Discrepancies between explicit and implicit self-esteem are linked to symptom severity in borderline personality disorder

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\textbf{A B S T R A C T}

The present study examined whether discrepancies between explicit and implicit self-esteem are associated with symptom severity in a sample of patients with borderline personality disorder (BPD). We hypothesized that implicit—explicit self-esteem discrepancies foster autoaggressive behavior and dysphoria, and impair self-perception. We found that the two forms of self-esteem discrepancies, damaged and fragile self-esteem were related to the severity of overall borderline symptoms, autoaggression, dysphoria, and deficits in self-perception. In contrast, more general psychopathological impairment, such as depression, was not related to self-esteem discrepancies. Taken together our results indicate that discrepancies between explicit and implicit self-esteem are associated with certain borderline symptoms that may be based on internal tension. The findings can be interpreted within the framework of self-discrepancies and dichotomous attitudes in patients with BPD.

\section{1. Introduction}

Borderline personality disorder (BPD) is characterized by “a markedly and persistently unstable self-image or sense of self” (American Psychiatric Association [APA], 2000, p. 710), which is subsumed in the diagnostic criterion identity disturbance in the DSM-IV-TR (APA, 2000). Identity disturbance was originally discussed in several psychoanalytic theories. Kernberg (1975), for example, conceptualized a “splitting” of the self (i.e., a failure to integrate multiple self-representations into a more complex and balanced view). According to cognitive models of BPD, this instability in self-image and corresponding emotional responses in patients with BPD might be caused by discrepancies between competing attitudes and evaluations (e.g., Sieswerda, Arntz, & Wolfis, 2005; Veen & Arntz, 2000). Veen and Arntz (2000) found that BPD patients tend to simultaneously carry extremely positive and extremely negative evaluations of themselves (multidimensional dichotomous thinking, e.g., a person evaluates her/himself as being “totally trustworthy” and “totally insecure”). It has been shown that the severity of borderline symptoms strongly correlates with discrepancies between the ideal self and the actual self (Arntz \textit{et al.}, 2003), and that these discrepancies are significantly reduced during psychotherapeutic treatment (Giesen-Bloo \textit{et al.}, 2006). These results underscore that discrepancies between explicit attitudes are related to disorder-specific symptomatology in patients with BPD.

Nevertheless, individuals might be reluctant or unaware of attitudes that they carry about themselves (Paulhus, 1984; Robins \& John, 1997). Accordingly, extreme contradictions in the way one sees oneself can in principle be related not only to deliberative but also to more automatic thoughts or spontaneous action tendencies (e.g., Greenwald, McGhee, & Schwartz, 1998; Hofmann, Friese, \& Strack, 2009). Dual-process models (e.g., Epstein, 1994; Strack \& Deutsch, 2004; Wilson, Lindsey, \& Schooler, 2000) postulate two separate systems of information processing and thus build the basis for the conceptualization of discrepant explicit and implicit evaluations. Explicit self-esteem is part of the reflective system of information processing. It is defined as the deliberative evaluation of the self (e.g., Kernis, 2003) and can be assessed with direct measures (e.g., questionnaires). Implicit self-esteem is part of the
impulsive system of information processing and is defined as an automatic, overlearned, and not necessarily conscious self-evaluation (Greenwald & Banaji, 1995; Pelham & Hetts, 1999). It is assessed with indirect measures that infer automatic self-evaluations from reactions to self-relevant stimuli such as one’s own name or personal pronouns (Bosson, Swann, & Pennebaker, 2000). Indirect measures are less biased by the ability to fake responses (e.g., Egloff & Schmukle, 2003; Schröder-Abé, Röhrer, Rudolph, & Schütz, 2009; Steffens, 2004). As explicit and implicit self-esteem are usually not or only weakly correlated (Hofmann, Gawronski, Gschwendner, Le, & Schmitt, 2005; Rudolph, Schröder-Abé, Schütz, Gregg, & Sedikides, 2008), both are considered to be independent constructs, and implicit—explicit self-esteem discrepancies (albeit to varying degrees) are relatively common. When combining explicit and implicit self-esteem, two forms of implicit—explicit self-esteem discrepancies can be differentiated: (a) a combination of high explicit and low implicit self-esteem (termed fragile self-esteem; Bosson, Brown, Zeiger-Hill, & Swann, 2003), and (b) a combination of low explicit and high implicit self-esteem (termed damaged self-esteem; Schröder-Abé, Rudolph, & Schütz, 2007a).

Several studies have already provided consistent evidence that implicit—explicit self-esteem discrepancies in both directions are maladaptive. They are connected with defensive behavior (e.g., Jordan, Spencer, Zanna, Hoshina-Brown, & Correll, 2003; McGregor, Nall, Marigold, & Kang, 2005; Schröder-Abé, Rudolph, Wiesner, & Schütz, 2007) and impaired health and well being in healthy individuals (Schröder-Abé et al., 2007a; Schröder-Abé, Wiesner, & Schütz, 2009). Up to now, there are only a few explanations for these results, however. Various studies have shown that discrepancies between explicit and implicit attitudes are experienced as unpleasant and are associated with painful states of internal tension (e.g., Campbell, 1990; Carver & Scheier, 1999; Hass, Katz, Rizzo, Bailey, & Moore, 1992; Higgins, 1987). Briñol et al. showed that individuals with discrepancies between their implicit and explicit self-concepts took more time to process information related to their discrepant self-representations than individuals without discrepancies (Briñol, Petty, & Wheeler, 2006). The authors interpreted this result as an attempt to resolve the discrepancy. They argue that a deeper examination of discrepancy-relevant information amplifies confidence, creates knowledge about the self and minimizes painful implicit self-doubt stemming from inconsistencies in explicit and implicit self-conceptions (Briñol et al., 2006).

Moreover, several authors have stated that discrepancies between implicit and explicit self-systems result in self-doubt (Briñol et al., 2006, Rydell, McConnell, & Mackie, 2008), psychological conflict (Petty, Tormala, Briñol, & Jarvis, 2006), and uncertainty that is experienced as highly unpleasant (Cockerham, Stopa, Bell, & Gregg, 2009).

So far, a number of studies have focused on the predictive power of implicit attitudes in selected clinical samples (e.g., body dysmorphic disorder, Buhlmann, Teachman, Gerbershagen, Kikut, & Rief, 2008; bulimia nervosa, Cockerham et al., 2009; substance abuse, De Houwer, Crombez, Koster, & De Beul, 2004; and depression, Franch, De Raedt, & De Houwer, 2007). The results of a study with depressed patients indicated that suicidal ideation is connected to damaged (low explicit in combination with high implicit) self-esteem (Franch, De Raedt, Dereu, & Van den Abbeele, 2007). Up to now, there is no published study on implicit—explicit self-esteem discrepancies in patients with BPD. Empirical data from our group has provided the first evidence that patients with BPD show lower levels of implicit and explicit self-esteem in comparison to a healthy control group and patients with depression (Schröder-Abé, Vater, Lammers, Röpke, & Schütz, submitted for publication).

Concluding from the studies of healthy subjects mentioned above (Briñol et al., 2006, Cockerham et al., 2009; Rydell et al., 2008), discrepant implicit and explicit self-evaluations might provoke incompatible behavioral implications and self-control dilemmata (Hofmann et al., 2009). This may consequently encompass higher states of internal tension, a highly unpleasant state of arousal (Stiglmayr, Bischkopf, et al., 2008). We thus hypothesized that discrepant self-esteem in both directions would predict dysfunctional behavior in BPD that is strongly connected to attempts to release internal tension, i.e., self-injurious behavior, self-perception and dysphoria. First, self-injurious behavior (i.e., autoaggression) is used as a dysfunctional strategy for reducing internal tension (Klonsky, 2007; Stiglmayr, Gratwohl, Linehan, Fahrenberg, & Bohus, 2005). Therefore, we proposed that implicit—explicit self-esteem discrepancies would predict the severity of autoaggressive behavior. As depressed patients with suicidal ideation are more likely to show damaged self-esteem (Franck, De Raedt, Dereu, et al., 2007), we assumed that damaged self-esteem in particular would be associated with suicidal behavior and autoaggression in patients with BPD. Second, there is a strong correlation between the intensity of internal tension and the intensity of reduced self-perception (i.e., Stiglmayr, Ebner-Priemer, et al., 2008). We therefore expected that implicit—explicit self-esteem discrepancies in both directions would predict the severity of impaired self-perception. Third, dysphoric states in BPD patients include feelings of tension, self-destructiveness, and fragmentation (e.g., “feelings of having no identity”; Zanarini et al., 1998). Therefore, we expected that discrepant self-esteem would predict dysphoria in patients with BPD.

Furthermore, previous research has found that damaged self-esteem is correlated with dysfunctional emotion regulation strategies in healthy individuals (Schröder-Abé et al., 2007a, 2007b). Therefore we wanted to explore whether implicit—explicit self-esteem discrepancies (i.e., damaged self-esteem) predict impairments in affect regulation in patients with BPD.

In summary, the aim of the following study was to investigate whether discrepancies between implicit and explicit self-esteem predict symptom severity in patients with BPD. We hypothesized that implicit—explicit self-esteem discrepancies are connected to internal tension and therefore impair self-perception and affect regulation and foster autoaggressive behavior and dysphoria. Finally, we explored whether self-esteem discrepancies are related to the above-named symptoms specifically or whether they are also related to more general psychopathological impairment within BPD patients.

2. Method

2.1. Participants

Forty-one women (mean age = 27.6; SD = 7.3) with the diagnosis of BPD according to DSM-IV-TR (APA, 2000; German version: Saß, Wittchen, & Zaudig, 2003) participated in the study. All patients were admitted to an inpatient treatment program for BPD at the Department of Psychiatry, Charité – University Medicine Berlin, Germany, during which they were consecutively recruited into the study. Patients were not reimbursed for study participation. The study was approved by the ethics committee of the Charité – University Medicine Berlin. All participants provided written informed consent after having received a thorough explanation of the study.

2.2. Procedure

To establish individual diagnoses, the German versions of the Mini International Neuropsychiatric Interview (M.I.N.I., Lecrubier et al., 1997; German version: Ackenheil, Stotz, Dietz-Bauer, &
Vossen, 1999) and the Structured Clinical Interview II (SCID-II First, Gibbon, Spitzer, Williams, & Benjamin, 1997; German version: Fydrich, Renneberg, Schmitz, & Wittchen, 1997) were administered by trained research assistants. Each diagnosis of BPD was verified with the patients' therapists (psychiatrist or psychologist) and the therapists' supervisor (last author SR, senior psychiatrist).

At the beginning of the study, all participants received information about the aim and procedure of the study. Subsequently, the Initials Preference Task (IPT) and the Heatherton and Polivy Scale (HP) were administered. Additionally, participants completed the Beck Depression Inventory (BDI), the Borderline Symptoms List (BSL), and the Symptom Checklist-90-Revised (SCL-90-R). After participating in the study, participants completed additional measures that were not relevant to this study.

2.3. Measures

2.3.1. Borderline Symptom List (BSL)

The 95-item BSL (Bohus et al., 2001) is a German questionnaire assessing the extent of subjective impairment with respect to borderline symptoms. The BSL is comprised of seven subscales: self-perception (e.g., “paralyzed”), affect regulation (e.g., “overwhelmed by my feelings”), autoagression (e.g., “suicidal thoughts”), dysphoria (e.g., “unsatisfied”), social isolation (e.g., “isolated from others”), intrusion (e.g., “tortured by images”), and hostility (e.g., “angry”), all of which can be combined to a global index of severity of BPD symptoms. Responses were made on 5-point scales with endpoints labeled not at all (0) and very much (4).

2.3.2. Symptom Checklist-90-Revised (SCL-90-R)

The Symptom Checklist-90-Revised (Derogatis, 1977; German version: Franke, 1995) was employed in order to assess general psychopathological and physical impairments during the last week. Responses were made on 5-point Likert scales with endpoints labeled not at all (0) and very much (4). The GSI (Global Severity Index) sum score of the SCL-90-R indicates psychopathological impairment in general.

2.3.3. Beck Depression Inventory (BDI)

The BDI (Beck, Steer, & Garbin, 1988; German version: Hautzinger, Bailer, Worall, & Keller, 1995) was used to assess severity of depression. Participants responded to 21 items on a 4-point scale, which was represented by four different statements.

2.3.4. Implicit self-esteem: Initials Preference Task (IPT)

The IPT (Nuttin, 1985) is an index of implicit self-esteem that is based on the assumption that people's initials are closely connected to the self and that a person's rating of self-related objects can be used to infer implicit self-evaluations. Even though several studies have shown that people generally prefer their name letters relative to other letters of the alphabet (name-letter effect; Koole, Dijkstraeus, & van Knippenberg, 2001; Nuttin, 1985), there is variation in the individual preference for name letters and this proved to be a reliable and valid measure of implicit self-esteem (e.g., Bosson et al., 2003; Jones, Pelham, Mirenberg, & Hettis, 2002; Koole et al., 2001; Rudolph, Schütz, & Schröder-Abé, 2008). In the present study, participants rated each letter of the alphabet on scales ranging from 1 (I do not like this letter at all) to 7 (I like this letter very much). The letters were presented one by one in a random order on a computer screen. In a short post-experimental interview we confirmed that none of the participants guessed what was going to be measured.

To calculate the name-letter score, we followed the guidelines described by De Raedt et al. (De Raedt, Schacht, Franck, & De Houwer, 2006; see also Koole et al., 2001). All letter ratings of each participant were z-transformed and a baseline evaluation was calculated for each letter. This baseline calculation does not include the ratings of individuals that have that letter in their name initials. The z-transformation controls for individual differences in rating tendencies and the baseline calculation controls for the average attractiveness of each letter. For each participant, we subtracted the baseline evaluation of her initials from the z-transformed rating she provided (e.g., Tina’s rating of “T” minus the average rating of “T” of all other participants). Finally, participants’ name-letter preferences were computed as the average preference scores for their first and last name initials (for detailed information on scoring the IPT, see Koole et al., 2001).

2.3.5. Explicit self-esteem: Heatherton and Polivy Scale (HP)

We measured explicit self-esteem using the total score of the HP (Heatherton & Polivy, 1991; German version: Rudolph, Schütz, et al., 2008). The scale consists of 20 items and uses endpoints labeled not at all (1) and extremely (5).

3. Results

3.1. Descriptive statistics and intercorrelations of all measures

Descriptive statistics of all measures are shown in Table 1. The internal consistencies of all scales ranged from satisfactory to excellent (α = .75–.97). In order to provide support for the clinical relevance of the severity of symptoms in our sample, we calculated t tests by using means, standard deviations, and number of participants of our sample and the normative samples provided by the authors of the measures. Effect size d was calculated according to Cohen (1977). In comparison to the borderline normative sample provided by Bohus et al. (2001), our sample of BPD patients had slightly higher average scores on the BSL, t(84) = 4.48, p < .001, d = .97. Furthermore, the patients reached higher depression scores as compared to patients with major depression in the study of Hautzinger et al. (1995), t(123) = 5.13, p < .001, d = .981. The BPD patients in the present study had higher scores on the SCL-90-R in comparison to the normative sample, t(2463) = 6.17, p < .001, d = .971 (see Schmitz et al., 2000). These results indicate that the patients in this study were highly impaired in terms of borderline symptoms and general psychopathological impairment.

Table 2 shows the intercorrelations of the variables. The correlation between explicit and implicit self-esteem was low and not significant, which is a typical pattern in other samples too (e.g.,
As expected, borderline symptoms, depressive symptoms, and general psychopathological impairment were all highly intercorrelated.

### 3.2. Discrepant self-esteem and symptom severity

In order to determine whether implicit and explicit self-esteem were related to the severity of clinical symptoms, we conducted multiple regression analyses with explicit self-esteem, implicit self-esteem, and the interaction between these two variables as predictors. Scores on the HP and the IPT were centered, and the interaction was represented by the cross-product term (Aiken & West, 1991).

Results of the regression analyses are displayed in Table 3. We found the same predicted pattern of results for overall borderline symptoms, autoaggression, self-perception, and dysphoria; that is, a significant negative main effect of explicit self-esteem, a nonsignificant main effect of implicit self-esteem, and a significant interaction between explicit and implicit self-esteem. There were no significant interaction effects when predicting severity of general psychopathological impairment (SCL-90-R), depressive symptoms (BDI), and the remaining subscales of the BSL (intrusion, social isolation, hostility, affect regulation) as criterion variables.

In summary, the results indicate that high explicit self-esteem was related to less pronounced clinical symptoms, and that implicit self-esteem moderated the relationship between explicit self-esteem and borderline symptoms (see Table 3).

The interaction of explicit and implicit self-esteem predicting overall borderline symptoms is depicted in Fig. 1a. Simple slope tests indicate that among individuals low in explicit self-esteem (−1 SD; see left side of Fig. 1a), implicit self-esteem was positively related to the severity of borderline symptoms, \( \beta = .50, t(32) = 2.36, p = .024 \). In other words, borderline patients with damaged self-esteem (low explicit, high implicit) reported more borderline symptoms than patients with congruent low self-esteem. Implicit self-esteem did not significantly moderate the severity of borderline symptoms among BPD patients with high explicit self-esteem (+1 SD; see right side of Fig. 1a), \( \beta = -.23, t(32) = -.90, p = .375 \); that is, patients with fragile self-esteem (low implicit, high explicit) did not show significantly more borderline symptoms than patients with congruent high self-esteem.

Furthermore, we conducted simple slope tests to explore the significant interactions between implicit and explicit self-esteem when predicting autoaggression (see Fig. 1b), self-perception (see Fig. 1c), and dysphoria (see Fig. 1d). There was a tendency for implicit self-esteem to moderate the severity of autoaggressive behavior in BPD patients with low explicit self-esteem (−1 SD; see left side of Fig. 1b), \( \beta = .42, t(32) = 2.00, p = .054 \), and high explicit self-esteem (+1 SD; see right side of Fig. 1b), \( \beta = .45, t(32) = -1.72, p = .12 \).

#### Table 2

Inter correlations of all variables.

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<th>(1)</th>
<th>(2)</th>
<th>(3)</th>
<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
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<th>(8)</th>
<th>(9)</th>
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<td>-.50</td>
<td>-.32</td>
<td>-.45</td>
<td>-.47</td>
<td>-.33</td>
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<td>-.39</td>
<td>.27</td>
<td>-.51</td>
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<td>.08</td>
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<td>.01</td>
<td>-.07</td>
<td>.33</td>
<td>.10</td>
<td>.28</td>
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<td>.77</td>
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<td>.40</td>
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<td>.018</td>
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<tr>
<td>Hostility (BSL)</td>
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<td>.912</td>
<td>.369</td>
<td>.369</td>
<td>.369</td>
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Note: \( N = 29–36 \) due to missing data; SE = self-esteem; HP = Heatherton and Polivy Scale; IPT = Initials Preference Task; BDI = Beck Depression Inventory; BSL = Borderline Symptom List; SCL-90-R = Symptom Checklist-90-Revised.

#### Table 3

Regression analyses predicting borderline symptoms, depressive symptoms and psychological impairment.

<table>
<thead>
<tr>
<th>( \beta )</th>
<th>( t )</th>
<th>( df )</th>
<th>( p )</th>
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<tr>
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<td>Explicit × implicit SE</td>
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<td>Explicit × implicit SE</td>
<td>.051</td>
<td>.523</td>
<td>32</td>
</tr>
<tr>
<td>Depression (BDI)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explicit SE</td>
<td>-.317</td>
<td>−1.538</td>
<td>25</td>
</tr>
<tr>
<td>Implicit SE</td>
<td>.742</td>
<td>.311</td>
<td>25</td>
</tr>
<tr>
<td>Explicit × implicit SE</td>
<td>-.441</td>
<td>−1.550</td>
<td>25</td>
</tr>
<tr>
<td>Global Severity Index (SCL-90-R sum score)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explicit SE</td>
<td>-.458</td>
<td>−2.716</td>
<td>26</td>
</tr>
<tr>
<td>Implicit SE</td>
<td>.169</td>
<td>.937</td>
<td>26</td>
</tr>
<tr>
<td>Explicit × implicit SE</td>
<td>-.227</td>
<td>−1.262</td>
<td>26</td>
</tr>
</tbody>
</table>

Note: \( N = 29–36 \) due to missing data; SE = self-esteem; BDI = Beck Depression Inventory; BSL = Borderline Symptom List; SCL-90-R = Symptom Checklist-90-Revised.
p = .094, but the simple slope tests only reached marginal significance. The results show that patients with damaged and fragile self-esteem tended to show more autoaggression than those patients with congruent low or congruent high self-esteem.

For self-perception (see Fig. 1c), simple slope tests revealed a similar pattern. Patients with damaged self-esteem suffered from more impairment of self-perception than patients with congruent high self-esteem (±1 SD; see left side of Fig. 1c), $\beta = .45, t(32) = 2.05, p = .049$. Furthermore, patients with fragile self-esteem (low implicit, high explicit) tended to show higher scores in impaired self-perception than patients with congruent high self-esteem (+1 SD; see right side of Fig. 1c), $\beta = .50, t(32) = -1.82, p = .079$.

For dysphoria (see Fig. 1d), the simple slope tests indicated that patients with fragile self-esteem had higher scores than patients with congruent low self-esteem (+1 SD, see right side of Fig. 1d), $\beta = -.661, t(32) = -2.522, p = .017$. Patients with damaged self-esteem did not have significantly higher scores than patients with congruent high self-esteem (−1 SD, see left side of Fig. 1d), $\beta = .308, t(32) = 1.450, p = .157$.

4. Discussion

In the present study, we determined the role of implicit–explicit self-esteem discrepancies in relation to symptom severity in patients with BPD. Our results suggest that discrepant self-esteem in both directions predicts a number of self-reported symptoms in BPD (i.e., autoaggression, self-perception, and dysphoria). The findings complement earlier findings indicating that the severity of borderline symptoms strongly correlates with discrepancies between the ideal self and the actual self (Arntz et al., 2003). Our study is the first to investigate discrepancies between explicit and implicit representations of the self in a clinical sample of BPD patients. We show that these implicit–explicit discrepancies are clinically meaningful since they are associated with symptom severity.

Furthermore, we had hypothesized that implicit–explicit self-esteem discrepancies would predict impairment of affect regulation in BPD patients, which was not reflected in our data. This assumption was derived from findings by Schröder-Abé et al. (2007a, 2007b) who provided evidence that implicit–explicit self-esteem discrepancies are correlated with dysfunctional emotion regulation strategies in healthy individuals. We assume that this contradictory result is due to different instruments used to measure affect regulation. Moreover, affective instability is a trait marker of BPD and has strong biological roots (e.g., biosocial theory of BPD, Linehan, 1993) and thus might be less related to levels of explicit and implicit self-esteem in patients with BPD in comparison to healthy individuals.

In addition we found an interaction effect for dysphoria (measured with the BSL). At first glance, this seems to be confusing, especially since there was no significant interaction effect for explicit and implicit self-esteem predicting depression (measured with the BDI). These results may be explained by previous studies indicating that dysphoria rather comprises feelings of internal tension and fragmentation and is more related to specific BPD symptomatology (Zanarini et al., 1998). Therefore, dysphoria and depression are related but different constructs. This also seems reasonable as the BDI and the subscale dysphoria from the BSL show only a moderate correlation in our study (see Table 2). Furthermore, fragile self-esteem, but not damaged self-esteem predicted dysphoria in patients with BPD (see the results of the slope tests). Individuals with fragile self-esteem carry high explicit self-esteem, which is unstable because of their underlying implicit insecurity (e.g., Bosson et al., 2003; Zeigler-Hill, 2006). We assume that patients with fragile self-esteem need to carry effective strategies in order to sustain their high level of explicit self-esteem. This goes along with studies that show that fragile self-esteem is strongly connected to defensiveness and self-enhancement (e.g., Bosson et al., 2003; Schröder-Abé, Rudolph, Wiesner, et al., 2007).
For individuals with fragile self-esteem, it might be more challenging to sustain a high level of explicit × self-esteem, which consequently might be associated with higher levels of dysphoric mood in comparison to patients with congruent high self-esteem.

Since implicit–explicit self-esteem discrepancies specifically predict symptoms that are related to internal tension, we propose that internal tension might mediate the relationship between implicit–explicit self-esteem discrepancies and symptoms. This is in line with research on implicit–explicit discrepancies in healthy individuals (e.g., Briñol et al., 2006). Implicit self-esteem comprises associative representations in the impulsive system, whereas explicit self-esteem comprises propositional representations in the reflective system. Discrepant explicit and implicit attitudes toward the self might activate conflicting behavioral schemata and competing emotions (see dual-process models, Epstein, 1994; Strack & Deutsch, 2004; Wilson et al., 2000) and may thus produce conflicting action tendencies. Consequently, BPD patients with discrepant self-esteem should experience higher states of internal tension. As a result of this, they may more frequently use behavioral patterns that are believed to reduce internal tension in comparison to individuals with congruent low or congruent high self-esteem. Nevertheless, since we did not assess internal tension we can only make tentative claims about the assumed relation between discrepancies and states of internal tension. For example, we had hypothesized that discrepant and especially damaged self-esteem would predict autoaggression in patients with BPD. Patients with damaged self-esteem reported the highest scores in autoaggression in comparison to all other self-esteem profiles. Additional processes or mediating factors (other than internal tension) may be involved in creating higher autoaggression among individuals with damaged self-esteem. For instance, BPD patients with high implicit self-esteem may carry high implicit ideal standards that do not match reality. Autoaggression may not only be used as an attempt to reduce internal tension, but also as an act of self-punishment for not reaching implicit ideal standards. In consequence, damaged self-esteem may be accompanied by suicidal thoughts and para-suicidal actions. This is in line with Franck, De Raedt and De Houwer (2007) and Franck, De Raedt, Dereu, et al. (2007) who provided evidence that damaged self-esteem is associated with suicidal ideation in depressed patients. Future studies should verify that link between discrepancies and internal tension by including appropriate measures (e.g., physiological assessment or self-reports of internal tension).

4.1. Limitations of the study and directions for future research

The present study is limited in several ways. Some post-hoc slope tests (i.e., autoaggression), only reached a trend toward significance. Most previous studies in this field of research have worked with sample sizes of about 100 participants; thus, results that were only marginally significant might be due to low power caused by the small sample size in our study.

Furthermore, we relied on self-reports to measure most variables. Therefore, self-presentation (Lanyon, 2004), self-deception (Paulhus, 1984), or a lack of self-insight (Robins & John, 1997) might be possible causes of bias. Furthermore, implicit self-esteem was measured with the help of the IPT. Despite the fact that the IPT is one of the most frequently used methods to assess implicit self-esteem, it would be interesting to replicate the findings with other indirect measures (e.g., IAT; Greenwald et al., 1998; SC-IAT, Karpinski & Steinman, 2006).

The present study has further caveats related to the correlational and cross-sectional design. With the data available, we can neither reject the influence of third variables nor draw conclusions with respect to causality of implicit–explicit self-esteem discrepancies, internal tension, and symptomatology. It is also possible that patients who suffer from more severe symptoms experience more pronounced changes in their self-esteem (e.g., losing explicit self-esteem over the course of their medical history), which might lead to more marked implicit–explicit self-esteem discrepancies. Longitudinal studies with multiple measurements of implicit–explicit self-esteem discrepancies and symptom severity are necessary to shed more light on the direction of relationships between self-esteem discrepancies and symptom severity.

4.2. Implications for clinical practice

Different psychotherapeutic approaches have been proven to be effective in treating BPD patients (e.g., DBT, Linehan, 1993; TFI, Clarkin, Yeomam, & Kernberg, 2002; Schema Therapy, Young, Klosko, & Weishaar, 2003; STEPPS, Black & Blum, 2004). The modification of implicit–explicit self-esteem discrepancies might represent one mechanism of change in these approaches. For example, the aim of Schema Therapy is to detect maladaptive schemas that are thought to lie outside of awareness and to replace them with positive, healthy thoughts, emotions, and behavior patterns (cf. Arrntz, Klokman, & Sieswerda, 2005; Lobbestaedt, Arrntz, & Sieswerda, 2005). It might be interesting to explore whether discrepancies between explicit and implicit self-esteem are related to maladaptive schemata and improve during Schema Therapy and other psychotherapeutic approaches.

Also, mindfulness training is a candidate for improving implicit–explicit self-esteem discrepancies. Mindfulness training aims to achieve a “wise” integration of emotions and thoughts as well as the experience of a sense of unity with oneself (Lynch, Chapman, Rosenthal, Kuo, & Linehan, 2006). Brown and Ryan (2003) have demonstrated that mindfulness is connected to concordance between implicit and explicit emotional states. As “mindfulness” is a part of DBT that reduces BPD symptomatology (Robins, Schmidt, & Linehan, 2004), it seems fruitful to investigate its specific impact of mindfulness training on implicit–explicit self-esteem discrepancies in BPD.

As our findings suggest that implicit–explicit self-esteem discrepancies are dysfunctional, special care needs to be taken when therapeutic techniques are used to enhance explicit self-esteem in BPD patients (Jacob, Richter, Lammers, Bohus, & Lieb, 2006, Roepke et al., in press). While an enhancement of explicit self-esteem may be beneficial for individuals with damaged self-esteem (low explicit, high implicit), it may be detrimental to individuals with low implicit self-esteem. The result of the intervention could be the pattern of high explicit and low implicit self-esteem (fragile self-esteem), which, in our study showed a tendency to be connected to symptom severity. In individuals with low implicit self-esteem it may therefore be necessary to enhance implicit self-esteem in addition to enhancing explicit self-esteem. There are a few studies that suggest that implicit self-esteem can be enhanced by using conditioning procedures (Baccus, Baldwin, & Packer, 2004; Dijkstra Huis, 2004), but the stability of these effects and the applicability in clinical settings still needs to be shown.

5. Summary

In the present study we assessed the impact of implicit–explicit self-esteem discrepancies on specific symptoms in patients with BPD. We found that damaged and fragile self-esteem are related to severity of overall borderline symptoms, autoaggression, deficits in self-perception, and dysphoria. More general psychopathological impairment, such as depression, was not related to implicit–explicit self-esteem discrepancies. Our study provides preliminary evidence that discrepant explicit and implicit self-representations...
are associated with the severity of symptoms that can be associated with states of aversive internal tension in patients with BPD. Additional investigations are needed to further explore these preliminary interpretations and to find methods to modify implicit—explicit self-esteem discrepancies in BPD patients.

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