Social cognition in borderline personality disorder: Evidence for dichotomous thinking but no evidence for less complex attributions

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ABSTRACT

This experiment investigated social cognition in borderline personality disorder (BPD). We tested whether BPD-patients' evaluations of others were characterized by splitting, dichotomous thinking, or negativity; and whether they showed less complex understanding of others. Participants discussed a problem with three alleged mental health worker trainees, performing three interpersonal roles (rejecting, accepting and neutral). Participants evaluated trainees in a structured response format and in a semi-structured interview. BPD-patients ($n = 18$) were compared to Cluster-C personality disorder patients ($n = 18$) and nonpatients ($n = 18$). From visual analog scales with opposite trait descriptions (structured response format) negativity, dichotomous thinking, and splitting scores were derived. The interviews were scored by an independent rater on affect tone, differentiation, and complexity of attributions. BPD-patients showed, in all conditions, and in both response formats, more dichotomous thinking than control groups. Evidence for splitting as specific BPD-characteristic was not convincing, and more negativity in BPD was only found with the rejecting role and structured responses. The interview-based evaluations by BPD-patients could not be discriminated from nonpatients in cognitive complexity. Results indicate that dichotomous thinking, and not so much splitting, negativity, or less complexity, is central in the interpretation of others by BPD-patients. Treatment might address dichotomous thinking to reduce BPD-patients' interpersonal problems.

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Introduction

One of the central issues in therapy of Borderline Personality Disorder (BPD) is the social problems these patients encounter. BPD-patients often get in conflict with other people, and experience rejection, exclusion or abandonment (Stepp, Pilkonis, Yaggi, Morse, & Feske, 2009; Whisman & Schonbrun, 2009; Zanarini, Gunderson, Frankenburg, & Chauncey, 1990). These phenomena also frequently occur in the therapeutic relationship, and constitute a challenge for therapists. Such interpersonal problems might be caused by BPD-patients' difficulties with adequately understanding the reasons underlying other people's behavior and by BPD-patients' tendency to evaluate others in black and white terms. Indeed, for a long time interpersonal problems in BPD have been attributed to deficiencies in social cognition, the ability to form adequate mental representations of the psychological factors that underlie other people's social behavior. This is understandable, as when our idea of another person's intention is false or exaggerated, chances are high that our response to the person contributes to misunderstanding and conflicts.

Cognitive theories of BPD posit two cognitive processes central in social cognition of BPD. First, BPD-patients are hypothesized to negatively interpret other people's behaviors, in the sense that they infer malevolent intentions and dispositions in the other person (Arntz, 2004; Pretzer, 1990). Central themes in biased interpretations in BPD are rejection, exclusion, abuse, and other interpersonal threats (see Arntz, Weertman, & Salet, 2011; Barnow et al., 2008 for evidence). Second, BPD-patients are assumed to engage in *dichotomous thinking*, that is the tendency to make extreme evaluations without nuances about other people (Pretzer, 1990). Research has suggested that this tendency is specifically manifest when BPD-patients are confronted with core interpersonal issues like abuse, rejection and abandonment (Veen & Arntz, 2000). Dichotomous thinking is assumed to contribute to the interpersonal problems of BPD-patients, and fueling emotional responses that are often very strong in BPD.

Table 1
Overview of concepts hypothesized to be deviating in BPD and their operationalization.

Concept	Meaning	Operationalization
Dichotomous thinking	Extreme evaluation style ("black or white").	*VASs*: 1. The extremity of the ratings on the VASs. *Interview*: 1. The extremity of the statements in general (1–5). 2. The extremity of the most extreme statement (1–5).
Splitting	Viewing others as either completely good or completely bad ("all good or all bad").	*VASs*: 1. The degree to which all ratings on the VASs are polarized to positive *or* negative qualities. *Interview*: 1. The degree to which the affect tone is all negative or all positive.
Negativity	Negativistic evaluation style: emphasizing and amplifying negative qualities; ignoring and diminishing positive qualities.	*VASs*: 1. The degree to which VAS ratings are negative. *Interview*: 1. The degree to which the affect tone in the interview is negative.
Understanding other's intentions (social attribution complexity)	The level of psychologically understanding why the other behaved as (s)he did. Explanations by stable characteristics are considered as the simplest level; explanations from the interaction between oneself and the other as the most advanced (as a complex integration of factors).	*Interview*: 1. The average level of the attributions, classified in 4 levels: (1) stable characteristics; (2) situational factors; (3) psychological explanations; (4) behavior explained as a function of the interaction. 2. The number of attributions per level.
Differentiation	The richness of the qualities distinguished in the other person. Richness is seen as quantity of qualities, and as spread in types of qualities.	*Interview*: 1. The number of categories used from: (1) stable traits; (2) state dependent characteristics; (3) socio-cultural characteristics; (4) concrete behaviors. 2. The number of specific qualities within each of these 4 categories.

Psychodynamic theories posit other problems in social cognition in BPD. First, object relation theory gives the primitive defense mechanism of *splitting* a central role in BPD (Kernberg, 1996). Splitting is assumed to develop early, before the oedipal phase. It prevents integration of good and bad representations of the self and others, so that these remain completely separated in distinct sets. This is thought to lead to "all good – all bad" thinking, where the other (or the self) is viewed as completely good *or* completely bad. Abrupt shifts are supposed to take place when the defense mechanism of splitting is activated, for instance when an initially positively viewed person behaves in a negative way toward the patient. These shifts are hypothesized to explain the instability in interpersonal contacts.

Another, more recent psychodynamic theory is based on the premise that BPD is caused by deficits in *mentalization*, that is "the capacity to think about mental states as separate from, yet causing actions" (Fonagy, Target, Gergely, Allen, & Bateman, 2003). Attachment problems of the child with the primary caregiver are assumed to lead to underdeveloped mentalization abilities, contributing to the development of BPD. An important recent qualification is that factors as relationship context, distress level, and affect intensity influence mentalization capacities (Choi-Kain & Gunderson, 2008; Fonagy & Bateman, 2007). Thus, BPD-patients might exhibit normal mentalization capacities, but in certain circumstances, e.g., with stress, their mentalization capacities break down, causing interpersonal problems.

To summarize, both cognitive and psychodynamic theories suggest that BPD is characterized by specific problems in social cognitions that contribute to interpersonal problems, especially when the individual is under stress related to BPD-specific issues like (threat of) rejection and abandonment. The nature of the hypothesized social cognition problems is however quite different. First, whereas cognitive theories don't assume a general problem in social cognition *capacities*, but point to specific biases, mentalization theory proposes deficiencies in social cognitive capacities: a general reduction of the level of understanding of other people.

Second, whereas cognitive theory is silent about whether BPD-patients are capable of viewing other people in a mixture of positive and negative characteristics when engaging in dichotomous thinking, the psychodynamic concept of splitting states that this capacity gets lost so that the BPD-patient sees the other as either totally good or totally bad. Thus, cognitive theories state that biases (dichotomous thinking and malevolence interpretations) govern social cognition in BPD, whereas psychodynamic theories state that under stress social cognition regresses to developmental primitive levels (indicated by splitting, poor mentalization, and impoverished views of others).

Research so far has yielded conflicting results. Early research into psychodynamic concepts utilized mainly projective tests, and didn't find unequivocal evidence for splitting and less complex levels of understanding other people by BPD-patients (Westen, 1990; Westen, Lohr, Silk, Gold, & Kerber, 1990). Stuart et al. (1990) found that the BPD group could be distinguished by more malevolent representations, but the intentional attributions in these cases were of even higher complexity than those of control groups. Baker, Silk, Westen, Nigg, and Lohr (1992) found that BPD-patients had a tendency to view the world in negative, malevolent ways, but not to engage in splitting. Recently, Barnow et al. (2008) and Arntz et al. (2011) indeed demonstrated malevolence interpretation biases in BPD using more modern paradigms.

Veen and Arntz (2000) found evidence for dichotomous thinking, but not for splitting, in BPD. Dichotomous thinking was stimulus specific: only BPD-specific film fragments, picturing rejection and abuse, triggered dichotomous thinking in BPD. Dichotomous thinking in BPD might be restricted to interpersonal situations as another study found that dichotomous thinking was not triggered in BPD in non-interpersonal emotional situations (Sieswerda, Arntz, & Wolfis, 2005). Interestingly, one study found that when the response format does not offer a high level of structure, evaluations by BPD-patients tend to get emotionally polarized, that is tend to display a pattern that is indicative of splitting (Arntz & Veen, 2001).