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Schemas and modes in borderline personality disorder: The mistrustful, shameful, angry, impulsive, and unhappy child

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ABSTRACT

In this study we investigated how early maladaptive schemas and schema modes uniquely characterize Borderline Personality Disorder (BPD) patients versus comparison groups. BPD patients (n = 101) were systematically matched with personality disordered patients without BPD (n = 101) and healthy controls (n = 101). Differences were investigated using one-way ANOVA and multinomial logistic regression analyses. Results indicated that schemas of Mistrust/Abuse and Defectiveness/Shame along with modes of Angry Child, Impulsive Child, and (low) Happy Child uniquely differentiated BPD patients from patients with other personality disorders. Likewise, schemas of Mistrust/Abuse, Defectiveness/Shame, and Insufficient Self-Control along with modes of Vulnerable Child, Enraged Child, and (low) Happy Child, uniquely differentiated BPD patients from healthy controls. The results are overall consistent with propositions in the schema therapy literature as well as previous findings, and suggest that underlying schemas of Mistrust/Abuse and Defectiveness/Shame as well as manifest modes of Angry/Enraged Child, Impulsive Child, and (low) Happy Child comprise key features of BPD. Consequently, these features may be important foci in the conceptualization and treatment of BPD.

1. Introduction

Borderline Personality Disorder (BPD) is a highly prevalent disorder in mental health settings, and a large body of research has documented its substantial co-occurrence with a variety of psychiatric problems (Lieb et al., 2004). The BPD diagnosis potentially comprises a diverse pattern of psychopathological features including fluctuating affective states, risky sexual behaviors, aggression, self-injury, dissociative experiences, and transient stress-induced paranoia, which highlight its manifold nature as well as the complexity of treating this disorder. Psychotherapy is considered best practice in the treatment of BPD (Bateman et al., 2015), and schema therapy is one of the major therapeutic approaches that has demonstrated efficacy for the treatment of BPD (Sempértegui et al., 2013; Zanarini, 2009). However, psychotherapists usually do not treat patients at the level of diagnosis but at the level of problems (Bach et al., 2016). Therefore, it might be informative and useful to identify the unique problems characterizing BPD patients in general. In terms of schema therapy, this may involve both underlying core themes referred to as *early maladaptive schemas* along with fluctuating and moment-to-moment features of activated schemas and coping responses referred to as *modes*. These two concepts are further elucidated below.

Schema Therapy for BPD includes insights from psychodynamic, cognitive-behavioral, and experiential approaches, in particular aspects of object relations theory (Arntz, 2015; Young et al., 2003). Two central concepts are early maladaptive schemas (referred to as "EMS" or "schemas") and schema modes (referred to as "modes"), which are both considered essential in the conceptualization and treatment of BPD (Arntz, 2015; Arntz et al., 2009; Farrell and Shaw, 2012). In Beck's original CBT model, personality disorders were considered as driven by schemas (Beck and Freeman, 1990), whereas Beck later developed a theory of modes to further explain the fluctuating psychopathological symptoms of severe personality pathology, in particular BPD (Beck, 1996). Subsequently, the concepts of "schemas" and "modes" have been further refined and operationalized by Young within the more integrative framework of schema therapy (Arntz and Jacob, 2012; Farrell and Shaw, 2012; Young et al., 2003).

Schemas (i.e., early maladaptive schemas) are defined as psychological constructs that include beliefs that we have about ourselves, the world, and other people, which result from interactions of unmet core childhood needs, innate temperament, and early environment. Schemas may also be viewed as enduring inner representations of attachment figures comprising beliefs about self and others, comparable to John Bowlby's concept of internal working models (Young et al., 2003). See

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supplemental Table S1 for detailed description of all 18 schemas.

When maladaptive schemas are activated, intense states occur that are described as "schema modes" (Young et al., 2003). A schema mode is defined as the current emotional, cognitive, behavioral, and neurobiological state that a person is in. Dysfunctional modes occur most frequently when multiple maladaptive schemas are activated. As shown in supplemental Table S2, 14 modes are defined, which may be thematically organized into four clusters: Innate Child Modes (the experience of a childhood need not being met), Dysfunctional Parent Modes (Internal critic, messages that reflect negative core-beliefs), Maladaptive Coping Modes (the action taken in an effort to not feel the emotions of the Child Modes), and Healthy Modes (nurtures self, forms healthy relationships, takes on responsibility, sense of being loved, safe, and playful, and partakes in enjoyable activities). In other words, schemas are considered as stable and underlying themes in BPD, which may be dormant at a given moment, whereas modes are the current activated moment-to-moment fluctuating features of BPD pathology (Young et al., 2003). A general goal of schema therapy for BPD is to decrease the intensity, inflexibility, and frequency of maladaptive modes and underlying schemas, while building up and strengthening the healthy modes of the BPD patient (Arntz, 2015). Consistent with their nature, schemas are assessed based on their intensity (how *accurately* each statement applies to the patient), while modes are assessed based on their frequency (how *frequently* each statement applies to the patient). Similar to BPD symptomatology, both schemas and modes have been found to be relatively stable over time, consistent with the personality-related features of both concepts (Lobbestael et al., 2010; Riso et al., 2006). Accordingly, schemas are viewed as underlying trait-like features of the personality whereas modes comprise fluctuating and manifest features of the personality. See additional files 1 and 2 (Tables S1 and S2) for complete definitions of all 18 schemas and 14 modes

Young originally proposed that BPD may be characterized by nearly all schemas, whereas more recent developments emphasize the primary significance of Abandonment/Instability, Mistrust/Abuse, Emotional Deprivation, Defectiveness/Shame, Insufficient Self-Control, Subjugation, and (Self-) Punitiveness (Arntz and Jacob, 2012; Young et al., 2003). In regard to modes, Young et al. (2003) has emphasized that the Vulnerable Child, Angry/Enraged Child, Impulsive Child, Detached Protector, Punitive Parent, and (lack of) Healthy Adult play predominant roles in BPD, whereas Farrell and Shaw (2012) highlight that all 14 modes potentially may be involved in BPD. In fact, Farrell & Shaw suggest that a strength of schema therapy is its use of a transdiagnostic approach to personality disorder treatment by focusing on the schemas and modes present rather than on symptoms (Farrell et al., 2014). To date, empirical investigations of schemas and modes in relation to BPD have shown mixed results (Bach et al., 2017; Cohen et al., 2016; de Vos et al., 2014; Gilbert and Daffern, 2013; Jovev and Jackson, 2004; Lawrence et al., 2011; Lobbestael et al., 2008, 2005). Yet, the significant roles of the aforementioned schemas (i.e., Abandonment/Instability, Mistrust/Abuse, Emotional Deprivation, Defectiveness/Shame, Insufficient Self-Control, Subjugation, and Self-Punitiveness) and modes (i.e., Vulnerable Child, Angry/Enraged Child, Impulsive Child, Detached Protector, Punitive Parent, and lack of Healthy Adult) have been partially supported (see Sempértegui et al., 2013 for a critical review). Taken together, the disorder-specificity of schemas and modes remains somewhat unclear.

No study to date has simultaneously examined whether schemas and modes can differentiate patients with reliably diagnosed BPD from relevant comparison groups. Thus, the present study was designed to fill this gap by investigating the utility of schema therapy constructs (i.e., schemas and modes) in differentiating patients with BPD from other PD patients and healthy controls, and to delineate whether some combinations of schemas and modes are unique to patients with BPD. Consistent with the schema therapy literature and preliminary research we hypothesized that Abandonment/Instability, Mistrust/Abuse, Emotional deprivation, Defectiveness/Shame, Insufficient Self-Control, Subjugation, and (Self-) Punitiveness schemas would predominantly differentiate BPD patients from comparison groups. Likewise, for modes we hypothesized that the Vulnerable Child, Angry/Enraged Child, Impulsive Child, Detached Protector, Punitive Parent, and (lack of) Healthy Adult would predominantly differentiate BPD patients from comparison groups.

2. Method

2.1. Participants and procedures

This study was based on data from patients with BPD (n = 101; 70.3% female; age M = 28.33, SD = 7.36), PD patients without BPD (n = 101; 70.3% women; age M = 28.1, SD = 7.80), and healthy controls (n = 101; 70.3% women; age M = 28.35, SD = 7.37). The three samples were systematically matched with one another on gender and age. All participants were Danish citizens. The patients were consecutively enrolled from a psychiatric outpatient psychotherapy unit specialized in assessment and treatment of PDs. Diagnoses were confirmed via structured interviews by a psychologist or psychiatrist, including reliably SCID-II rated PD diagnoses, and patients suspected of having a current substance-induced condition, psychotic disorder, organic disorder, severe depression, autism, or manic episode were not included.

First, patients meeting five or more DSM-5 Section II criteria for BPD were included in the BPD patient sample. The prevalence rates of coexisting PD diagnoses for this BPD group were 63% Paranoid, 52% Avoidant, 36% Obsessive-Compulsive, 29% Antisocial, 7% Narcissistic, 7% Schizotypal, and 5% Schizoid.

Next, 161 patients that did not meet the criteria for BPD were selected of which 12 were excluded as they did not meet the general DSM-5 Section II PD criteria. Subsequently, the remaining 149 patients were systematically matched with the gender and age of the BPD patient sample ultimately resulting in a sample of precisely 101 PD patients without BPD. The prevalence rates of coexisting PD diagnoses for this sample were 45% Avoidant, 20% Obsessive-Compulsive, 15% Dependent, 12% Paranoid, and 25% Not Otherwise Specified.

Finally, healthy controls were recruited via the Danish Civil Registration System and subsequently matched with age and gender of the BPD patients. Initially, a randomized sample of 1250 community-dwelling citizens were invited by letter to participate of which a total of 221 individuals accepted and completed the online assessment program. In order to further balance the distribution of age and gender, responses from 99 college students were also included by means of invitations on a university intranet. It was formally required that only mentally healthy individuals were allowed to participate in this part of the data-collection. However, we strived to secure non-clinical status of the controls by screening for potential psychopathology using a norm-based SCL-90-R clinical cut-off score for Danish males and females, separately (Olsen et al., 2006). As a result, 51 cases were excluded (40 females and 11 males) because of a score above the clinical thresholds. Eventually, the remaining 269 community-dwelling participants were systematically matched with the BPD patients resulting in 101 matched healthy controls.

This study was approved by the Regional Ethics Committee of Zealand and the Danish Data Protection Agency (SJ-PSY-01).

2.2. Measures

2.2.1. Structured Clinical Interview for DSM-IV Axis II Personality Disorders (SCID-II)

We used the SCID-II to measure the DSM-IV/DSM-5 Section II BPD diagnosis (First et al., 1994). Furthermore, the SCID-II was used to detect the group of PD patients without BPD, and to describe PDs in general. Initially, the SCID-II Personality Questionnaire was employed as a screen before the SCID-II diagnostic interview. The interviews were