences that do not fit the content of the autobiography) may be core to the treatment of BPD. Making sense of one's bodily and affective experience may be core to these therapy processes. What is more interesting for clinicians from the current study, is the observation that such changes occur from the very first month on, and also in psychiatric management. Explicit work on the client's autobiography, i.e., the background of traumatic experiences, have been discussed as a later-in-process treatment target (e.g., Linehan, 1993) or as involving long-term therapy (Clarkin et al., 2007); the current work suggests that such changes are likely to occur at the very moment the client and the therapist meet. More attention should be given to these early stages of the treatment in the training of psychotherapists interested to work with individuals with PDs to help them prioritize targets, in particular notice both markers of client stuckness and client change in early stage therapy sessions.

The current study presents with a number of limitations. Given the exploratory nature of the process analysis, the number of observations is limited, although our statistical approach was adjusted to the power and conclusions are formulated tentatively. Symptom levels were only assessed using self-reported questionnaires and only concerned general distress, and not specific borderline symptoms. Also, the design assessing change in emotion-based narrative over the course of treatment did not assess the within-session fluctuations of client engagement with their narrative, supported by the therapist intervention.

Nevertheless, the present study is one of the first to study the progressive integration of emotional experience and autobiographical narrative on the pathway of change leading towards a more coherent and reality-based narrative forming the client's identity structures. The fact that we included the early phase of treatment for a sample of severe PDs is a highlight of the present study. The process-based methodology focusing on the in-session contents of the emotion-based narratives, as assessed by validated methodology, is relevant for making differentiated conclusions. The time-dependent design when testing the impact of the emotion-based narrative on outcome makes our study unique in the field of narrative processes in PDs undergoing therapy. This study was able to show that Problem markers decrease and Transition markers increase over the course of brief psychiatric treatment of BPD. The decrease in Problem markers between sessions 1 and 5 significantly predicted symptom change between sessions 5 and 10. It suggests that emotion-based narrative assessed in a time-dependent and step-by-step design may be a potential mechanism of change in psychotherapies for PDs.

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Table 1

Characteristics of the clients per group at baseline (N = 57)

Variables	Condition			
	GPM & MOTR (n = 30)	GPM (n = 27)		
	n (%)	n (%)	$\chi^2(1)$	p-value
Gender (Female)	16 (53)	22 (81)	5.07	.02
Marital status			6.68	.03
Never married	8 (27)	16 (59)		
Married	13 (43)	5 (19)		
Separated, divorced	9 (30)	6 (22)		
	M (SD)	M (SD)	t (1, 29)	p-value
Age (years)	35.63 (9.76)	31.56 (9.81)	1.57	.12
Number of BPD symptoms	6.77 (1.42)	6.77 (1.43)	0.03	.98
NEPCS markers at baseline				
Problem markers	26.53 (8.19)	26.22 (9.08)	-0.14	.89
Transition markers	8.27 (6.26)	10.11 (7.55)	1.01	.32
Change markers	0.23 (0.68)	0.15 (0.36)	-0.58	.56
NEPCS markers at baseline				
Problem markers	22.10 (9.88)	25.96 (9.77)	1.48	.14
Transition markers	9.17 (7.10)	11.35 (7.55)	1.11	.27
Change markers	0.30 (0.75)	0.30 (0.87)	-0.17	.99
NEPCS markers at session 9				
Problem markers	20.13 (12.33)	19.65 (9.64)	-0.16	.87
Transition markers	10.73 (8.82)	12.27 (8.96)	0.65	.52

Change markers	0.50 (1.01)	1.138 (2.56)	1.74	.09
OQ-45 at intake	103.00 (19.88)	91.30 (30.78)	-1.72	.09
OQ-45 at session 5	85.20 (26.29)	75.26 (31.39)	-1.30	.20
OQ-45 at session 10	78.80 (23.77)	80.11 (30.81)	0.18	.86

Note. All diagnostic information in co-morbidity with DSM-IV-TR Borderline Personality Disorder (BPD). GPM: 10-session version of Good Psychiatric Management; MOTR: Motive-Oriented Therapeutic Relationship.

Table 2

Change in problem markers over the course of brief treatment (N = 57)

Variable	Coefficient	SE	*t*-ratio	d.f.	*p*-value
Problem markers	-3.21	0.78	-4.12	56	.00+
-same old story	-0.26	0.31	-0.82	56	.42
-empty story	-0.63	0.23	-2.72	56	.01
-unstoried emotion	-0.32	0.24	-1.32	56	.19
-superficial story	-2.03	0.72	-2.80	56	.01

Note. SE: Standard Error. Hierarchical Linear Modelling.

Table 3

Change in transition markers over the course of brief treatment (N = 57)

Variable	Coefficient	SE	*t*-ratio	d.f.	*p*-value
Transition markers	1.12	0.55	2.02	56	.04
-competing plotlines	-0.23	0.32	-0.73	56	.47
-inchoate	0.23	0.12	1.91	56	.06
-experiential	0.03	0.12	0.26	56	.80
-reflective	1.08	0.42	2.56	56	.01

Note. SE: Standard Error. Hierarchical Linear Modelling.

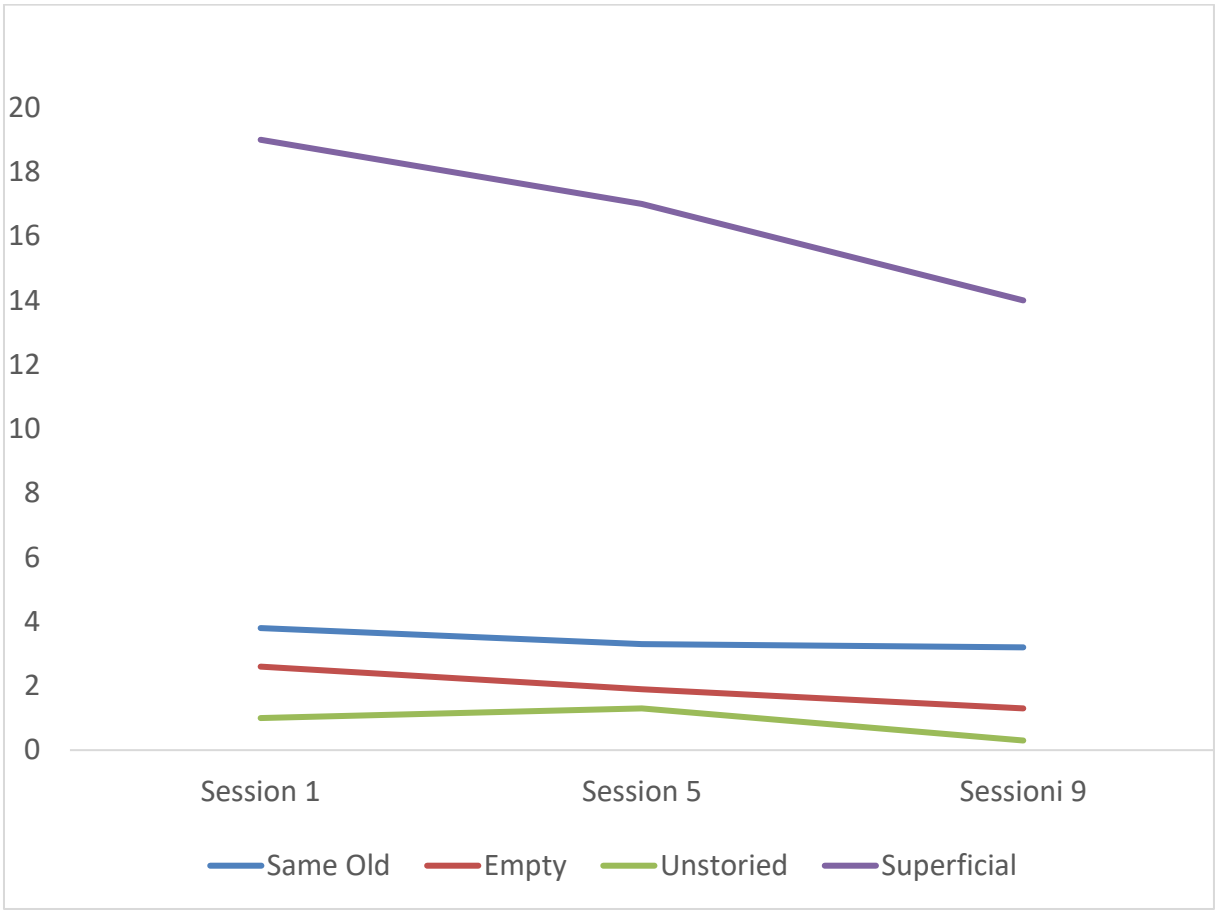
Table 4

Change in change markers over the course of brief treatment (N = 57)

Variable	Coefficient	SE	*t*-ratio	d.f.	*p*-value
Change markers	0.35	0.13	2.75	56	.01
-unexpected	0.21	0.08	2.82	56	.01
-discovery	0.14	0.08	1.70	56	.09

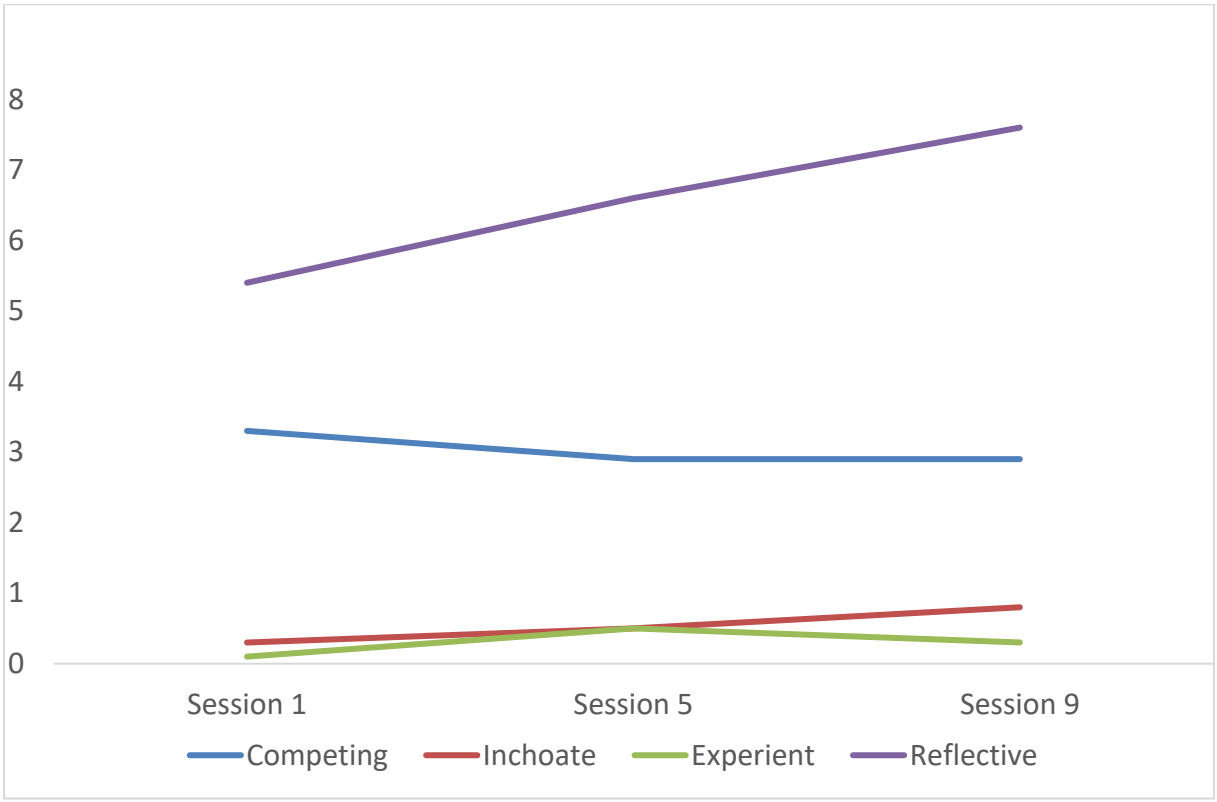
Note. SE: Standard Error. Hierarchical Linear Modelling.

Figure 1



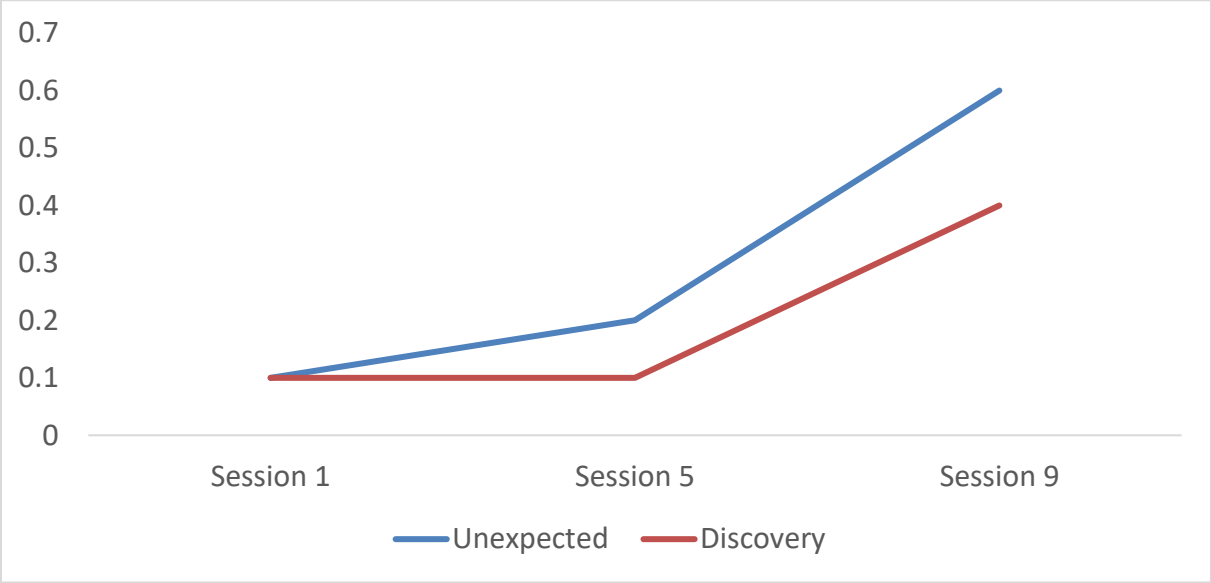
Note. Freqency in Problem markers: Same old Storytelling; Empty Storytelling; Unstoried Emotion; Superficial Storytelling

Figure 2



Note. Frequency in Transition markers: Competing plotlines; Inchoate storytelling; Experiential storytelling; Reflective storytelling

Figure 3



Note. Frequency in Change markers: Unexpected outcome ; Discovery narrative

Figure Captions

Figure 1

In-session frequencies of NEPCS Problem markers over therapy

Figure 2

In-session frequencies of NEPCS Transition markers over therapy

Figure 3

In-session frequencies of NEPCS Change markers over therapy