RUNNING HEAD: Psychotherapy Process in Personality Disorders

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How Personality Disorders Change in Psychotherapy: A Concise Review of Process

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Abstract

Purpose of review: The present review summarizes the current state of the art in psychotherapy processes during treatments for clients with personality disorders. We outline some methodological challenges in the discipline of process research, give a brief historical account on process research, and then focus on specific processes studied from an empirical perspective.

Recent findings: The current review acknowledges the centrality of the therapeutic relationship, in particular the therapeutic alliance, therapist empathy and responsiveness in explaining outcome across treatment modalities for personality disorders. The review describes evidence from three overall, and overlapping, lines of inquiry that have garnered scientific interest in the past years.

Summary: Emotional change (regulation, awareness and transformation), socio-cognitive change (mentalizing, meta-cognition and interpersonal patterns), and increase in insight and change in defense mechanisms. Evidence is strong that these processes contribute to healthy change in treatments for personality disorders, in particular borderline personality disorder. Avenues of future studies are outlined.

Key-words : Process Research; Personality Disorders; Borderline Personality Disorder; Psychotherapy Integration; Methodology

Introduction

Psychotherapy works as a treatment of personality disorders (PD; (1, 2)), but it remains unclear how these effects are produced. This is similar to the pharmacological treatment of depression which we know is effective for reducing central symptoms in the acute phase of depression (3), because there is also ongoing debate on how those effects are produced. For psychotherapy, understanding the underlying mechanisms of change would help a clinician to select appropriate interventions for each individual, foster specific in-session processes, know what to do when, and assist the therapist with productively dealing with interpersonally challenging interactions and situations. More generally, this knowledge helps customizing, or personalizing, psychotherapy (4-8).

Studying the process of change is not an easy task. In many ways, process research is analogous to the work of a watchmaker. So long as the product (i.e., the watch, or the psychotherapy) works, there is usually little concern and few people would bother opening the watch in order to gain knowledge about the good process. But, this is exactly what a process researcher would do. A process researcher would want to observe the mechanism at work, how it ticks under the cover, and see the detailed time-dependent components of a mechanism explaining the effectiveness of the product (the precision of the watch, or the effectiveness of psychotherapy). This knowledge is particularly important in critical situations, or when the product malfunctions. Process research is the endeavor to observe the actual processes as they are unfolding within the psychotherapy hour, and attempts to put them together as time-dependent components of mechanisms explaining symptom change in psychotherapy (4-6, 9). In order to do this, it is indispensable to observe the in-session processes, often using independent researchers to code various aspects of the therapy sessions. While this is true in many cases, in

others, it is also interesting to simply ask participants right after their sessions took place (i.e., reports on session experiences), or rely on standardized clinical interviews, or controlled experimental tasks to measure specific constructs in a controlled fashion.

Process research is not a new field. Earl F. Zinn, a psychoanalyst practicing between 1925 and 1945 in New York, started to record his sessions using a dictaphone, in order to study the impact of the actual dialogue on the clinical process (10). In the 1940ies, Carl Rogers initiated the first research program of detailed process analyses of psychotherapy sessions, and concluded that generic relationship variables, such as empathy, genuineness and unconditional positive regard, are vital for change in psychotherapy (11). More recently, psychotherapy researchers since Strupp, Kiesler and Luborsky observed and described phenomena in psychotherapy sessions from a variety of theoretical perspectives (e.g., (12, 13)). A landmark book for process research was Greenberg and Rice's *Patterns of Change* in 1984 in which the editors brought together what was state of the art in the field and formulated that the objective of process research should be the identification, description, explanation and prediction of process effects as they relate to therapeutic change (14). Process research may be applied to any form of psychotherapy, to many theoretical constructs in clinical psychology and more and more concepts become accessible to process investigation due to recent methodological developments. Thanks to process research, very different forms of psychotherapy are beginning to move closer together, in a deeply evidence-based way. Therefore, process research may be seen as a cornerstone of integrative science in psychotherapy (see also (15-18)).

Identifying productive processes in the change of personality disorders

Several components of the therapeutic relationship have been discussed as potentially effective in facilitating psychotherapy outcome (19, 20). While these conclusions are important, we observe that they rely on evaluative variables (21) of the process of psychotherapy. *Evaluative* variables represent generally dimensional constructs where more is usually better, but with the drawback that the theoretical and clinical precision lacks. Research relying only on evaluative variables does not inform the clinician on what to do when, facing which type of process indicator in which type of client: *descriptive* variables are more helpful in these aspects. But descriptions, in the form of qualitatively different categories of variables, cannot necessarily predict psychotherapeutic change. One way to solve this problem is to rely on descriptive variables in the context of a carefully selected event. The right event selection allows one to observe a changing process at crucial moments when a hypothesized core change would take place (14). This research strategy sets the priority to study detailed time-dependent process components as a mechanism of change that explains psychotherapy outcome.

In what follows, we will review process research focusing on treatments of personality disorders. Most research of the existing research is on borderline personality disorder, but newer process research has begun to focus more on processes of change in narcissistic, histrionic and dependent personality disorders. Firstly, we discuss elements of the therapeutic relationship, in particular therapist responsiveness. Then we turn our attention to emotion processing, socio-cognitive processing, and finally focus on the role of insight.

Relationship processes in treatments for personality disorders

When working with clients who have personality disorders, the therapeutic alliance, group cohesion, quality of collaboration, and the affective bond have all shown evidence to be

related with therapy outcome (22). The American Psychological Association (APA) third Task force for Evidence-based Psychotherapy Relationships (23) has noted that therapist responsiveness is a core principle of change explaining outcome in psychotherapy. This principle may be particularly central for the treatments with clients with personality disorders (24). *Therapist responsiveness* denotes the observation that therapist interventions are affected by emerging context (e.g., client change processes). While this principle creates methodological problems in the study of the effects of psychotherapy, it also represents an opportunity for the practicing clinician to intervene in appropriate ways when working with a particular individual client (25). In this context, it is important to differentiate between the granularity of what the therapist is being responsive to: the therapist may need to respond to a) any client processes (e.g., generic; offer a prizing therapeutic relationship, offer an empathic and accepting stance), b) specific processes underlying a disorder (e.g., foster effective emotion regulation and mentalizing) or c) a client's individual profile (e.g., the use of case formulation to adjust the therapeutic relationship). In a process analysis of video material taken from a randomized controlled trial on brief psychiatric treatment for borderline personality disorder (BPD; $N = 85$ clients randomized (26)), we assessed the three levels of granularity at which a therapist shows responsiveness. When trying to explain the development of the therapeutic alliance in treatments for borderline personality disorder by in-session therapist responsiveness, only the generic (i.e., "a") and the individualized responsiveness (i.e., "c") were significant, but not the disorder-specific ("b"; (24)). And of these, only the individualized responsiveness "c" predicted symptom change in the end of treatment. Interestingly, it seems that the effect of therapist responsiveness in treatments for personality disorder is most potent when considered on the level of an individualized conception based on case formulations.

In a series of naturalistic studies of psychotherapy processes in clarification-oriented psychotherapy, researchers studied in-session therapist relationship variables (i.e., empathy, positive regard, genuineness), along with other process variables, over the course of three sessions in the central working phase of therapy of personality disorders. For narcissistic personality disorder (N = 161), among all the therapist's variables analyzed, only an increase in the quality of the therapist relationship predicted symptom reduction by the end of treatment (27). Consistent findings were reported for a naturalistic sample (N = 159) of clients with histrionic personality disorder (28). Responsiveness, when the therapist actively and productively responded to client's emerging presentations, may be a central building block for effective therapy. Under certain circumstances, it relates to the therapeutic alliance and to treatment outcome when working with most personality disorders.

The *therapeutic alliance* is defined as the client's and therapist's accordance on aims and tasks of therapy, as well as the affective bond between the two of them work together in the process of healing. While meta-analyses suggest that the therapeutic alliance may be ubiquitously important for outcome across diagnoses (19, 29), more caution has also been applied when it comes to personality disorders. A meta-analysis on the link between alliance and outcome in treatments for BPD has found smaller effect sizes than in the general literature (30). Studies on brief treatment assessing the alliance session-by-session, indicate that the alliance is not only influenced by the moment-by-moment interactional features of client-therapist dyads, but also by the therapist's use of case formulations at the outset of the treatment (31, 32). Across psychotherapy studies on BPD, the alliance-outcome link may also depend on the type of treatment delivered, or on specific features of the client at the intake, such as client's agreeableness (33, 34). In order to explain these irregularities in the alliance-outcome link, Levy

and colleagues (2010) argued that a more fine-grained understanding of the collaboration between client and therapist is needed, one that takes into account a client's fluctuating mental, or emotion, states (35). A different way of doing this is to conceptualize the therapeutic alliance as an ongoing process of negotiation with momentary ruptures and repairs. Studies have shown that alliance ruptures and their repairs are highly prevalent in treatments with PDs (36, 37) and unresolved ruptures put the therapy process at risk for premature termination.

Emotional change in treatments for personality disorders

Emotional change encompasses several functions, such as change in the effectiveness of emotion regulation, a deeper emotional experience, emotional awareness, and emotional transformation (38). Effectiveness of emotion regulation is assumed to be central in dialectical-behavioral therapy (DBT; (39)) and a meta-analysis demonstrated that increased emotion regulation was achieved through the more effective uptake of skills in borderline personality disorder (40). Among the studies included, there are two studies based on self-reports on the use of DBT skills and their effectiveness in the down regulation of emotion (41, 42). The latter applied a mediation analysis and showed that the decrease in self-harming behavior related with the DBT program was explained by the uptake of specific emotion regulation skills in a moderately large sample (N = 108) of clients with BPD. However, the use of emotion regulation skills did not affect secondary outcomes that related to anger suppression and expression. McMain and colleagues (2013) showed in a correlational study on a sample of clients (N = 80) with BPD that the increased emotional balance (i.e., involving a ratio between positive and negative emotions) after DBT was predictive of targeted symptom change (41). These studies did not assess the process of emotion regulation as it occurred within sessions. However, this was done in a small randomized controlled trial on DBT skills training for clients with BPD (N = 41),

in comparison with waitlist controls (43). The researchers interviewed all clients pre- and post-treatment and conducted a micro-analysis of sessions. In a secondary analysis of the same sample, Kramer (2017) showed an increase of in-session productive coping in the DBT skills group only – as well as a decrease of unproductive coping within the session (44, 45). These changes were related with symptom reduction at the end of the treatment. These results all focus on DBT and provide a theory-consistent conclusion on the role of learning skills as a way of preparing clients for more effective emotion regulation, which in turn explains the alleviation of symptoms. At the same time, however, it is important to study the same hypotheses in non-behavioral treatments. Kramer and colleagues (2017) performed a mediation analysis on the link between the individualization of psychodynamically informed treatments with symptom decrease after four months (46). The results showed a mediation effect for the decrease of in-session use of behavioral coping skills – less acting out and less use of problematic behaviors to face a stressful event – observed within the first five sessions (i.e., sessions 1 to 5), explaining symptom decrease that happened over the following five treatment sessions (i.e., 5 to 10). This study was able to guarantee that the mediator (i.e., the improvement in in-session coping) was measured before the outcome was assessed and suggests that improvement in coping may have a specific time window of mechanistic action in psychotherapy for BPD. Therefore, it represents a particularly strong design and speaks to a generic effect of in-session emotion regulation skills in the explanation of improvement in borderline personality disorder, across treatment modalities.

The study of how emotion gets down regulated does not typically incorporate the subjectively different emotional states during the course of psychotherapy sessions. While one may respond to the same event with various emotional states, not all emotions are equally productive. Pascual-Leone (2009; 2018) showed a specific sequence of emotion states are

particularly productive, developing from less differentiated to more differentiated emotional responses, each linked with specific steps of meaning making (47, 48). Such a sequential model of emotional transformation has been demonstrated in process-outcome studies in treatments of personality disorders.

For a naturalistic sample of clients with mostly narcissistic and histrionic personality disorders ($N = 39$), who underwent clarification-oriented psychotherapy, Kramer, Pascual-Leone and colleagues (2016) showed that two specific emotional states were predictive of good outcome: (a) a rejecting form of expressed anger, and (b) a productive self-compassion (49). While the latter was in line with the researchers' hypotheses, the former was more difficult to understand. It was noted that within a validating psychotherapeutic relationship, it was an important stepping-stone for these clients with PD to express their anger and projecting it onto the external world. In a follow-up study that focused only on the sub-sample of clients with narcissistic personality disorder, the same researchers (Kramer et al., 2018) showed a small effect for changes in shame over the course of effective clarification-oriented psychotherapy (50). This small decrease of shame was related with better treatment outcomes and with also the increase, over time, of adaptive and more differentiated compassion towards the self.

As has been typical of studies on the down regulation of emotion, a study by Neacsiu and colleagues (2010) did not differentiate between qualitatively different types of anger experiences (42). However, distinguishing between rejecting and more adaptive assertive anger has proven important because the latter kind of anger represents a state in which individuals are aware of their innermost needs and stand up for themselves (48). In the aforementioned study on DBT skills training, Kramer, Pascual-Leone et al. (2016) examined the outcome associated with each type of anger. For clients who received the DBT skills, there was no change in rejecting anger,

but an *increase* in assertive anger, which mediated the effects of DBT related to the client's improved social roles. Accessing assertive anger seems to be a necessary stepping stone for clients with BPD on their path to social rehabilitation (43).

In a further study focusing on the sequential model of emotional processing, the researchers assumed a productive step-by-step transformation between global distress and states of acceptance of the emotion that is necessary for symptom change in psychotherapy. Berthoud and colleagues (2017) studied the initial step of that process: how to leave global distress behind during the early process of treating BPD (51). The researchers compared brief standard psychiatric treatment for BPD with brief individualized treatment (infused with a specific method of psychotherapy case formulation) and found no differences between the frequencies of global distress in the two groups; also, all clients left global distress behind in a similar manner. However, for the individualized condition only, these changes were productive (while in the standard condition, such changes remained unrelated with outcome).

Taken together, there is strong evidence that components of emotional change, via both skills for down regulating emotion and also for sequentially ordered emotional experiences in session, are necessary for clients with PD to enjoy symptomatic change through specifically tailored treatments.

Socio-cognitive change in treatments for personality disorders

Socio-cognitive change denotes changes in the individual's thinking about the social environment, or the significant other's mind, and it encompasses several functions. We will focus on the cognitive functions which include mentalizing, metacognition and biased thinking

(52), as well as interactional functions which include agreeableness and certain patterns of social interaction (53).

Two studies, based on randomized controlled trials, have focused on the increases in reflective functioning, observed using transcript-based independent assessments of the process, over the course of transference-focused psychotherapy (in comparison with other types of treatment) for BPD ((54, 55); N = 104 clients, and N = 90 clients randomized, respectively). The results showed that this specific evidence-based treatment was associated with larger increases in reflective functioning than other types of treatment (e.g., DBT), and more stable attachment styles at the end of treatment. It remains unclear whether such changes are also associated with symptomatic relief. That question was studied in a naturalistic trial by de Meulemeester and colleagues (2018) who demonstrated that the decrease in the individual's uncertainty about mental states – a function associated with improved mentalizing – predicted the symptomatic change in psychodynamic psychotherapy for BPD (N = 175 clients) (56). The reduction of uncertainty about mental states was assessed using self-report questionnaires which have limitations in their precision of measurement for self-reflective processes (57). In a process analysis on small sample of clients with BPD and comorbid substance dependence (N = 15), Möller and colleagues (2017) demonstrated that therapist's use of techniques in-session that fostered mentalizing was indeed conducive to client's better in-session mentalizing (58). Two studies have also looked at mentalizing as a moderator of psychotherapy change with consistent findings: Clients with better capacities for mentalizing benefitted more from therapy (59, 60).

The notion of meta-cognition was addressed in a few studies on personality disorders. Maillard and colleagues (2019; N = 37) showed that for borderline personality disorder, meta-cognitive functions, as rated independently in the sessions, increased over the course of brief

therapy, specifically one's ability to differentiate between representations (i.e., thoughts, images, fantasies) and reality (61). While these changes were unrelated with symptom change at the end of treatment, they predicted symptom change later at a six months follow-up. Detailed process analyses of word-by-word cognitive content were carried out on samples with personality disorders ((62); $N = 299$), and particularly borderline personality disorder ((63, 64) for both $N = 60$). The results showed that decreases in the frequency of negations and negative emotion words were related to symptomatic relief in psychotherapy for cluster B and C personality disorders (62). Furthermore, the cognitive errors made spontaneously in session by individuals with BPD remained unrelated with outcome (63), but higher order or cognitive biases (i.e., in the form of cognitive heuristics or problem solving strategies) were linked with the development of therapeutic alliances (64).

Researchers have studied agreeableness and social interaction patterns as moderators of change in treatments for BPD. Zufferey et al. (2019; $N = 60$) used qualitative information from individual case formulations made in the first session to create a scale measuring interactional agreeableness (34). Only in standard psychiatric treatments the more agreeable a client was, the larger the treatment change it predicted (this effect was not observed in more individually tailored treatments). Signer and colleagues (2019; $N = 50$) studied social interaction patterns in borderline personality disorder from a process-perspective and showed that the in-session activation of problematic social interaction patterns was only related to the alleviation of interpersonal problems when therapy was tailored to the individual (without the tailoring, no such effect was found)(65). A recent study investigated social interaction patterns in-session as a mechanism of change in the treatment of dependent personality disorder ((66); $N = 74$). While a client's quality of interaction, as observed during sessions from the working phase, over the

course of therapy, was not related to symptomatic change, a *therapist*'s quality of interaction (i.e., process-directivity, relationship and empathy) predicted decreases in traits of dependency at the end of psychotherapy (66).

In sum, there is good evidence that socio-cognitive changes are key process characteristics explaining outcome across different types of treatments and types of PDs. This is particularly true for complex socio-cognitive functions (mentalizing, meta-cognition and cognitive heuristics), as well as more interaction-based components (in-session agreeableness and interaction patterns).

Change in insight and defense mechanisms

Change in insight and in defense mechanisms are sensitive variables which have mostly been studied in psychodynamic psychotherapy (67, 68), as well as dialectical-behavior therapy (69). Insight was studied using a self-report measure in a sample where half presented with a PD ((68); $N = 100$): increase in the quality of insight mediated symptomatic relief. Defense mechanisms have been studied using observer-rated methodology, showing that clients in psychotherapy move up towards a more mature and self-reflective level of defensive functioning. Such changes were also studied in the context of brief dialectical-behavior therapy for DBT where increased adaptiveness in defensive functioning could be observed, but its relationship with symptom change remained complex (69). Defense mechanisms and insight are important process features explaining some amount of symptom decrease in treatments for personality disorders.

Conclusions

We conclude with a summary of the research and describe the future of process research in personality disorders. Psychotherapy for personality disorders has moved from an overly pessimistic stance, coining the clients with these disorders as "untreatable", over an age of optimism associated with development and study of several evidence-based treatments, bringing us to a healthy realism of not really knowing what the mechanistic underpinnings of these treatments are (7). By differentiating the detailed time-dependent mechanisms explaining treatment effects for PDs, we suggest that more systematic process research on change in sub-components of emotional and socio-cognitive processing, as well as on insight and defense mechanisms, is needed. Such research should go further than simply demonstrating that a process evaluated as "good" is generally related to or mediates outcome. It should rather specify sub-components and qualitatively different descriptors (e.g., "which *specific types* of emotional experience is productive?"), as well as time-dependent process changes (e.g., "does change take place in the early, mid- or late treatment?"; or "which sessions are most productive?"). Furthermore, therapeutic processes need to be anchored in key observable in-session events (e.g., expressions of interpersonal hostility, struggling with self-criticism), and they should be explored in terms of chains or patterns of change in specific variables across different contexts. If possible, these variables should be observed in the actual client-therapist interaction, embedding the results in an understanding of psychotherapy as a responsive two-way interaction context.

Examining the evidence will ultimately help us realize which good processes may be at stake in which time-windows in psychotherapy for personality disorders. This, while acknowledging that we do not yet know exactly how these processes interact and produce positive outcomes. From what we know, we can conclude that there are a limited number of productive pathways to healthy change. It is important to consider that certain processes are

more helpful than others at certain times in the therapy process, but more research is needed to determine when something is helpful and what should be done.

Perspectives in this growing field include the methodological integration of biological underpinnings into the modeling of change processes in psychotherapy for personality disorders (70). It has been argued that the productive reconsolidation of a long-term traumatic memory involves an interaction between emotional arousal, episodic memories and semantic structures, substantiated in the powerful interplay between amygdala, hippocampus and pre-frontal areas (71, 72). However, it remains an open question as to which emotion regulation and transformation processes optimally foster memory reconsolidation and lead to lasting change. Newer methodological recommendations integrating psychotherapy process research with a neuroscientific understanding of lasting change are available and currently being tested, also in psychotherapy for clients with personality disorders (19, 73-75).

Understanding the process of change is a complex task, especially when it comes to explaining change in the long-term interpersonal and identity-based patterns of personality disorders. Detailed time-dependent processes and explanatory mechanisms of change in psychotherapy, may include emotional change (regulation and transformation), socio-cognitive change (mentalizing, meta-cognition and interpersonal patterns), increases in insight and changes in defense mechanisms. How these overlapping concepts relate and interact among each other in the context of a responsive therapeutic relationship and with outcome remains a research avenue of future work.

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