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Current Opinion in Psychology

Advances in transference-focused psychotherapy derived from the study of borderline personality disorder: clinical insights with a focus on mechanism

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The most current conceptualization of personality pathology emphasizes the assessment of the severity of selected domains of functioning involving lack of accurate perceptions of self and others that are common across the personality disorder categories. Advances in our understanding of personality pathology have stimulated further development of Transference-Focused Psychotherapy (TFP) for patients with borderline personality disorder, including treatment focus on both behavior and mental representations of self and others, the trajectory of change in TFP, and the extension of TFP principles to the entire domain of personality pathology.

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Current Opinion in Psychology 2018, **21**:80–85

This review comes from a themed issue on **Personality disorders**

Edited by **Carla Sharp** and **Aidan Wright**

http://dx.doi.org/10.1016/j.copsyc.2017.09.008

Transference-focused psychotherapy (TFP) is a theory driven, manualized, and empirically supported treatment that was originally developed for patients with the diagnosis of borderline personality disorder (BPD). Based upon modern psychoanalytic object relations theory, TFP was first described in manual form [1], expanded and refined with extensive clinical experience [2], and recently explicated with illustrative case examples [3]. The aim of TFP is to effect change in both symptoms and interpersonal difficulties through structured psychological care that leads to the modification of patients' mental representations of self and other that guide behavior. Key features of this contemporary object relations treatment model include: (1) framing the treatment with a verbal contract, (2) a focus on disturbed interpersonal behaviors both in the patients' current life and in relationship to the therapist, and (3) use of the process of interpretation to modify internal representations of self and others, and (4) real world changes in interpersonal behavior particularly in the areas of work and intimate/love relations.

Treatment focus: representations of self and others

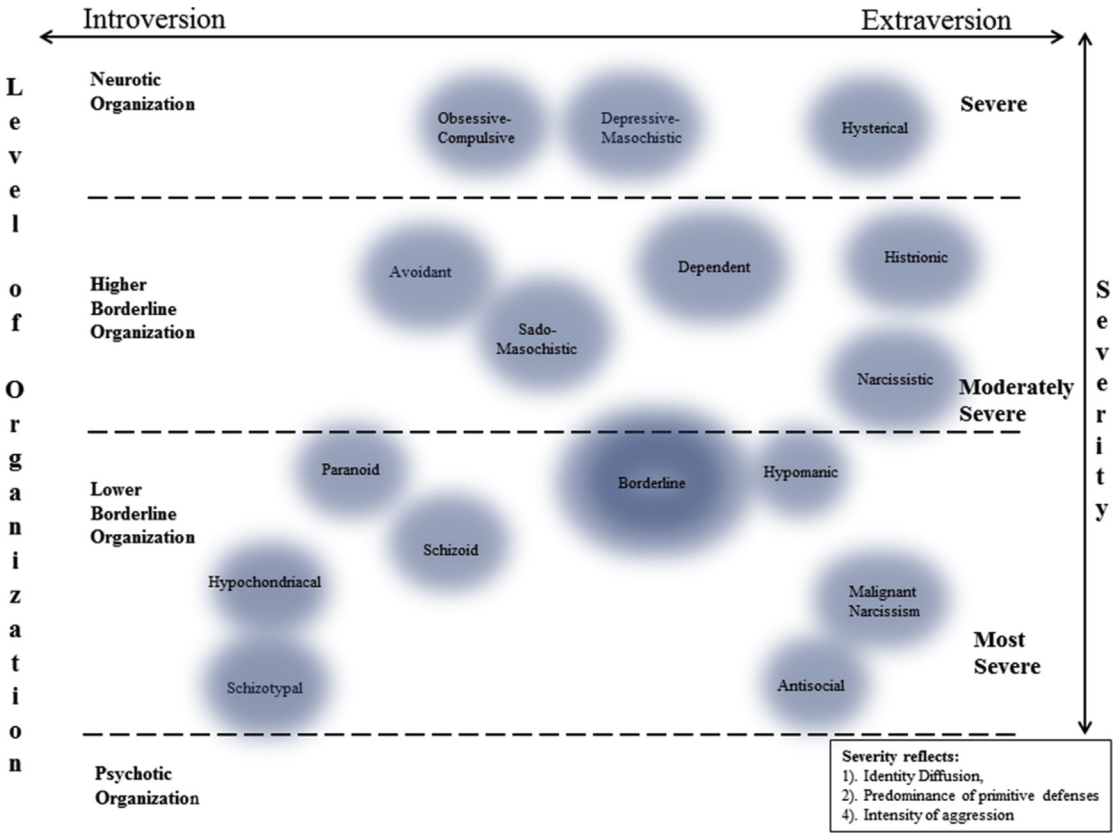
The emerging consensus that the essential features of personality disorder involve difficulties with self-identity and interpersonal dysfunction [4,5] has long been espoused in and central to object relations theory [6], and is now reflected in *DSM-5*, section III [7]. Personality researchers and clinicians across diverse treatment orientations link self and interpersonal functioning to mental representations that are referred to with slightly different constructs such as cognitive affective units [8], schemas [9], internal working models [10], and interpersonal copies [11]. In contrast to the general agreement about the importance of mental representations in driving interpersonal behavior, the manner in which psychotherapeutic treatments address these cognitive/affective units vary in important ways. For example, dialectical behavior therapy (DBT) [12] uses an instructional approach to help the patient learn and utilize skills. Mentalization-based treatment (MBT) [10] emphasizes the need to temper patient affect in therapy sessions, while also fostering the patients' reflective capacities. In contrast, the TFP model provides a treatment framework that acknowledges the inevitability of affect arousal in a safe setting that provides the opportunity to modify extreme cognitions and related affects in the emotionally 'hot' and immediate experience of others. This approach is consistent with current understandings of personality system functioning [13••] and the contribution of developmentally primitive affects to psychopathology [14]. The hypothesized mechanism of change in TFP is increased affect regulation achieved through the growing ability of the patient to reflect psychologically and put momentary affect arousal, especially in social interactions, into a more benign integration of emotion, thought and behavior [15,16]. Patients with personality disorders manifest a combination of both observable behavior that is interpersonally disruptive with internal symbolic representations of self and others that are dominated by sharp division of good and bad evaluations with extremes of affect [17].

Assessment of personality pathology

In the progression from earlier versions of the diagnostic nomenclature to the *DSM-5*, there has been a shift in emphasis from categories of personality disorder to dimensions of dysfunction. Based upon the structural organizational approach to personality pathology [6], we have articulated a nosology of personality pathology with a related method of clinical assessment (see Figure 1). Object relations theory combines dimensions of severity of pathology and affiliation (introversion vs. extraversion) and allows for a categorical or prototypic classification of personality pathology across three levels of personality organization [18] (see Table 1). As described in Table 1, each of the three levels of personality organization are characterized by different levels of identity, quality of object relations, defensive functioning, aggression, and moral values. Briefly, high level or neurotic personality organization is characterized by good identity formation but with compromised and conflicted quality of object relations. Borderline organization is marked by identity diffusion and compromised quality of object relations. Low level borderline organization is further invaded by aggression and variable moral functioning. This approach has the advantage of utilizing both the severity of personality pathology and affiliation (interpersonal relatedness) while accommodating categories of personality organization extending from high (neurotic organization) to mid or borderline organization to severe or low level borderline organization for treatment planning and application. This typology has received empirical support [19] and this finding has been replicated [20,21], suggesting that the subtypes may be important to guide further efforts to understand underlying endophenotypes and genotypes.

The clinical assessment of patient level of personality organization was originally accomplished with a clinical interview, known as the 'structural interview,' that combined a standard psychiatric assessment with an assessment of current personality functioning in order to arrive at a structural diagnosis [6]. This clinical interview has been transformed into a semi-structured interview, the

Figure 1



Level of organization.

Note. Level of personality organization as a function of severity and introversion/extraversion. The severity dimension reflects the joint impact of identity diffusion, predominance of developmentally primitive psychological defenses, and the intensity of aggression present in the individual. The DSM-5 personality disorders and other conditions (e.g. malignant narcissism) are positioned in this hypothetical conceptual space. The shaded cloud surrounding each disorder name reflects the hypothetical potential range of clinical expression.

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Table 1

Levels of personality organization reflecting severity along 5 dimensions.

Level of personality organization	Identity	Defensive functioning	Quality of object relations	Aggression	Moral values
Neurotic (sub-syndromal)	Coherent conception of self and others	High level defenses	Deep with some conflicts	Modulated	Present
High level BPO (mild PD)	Mild identity pathology	High level and splitting-based	Some dependent relations	Varying degrees of aggression	Variable
Mid-level BPO (severe PD)	Lack of coherent conceptions of self and others	Splitting-based	Relations based on need fulfillment	Aggression toward self and others	Significant deficits but variable
Low-level BPO (most severe PD)	Lack of coherent conceptions of self and others	Splitting-based	Exploitation; sadism	Aggression toward self and others	Callous disregard of others

BPO = borderline personality organization; PD = personality pathology.

Structured Interview for Personality Organization (STIPO) [22,23••] and its recent revision, the STIPO-R [24]. As described by modern object relations theory, there are five domains of functioning assessed and rated in the STIPO-R: identity (capacity to invest in work and recreation, sense of self, sense of others), quality of object relations (interpersonal relations, intimate relations and sexuality, internal working models of relationships), defenses, aggression (self-directed and other-directed), and moral values. The STIPO domains manifest internal consistency across studies [22,25], and achieve construct validity by significant correlations with near neighbor instruments [25,26]. Whereas there is a significant association between STIPO structural characteristics and *DSM* diagnoses [25,27], the STIPO domains were able to statistically identify treatment dropout among dual-diagnosis patients more effectively than personality disorder diagnoses [28•].

Although clinical interviews are effective in taking a cross-sectional snapshot of an individual in time, the individual exists within a dynamic flux of internal factors and external contexts that give rise to considerable variation within the person through the course of a day, week, or month. In order to obtain more accurate information on this *intra-individual* behavior in patients diagnosed with BPD, we are currently using the ecological momentary assessment (EMA) methodology in our current on-going study investigating an 18-month trial of TFP. Using EMA to examine intra-individual behavior in BPD patients is based on the Cognitive-Affective Processing System [8], which is a framework for understanding how situational contexts and individual differences in personality traits contribute simultaneously to both personality stability and behavioral variability.

Our EMA protocol requests BPD patients to provide ratings on five or more interpersonal interactions per day. These ratings reflect their perception of their interpersonal behavior and their perception of their interaction partner's interpersonal behavior (using the interpersonal circumplex and the orthogonal dimensions of agency (power/dominance) and communion (love/affiliation); [29], as well as perception of their affect and perception of their interaction partner's affect (using the affect circumplex and the orthogonal dimensions of affect activation and affect valence [30]). These EMA ratings allow us to capture daily, *in vivo* assessments of object relational dyads (e.g. perception of self, perception of other, linked with an affect). We anticipate that our data will replicate the results of previous EMA studies of BPD patients [31] at baseline, but that BPD patients will show significant changes in their daily object relational dyads that can be linked to changes in TFP treatment over the course of 18 months. For example, we predict more modulated interpersonal perceptions of others linked with reductions in negative effect in daily life over time in TFP treatment.

Clinical and empirical approaches to refining TFP

Randomized clinical trials (RCT), long considered the gold standard of treatment development and evaluation, are costly, time-consuming, and have almost invariably yielded little information as to the superiority of one treatment over another for personality disorder. For example, approximately 50–60% of patients improve in randomized trials of various treatments for BPD, suggesting the need for greater treatment refinement and enhancement. Following the completion of two RCTs supporting the effectiveness of TFP [32,33], we have concentrated on improving our assessment methodology and integrating treatment process and neurobiological functioning into our treatment research efforts. Our understanding of personality, both normal and abnormal, is rooted in not only an object relations framework, but also a neurobehavioral perspective [34,35] that emphasizes genetics, neurobiology, epigenetics, environment, and individual differences. We utilize functional neuroimaging to glean impressions from the recorded brain activity of BPD patients performing emotionally salient tasks taking into account neurobehavioral systems such as negative emotion and constraint [36,37••]. Psychotherapy research will advance as the mechanisms of change are demonstrated both at the psychological level [38] and at the level of

neural functioning [39]. Refinements in TFP are fostered by clinical experience with a range of personality pathology severity, and increasing empirical information on the nature of functioning among personality disordered patients.

We have continued to pursue the goal of understanding not only the effects of TFP on cognition, emotion, and behavior, we have also continued to leverage our clinical insights into other research protocols to illuminate mechanisms of change. We offer several of these research vectors for consideration.

- Utilizing the rates of change for each subject across multiple indicators of psychological and personality functioning in a randomized clinical trial of BPD patients, we explored the latent structure of these indicators and resolved three domains of change (aggressive dyscontrol, social adjustment/self-acceptance, and conflict tolerance/behavioral control) [40•]. Pre-treatment patient characteristics such as negative affectivity, identity diffusion, and social potency predicted these domains of rates of change.
- An examination of the patient-therapist interaction in psychotherapy for BPD patients reveals that patient executive attention is related to the quality of the therapeutic alliance, and this relationship is mediated by in-session mental state vacillations (i.e. rapid shifts in the perception of others, consistent with identity diffusion) made in the patients' discourse [41].
- A detailed examination of two individual patients treated with TFP within the context of an RCT indicates that non-diagnostic, pre-treatment patient characteristics are crucial in shaping the trajectory of change [42•]. Even though they share a BPD diagnosis, each patient is unique in his/her combination of attributes, including attributes that are not related to diagnostic criteria, and the therapist must use principles of intervention to adapt to and collaborate with the individual patient. This is the reason that TFP is a principle driven treatment that embraces the heterogeneity across patients, and not a 'cook-book' approach to intervention that assumes homogeneity across patients.
- In a pilot study of 10 patients treated with TFP for one year, we hypothesized that as the patient experiences dominant object relations infused with negative and intense affect in the TFP sessions, the gradual analysis of the perception of self and others would modify the extreme cognitive/affective perceptions. These changes would be consistent with enhanced modification of responses in the amygdala by the prefrontal cortex. In our preliminary neuroimaging study of TFP [43•], we utilized an emotional linguistic *go-no go* task to investigate the processing of negative stimuli by female borderline patients *before* and *after* one-year of treatment with TFP. Patients (N = 10) met criteria for BPD combined with an indication of affect dysregulation. Measures of psychological functioning at multiple points during the one year of treatment were combined with assessment of neurocognitive functioning taken pre and post treatment.

These patients exhibited significant change in behavioral and psychological domains over the course of 1-year of TFP including a reduction in affective lability, interpersonal sensitivity, and paranoia. Specifically, patients displayed less intrusive and vindictive interpersonal problems as well as higher levels of interpersonal warmth toward others. Importantly, at the end of the treatment, all patients in the study were employed in an occupation, displaying significant positive changes in work functioning.

In a comparison of pre-treatment and post-treatment fMRI scans, BPD patients manifested relative increased activation in cognitive control regions (right anterior-dorsal anterior cingulate cortex (ACC) and right dorsal-lateral prefrontal cortex (PFC)) and relative decreased activation in the left inferior frontal gyrus and the left hippocampus [43•]. In addition, results showed that improvements in self-reported cognitive control over the course of 1-year of TFP correlated positively with left anterior-dorsal ACC activation, while improvements in self-reported affective lability over 1-year of TFP correlated positively with left posterior medial orbitofrontal cortex (OFC)/ventral striatum activation and correlated negatively with right amygdala/parahippocampal cortex activation. Finally, improvements in clinician-rated aggression over 1-year of TFP correlated positively with activation in the left inferior frontal gyrus. Taken together, these results suggest that treatment with TFP was associated with relative activation increases in emotional and cognitive control areas of the brain and relative activation decreases in areas of the brain associated with emotional reactivity and semantic-based memory retrieval. We are currently building upon this pilot study with the use of fMRI to assess neurocognitive functioning before and after 18 months of TFP with an expanded number of subjects.

Expanding the utilization of TFP principles

TFP was developed with the specific aim of treating patients with the diagnosis of BPD as described in *DSM-III* and its successors. However, given the self and interpersonal dysfunctions that extend across the personality disorder categories [44], we are currently applying the strategies and techniques of TFP to the entire range of personality pathology. It has become evident that a significant number of patients with BPD also have narcissistic pathology [45], and this complication requires modifications to the treatment [46••]. Furthermore, the large general factor of personality pathology [45] consistent with our clinical experience has led us to articulate the strategies of object relations treatment

across high, mid, and lower levels of personality organization [47] as identified with the STIPO-R.

As the onset of many instances of borderline and other personality pathologies is during adolescence, we are preparing to adapt the TFP approach to that population. This preparation has included assessment of adolescents for identity diffusion and quality of object relations [47], articulation of a developmental model borderline pathology in adolescence [48], and clinical applications of TFP for borderline adolescents [49,50].

We recognize the domains of dysfunction in personality pathology, and the proven helpfulness of approaches other than TFP to these issues. The strategies and techniques of TFP that are focused primarily on self and other functioning can be used as one treatment module in an integrated approach to personality pathology [51].

Conflict of interest statement

This work has been supported by the Dworman Foundation.

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