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ARTICLES

The Impact of Self-Reported Childhood Trauma on Emotion Regulation in Borderline Personality Disorder and Major Depression

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*Early life stress is said to play a critical role in the development of borderline personality disorder (BPD) and major depressive disorder (MDD), but the underlying mediating factors remain uncertain. This study aimed to investigate self-reported childhood trauma, emotion regulation difficulties, and their associations in a sample of BPD (*n = *49) and MDD (*n = *48) patients and healthy control participants (*n = *63). Multiple regressions were used to evaluate the impact of the quality and severity of self-reported childhood trauma on self-reported emotion regulation. The results supported an association between self-reported maltreatment experiences, especially emotional abuse and neglect, and emotion regulation difficulties. Additional analyses showed that emotion regulation difficulties influence the association between self-reported emotional abuse and acute symptomatology in the BPD subgroup. Emotion regulation difficulties may be 1 pathway through which early life stress, particularly emotional abuse, increases the risk for developing BPD symptomatology.*

KEYWORDS childhood trauma, emotion regulation, borderline personality disorder, major depression

INTRODUCTION

Research over the past several decades has demonstrated a strong link between adverse or even traumatic childhood experiences and mental disorders during adolescence and adulthood. In particular, patients with borderline personality disorder (BPD) frequently reported a history of childhood trauma (Zanarini et al., 1997). Exposure to early life stress has also been shown to increase the risk for major depressive disorder (MDD; Molnar, Buka, & Kessler, 2001). Indeed, exposure to sustained childhood abuse and neglect is assumed to influence a range of biological (Kaufman, Plotsky, Nemeroff, & Charney, 2000) and mental health (Cloitre, Miranda, Stovall-McClough, & Han, 2005) outcomes. Different types of adverse childhood experiences often occur together (Felitti et al., 1998) but are supposed to influence different biological responses (Carpenter et al., 2009). Previously, some aspects of childhood trauma were found to be associated differentially with psychopathology (Wingenfeld et al., 2011) as well as with stress-related neuroendocrine responses (Carvalho Fernando et al., 2012; Wingenfeld et al.,

2013) in BPD and MDD patients. Thus, different trauma types may be related to different psychobiological long-term effects in trauma survivors, notably emotional disturbances.

BPD and MDD are both considered to be serious emotional disturbances involving impaired emotion regulation. Indeed, emotion dysregulation is assumed to be a core feature of BPD (Rosenthal et al., 2008), and emotion regulation difficulties have also been documented in depressed individuals (Beblo et al., 2012; Garnefski & Kraaij, 2006). The research on emotional dysfunctions in BPD has been largely stimulated by the empirical and theoretical work of Linehan (1993), who emphasized the critical role of particular environmental stressors, including childhood abuse and trauma, in the development of BPD psychopathology. Similarly, in the area of developmental psychology, studies have found that dysfunctional emotion regulation was already present in children exposed to adversity (Kim & Cicchetti, 2010; Shields & Cicchetti, 1998; Shipman, Zeman, Penza, & Champion, 2000). Because adaptive emotion regulation is learned in interaction with primary caregivers, chronic interpersonal trauma in early developmental stages is assumed to disrupt the development of adaptive emotion regulation (Ehring & Quack, 2010). Therefore, impaired emotional regulatory processes are one possible pathway through which early life stress increases the risk of developing emotional disturbances and may act as at least one mediator of BPD and MDD symptomatologies.

Emotion regulation is considered to be a complex process that includes (a) awareness and understanding of emotions, (b) acceptance of emotions, (c) the ability to control impulsive behaviors and to behave in accordance with desired goals when experiencing negative emotions, and (d) the ability to use situationally appropriate emotion regulation strategies flexibly to modulate emotional responses as desired to meet individual goals and situational demands (Gratz & Roemer, 2004). According to the process model of Gross (2002), emotion regulation strategies can be further differentiated along the timeline of the emotion process. Antecedent-focused strategies (e.g., cognitive reappraisal) regulate an emotion before the emotion response tendencies have been fully generated, whereas response-focused strategies (e.g., expressive suppression) modulate the emotional response relatively late in the emotion generation process. Individual differences in the habitual use of self-regulation strategies have been found to be associated with well-being. Higher expressive suppression and lower cognitive reappraisal were related to increased depression and anxiety (Eftekhari, Zoellner, & Vigil, 2009; Gross & John, 2003). Consequently, BPD patients reported less frequent use of cognitive reappraisal and more frequent use of expressive suppression (Beblo et al., 2010). Similar results were found in MDD patients (Ehring, Fischer, Schnülle, Bösterling, & Tuschen-Caffier, 2008; Joormann & Gotlib, 2010).

Despite the high clinical impact of long-term effects of early life stress on emotional well-being, few studies have systematically investigated the hypothesized association of childhood trauma and dysfunctional emotion regulation. Gratz, Bornovalova, Delany-Brumsey, Nick, and Lejuez (2007) provided evidence for heightened emotional avoidance and emotional nonacceptance among inner-city substance users with a moderate to severe childhood abuse history compared to substance users reporting no or low abuse. Similar results were obtained in nonclinical individuals, suggesting a link between childhood trauma and chronic inhibition of emotional experience and expression in adulthood (Batten, Follette, & Aban, 2001; Krause, Mendelson, & Lynch, 2003; Reddy, Pickett, & Orcutt, 2006). Recently, research has begun to focus on more complex models that examine mediation effects of emotion regulation on the association between childhood trauma and psychopathology. For example, Rosenthal, Rasmussen Hall, Palm, Batten, and Follette (2005) showed that the tendency to chronically avoid or escape unpleasant internal experiences mediated the relationship between the severity of childhood sexual abuse and trauma-related psychological distress in female students. Furthermore, emotion dysregulation was suggested to mediate the association between emotional abuse and a co-occurring BPD diagnosis among inner-city substance users (Gratz, Tull, Baruch, Bornovalova, & Lejuez, 2008). More recently, emotion dysregulation was found to be a mediator between childhood emotional abuse and subsequent posttraumatic stress symptoms in female students (Burns, Jackson, & Harding, 2010). To the best of our knowledge, no previous study has investigated the impact of different forms of childhood trauma on the habitual use of reappraisal and expressive suppression.

The aim of the present study was to examine the impact of the quality and severity of self-reported childhood trauma on emotion regulation difficulties. In order to enhance the variance of the included variables, we investigated a mixed sample of BPD patients, MDD patients, and healthy controls that had previously shown differing levels of retrospective traumatic childhood experiences (Wingenfeld et al., 2010). We predicted that the severity of self-reported childhood trauma would be positively correlated with difficulties in emotion regulation. In particular, we expected self-reported traumatic experiences in childhood to be related positively to more dysfunctional regulation strategies (e.g., suppression) and negatively to more functional strategies (e.g., reappraisal). Additional exploratory analyses were performed to determine the role of emotion regulation in the relationship between self-reported childhood trauma and subsequent adult psychopathology. Because we did not expect the association between childhood trauma, emotion regulation, and subsequent psychopathology to differ across both patient subgroups, no differential predictions were made for BPD and MDD patients.

METHODS

Design, Participants, and Procedure

A total of 97 patients with BPD ($n = 49$) or current MDD ($n = 48$) as a primary diagnosis and 63 healthy control participants were included in this study. All patients were recruited at the Clinic of Psychiatry and Psychotherapy Bethel, Ev. Hospital Bielefeld and at the Department of Psychosomatic Medicine and Psychotherapy, University Medical Center Hamburg-Eppendorf & Schön Klinik Hamburg-Eilbek, Germany. The exclusion criteria included psychosis, cognitive impairment, neurological disease, and alcohol or drug dependence during the past 6 months. Psychiatric diagnosis was assessed using the Structured Clinical Interview for *DSM–IV* Axis I and II (Wittchen, Zaudig, & Fydrich, 1997). The healthy controls did not fulfill diagnostic criteria for any current or past Axis I or Axis II disorders and were recruited from all participating sites through local advertisements. Table 1 shows the demographic and clinical characteristics of all of the diagnostic groups. Scheffé post hoc tests revealed that the control group did not differ substantially from the patients with regard to age, gender, or education (all *p*s > .29). There was a significant difference in gender and a trend toward a difference in age between BPD and MDD patients in the post hoc tests. The BPD group included more females than the MDD group ($p < .01$), and BPD patients were younger than MDD patients ($p = .06$) according to the Scheffé post hoc procedure. Comorbid psychiatric disorders were common in both clinical groups. Anxiety disorders were the most frequent in the BPD ($n = 24$) as well in the MDD ($n = 15$) group. Moreover, 21 BPD patients met criteria for current comorbid major depression, but no depressed patients met

TABLE 1 Demographic, Clinical, and Emotion Regulation Characteristics of the Diagnostic Groups

Characteristic	BPD	MDD	Controls	Statistics
Age	28.63 (8.99)	33.15 (8.89)	31.44 (9.98)	$F(2, 157) = 2.89$, $p = .06$
Gender (female/male)	44/5	26/22	41/22	$\chi^2(2, N = 160) = 15.39$, $p < .01$
Years of education[a]	11.46 (1.49)	11.27 (1.48)	11.71 (1.50)	$F(2, 156) = 1.24$, $p = .29$
BSL	146.90 (69.90)	109.13 (44.78)	30.59 (20.28)	$F(2, 157) = 88.31$, $p < .01$
BDI[a]	24.83 (9.47)	22.35 (9.13)	2.85 (3.46)	$F(2, 156) = 145.10$, $p < .01$
DERS	122.12 (22.75)	112.28 (20.15)	63.07 (13.15)	$F(2, 157) = 164.52$, $p < .01$
ERQ				
Reappraisal	22.27 (7.82)	21.81 (7.32)	27.49 (5.58)	$F(2, 157) = 12.10$, $p < .01$
Suppression	15.67 (4.99)	17.02 (5.73)	10.71 (4.16)	$F(2, 157) = 25.81$, $p < .01$

Notes: Except where noted, data are *M* (*SD*). BPD = borderline personality disorder; MDD = major depressive disorder; BSL = Borderline Symptom List; BDI = Beck Depression Inventory; DERS = Difficulties in Emotion Regulation Scale; ERQ = Emotion Regulation Questionnaire.

[a]Data were missing for one patient.

criteria for any Cluster B personality disorders. Additional comorbid diagnoses included eating disorders (BPD: $n = 6$; MDD: $n = 1$) and substance abuse (BPD: $n = 4$; MDD: $n = 2$).

Eligible participants were consecutively enrolled in our cross-sectional, correlational study. Written informed consent was obtained from all participants. Healthy control participants received monetary remuneration (€100) for their participation in additional experimental tasks that were not included in the current study. The study was conducted according to the Declaration of Helsinki and approved by the University of Muenster Ethics Committee as well as by the Ethics Committee of the Medical Council of Hamburg.

Measures

Clinical symptoms. The severity of borderline psychopathology was assessed using the Borderline Symptom List (BSL; Bohus et al., 2007). The BSL is a reliable self-report measure of typical symptoms based on *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition,* criteria for BPD. The Beck Depression Inventory (BDI) was used to assess current depressive symptoms (Beck & Steer, 1994). The BDI is a self-rating instrument with established reliability and validity. The internal consistency of both measures in the current sample was excellent (αs = .97 and .94 for the BSL and BDI, respectively).

Childhood trauma experiences. Each participant completed the German version of the Childhood Trauma Questionnaire (CTQ; Bernstein et al., 2003; Wingenfeld et al., 2010) to assess self-reported childhood maltreatment experiences across five dimensions: emotional, physical, and sexual abuse as well as emotional and physical neglect. Each CTQ scale consists of five items with scores ranging from 5 (*none or minimal*) to 25 (*severe to extreme*). Bernstein and Fink (1998) provided cutoff scores for none to low, low to moderate, moderate to severe, and severe to extreme trauma exposure for each subscale. The cutoff scores for moderate to severe maltreatment are 13 or higher for emotional abuse, 10 or higher for physical abuse, 8 or higher for sexual abuse, 15 or higher for emotional neglect, and 10 or higher for physical neglect. The German translation of the CTQ has been shown to have good psychometric properties (Wingenfeld et al., 2010). In the current sample, the emotional abuse ($\alpha = .90$), physical abuse ($\alpha = .78$), and emotional neglect ($\alpha = .92$) subscales demonstrated adequate internal consistency, but internal consistency for sexual abuse ($\alpha = .67$) and physical neglect ($\alpha = .66$) was marginal.

Emotion regulation. The Difficulties in Emotion Regulation Scale (DERS; Gratz & Roemer, 2004) assesses individual difficulties in overall emotion dysregulation as well as multiple aspects of self-reported emotional dysregulation, including nonacceptance of negative emotions, difficulties engaging in

goal-directed behavior, impulse control difficulties, lack of emotional awareness, limited access to emotion regulation strategies, and lack of emotional clarity. The DERS total score was used in this study as an indicator of overall difficulties in emotion regulation. Preliminary results for the German translation demonstrated sufficient internal consistency (Ehring et al., 2008). In this study, the total scale showed good internal consistency ($\alpha = .97$).

The Emotion Regulation Questionnaire (ERQ; Abler & Kessler, 2009; Gross & John, 2003) was used to measure the habitual use of two emotion regulation strategies: cognitive reappraisal and expressive suppression. The German version has demonstrated good internal consistency as well as factorial and construct validity (Abler & Kessler, 2009). The internal consistency of the two subscales in the current study was adequate (αs = .84 and .76 for reappraisal and suppression, respectively).

Data Analyses

We used analyses of variance (ANOVAs) to compare between-group (i.e., BPD, MDD, healthy controls) differences in childhood trauma and emotion regulation. Scheffé post hoc tests with Bonferroni adjustment (corrected $\alpha = .02$) were performed to specify significant differences among the groups. For the main analysis, hierarchical multiple regression analyses were conducted to explore the contribution of self-reported childhood trauma to emotion regulation, measured by the DERS as well as the two ERQ scales, in the entire sample. To control for possible confounding effects, we entered age and gender (1 = female, 2 = male) in the first step of each analysis. In the second step, CTQ subscales were included as predictors to test whether these variables significantly increased the explained variance in emotion regulation.

For exploratory purposes, we additionally performed hierarchical regression analyses separately for the BPD and MDD patients to examine the relative contribution of self-reported childhood trauma and emotion regulation difficulties as predictors for adult BPD and MDD symptoms (measured by the BSL and the BDI, respectively). To test for multicollinearity, we examined the variance inflation factor for the predictor variables of each model. The variance inflation factor values for all regression analyses were <3.66, indicating no serious multicollinearity among the predictors. The significance level for all analyses was set at .05. All analyses were conducted using PASW Statistics 18.0 (SPSS, Chicago, IL, USA).

RESULTS

Clinical Measures

As expected, both clinical groups showed higher scores on the BSL and the BDI than the healthy participants, indicating a moderate level of borderline

and depressive symptoms (see Table 1). Post hoc comparisons showed significantly more severe borderline symptoms in BPD than MDD ($p < .01$) patients and controls ($p < .01$). Depressed patients also reported more borderline symptoms than healthy individuals ($p < .01$). Regarding the BDI, both BPD and MDD patients were more depressed than controls ($p < .01$), but there was no significant difference between the two clinical groups ($p = .28$).

Childhood Trauma

CTQ scores are presented in Table 2. A series of ANOVAs indicated significant group differences for all CTQ subscales. As expected, post hoc Scheffé analysis revealed that BPD patients gave significantly higher ratings for all self-reported childhood trauma dimensions than healthy control participants (all ps $< .01$). The post hoc comparisons between MDD patients and control participants showed significantly higher scores on emotional abuse ($p < .01$) and emotional neglect ($p < .01$) in MDD patients. No differences were found with respect to other types of childhood trauma. BPD and MDD patients differed only with regard to emotional abuse: Patients with BPD reported more emotional abuse than did MDD patients ($p < .01$).

Emotion Regulation

Table 1 also shows the DERS (total score) and ERQ scores for each group. ANOVAs indicated significant group differences for all scales. According to post hoc Scheffé tests, both clinical groups rated more emotion regulation difficulties, as measured by the DERS, than did healthy participants ($p < .01$). In addition, patients reported more frequent use of expressive suppression ($p < .01$) and less frequent use of cognitive reappraisal ($p < .01$) than the control group, as measured by the ERQ. Further comparisons between BPD and MDD patients revealed no significant differences in DERS total score and ERQ values ($p > .04$).

Associations Between Childhood Trauma and Emotion Regulation

A series of hierarchical multiple regression analyses were conducted to examine whether self-reported childhood trauma was associated with difficulties in emotion regulation in the combined sample of BPD and MDD patients and controls (see Table 3). In the first step, age and gender did not contribute significantly to the regression model for the DERS total score, $F(2, 157) = 2.01$, $p = .14$. After we entered the CTQ scales in the second step, the model reached statistical significance, $F(7, 152) = 13.08$, $p < .01$. In this second model, emotional abuse and neglect were unique and significant predictors

TABLE 2 Means, Standard Deviations, and Prevalence of Childhood Trauma in the Diagnostic Groups

	BPD		MDD		Controls		
	M (*SD*)	%[a]	*M* (*SD*)	%[a]	*M* (*SD*)	%[a]	Statistics[b]
CTQ							
Emotional abuse	15.43 (5.76)	57.1	11.34 (6.07)	29.2	7.59 (3.08)	6.3	$F(2, 157) = 34.07, p < .01$
Physical abuse	8.80 (4.28)	30.6	7.20 (3.28)	14.6	6.21 (2.68)	9.5	$F(2, 157) = 7.97, p < .01$
Sexual abuse	8.77 (6.63)	32.7	6.66 (3.85)	16.7	5.91 (2.57)	11.1	$F(2, 157) = 5.71, p < .01$
Emotional neglect	16.92 (4.90)	63.3	14.93 (6.09)	45.8	10.21 (5.21)	15.9	$F(2, 157) = 23.14, p < .01$
Physical neglect	9.84 (3.62)	42.9	8.76 (3.97)	27.1	7.29 (3.03)	12.7	$F(2, 157) = 7.41, p < .01$

Notes: CTQ = Childhood Trauma Questionnaire; BPD = borderline personality disorder; MDD = major depressive disorder.
[a]Cut scores for moderate to severe abuse and neglect on the CTQ as recommended by Bernstein and Fink (1998). [b]Comparison of mean scores on the CTQ subscales.

TABLE 3 Multiple Regression Analyses Predicting Emotion Regulation Difficulties

	DERS total score		ERQ reappraisal		ERQ suppression	
Predictor variable	Adjusted R^2	β	Adjusted R^2	β	Adjusted R^2	β
Step 1	.01		.01		.02	
Demographics						
Age		−.12		.06		.05
Gender[a]		−.10		−.01		.18*
Step 2	.35		.06		.15	
Demographics						
Age		−.26**		.13		−.06
Gender[a]		.03		−.06		.28**
CTQ						
Emotional abuse		.33**		.01		.23*
Physical abuse		−.01		.11		−.04
Sexual abuse		.03		−.02		.04
Emotional neglect		.45**		−.44**		.22
Physical neglect		−.16		.11		.01

Notes: DERS = Difficulties in Emotion Regulation Scale; ERQ = Emotion Regulation Questionnaire; CTQ = Childhood Trauma Questionnaire.

[a]Gender was coded 1 = female, 2 = male.

*$p < .05$

**$p < .01$

for emotion regulation difficulties, measured by the DERS. In addition, age contributed significantly to the second model. This model explained 35% of the variance in emotion regulation difficulties.

With regard to the ERQ, age and gender did not explain significant variance in cognitive reappraisal in the first step, $F(2, 157) = 0.31$, $p = .74$. When the CTQ variables were included in the second step, emotional neglect was the sole predictor explaining unique variance in cognitive reappraisal, $F(7, 152) = 4.95$, $p < .01$, indicating an inverse association. However, the explained variance of the model was small ($R^2 = .06$). Concerning expressive suppression, gender tended to be related to individual outcomes in the first step without achieving statistical significance for this model, $F(2, 157) = 2.89$, $p = .06$. After we added the CTQ scales in the second step, gender and emotional abuse significantly explained variance in expressive suppression, $F(7, 152) = 4.95$, $p < .01$, $R^2 = .15$.

Contributions of Self-Reported Childhood Trauma and Emotion Regulation to BPD and MDD Psychopathology

To examine the relative contribution of self-reported childhood trauma and emotion regulation difficulties to adult BPD and MDD symptomatologies, we performed explorative multiple regression analyses separately in both patient groups (see Table 4). For the BPD subsample, the BSL score served

TABLE 4 Multiple Regression Analyses Examining the Contributions of Emotional Abuse, Emotional Neglect, and Emotion Regulation Difficulties to BPD and MDD Psychopathology

	BPD[a]		MDD[b]	
Predictor variable	Adjusted R^2	β	Adjusted R^2	β
Step 1	.12		−.04	
CTQ				
Emotional abuse		.46**		.03
Emotional neglect		−.15		−.01
Step 2	.32		.10	
CTQ				
Emotional abuse		.32		.02
Emotional neglect		−.08		−.15
Emotion regulation				
DERS		.29*		.28
ERQ reappraisal		.15		−.04
ERQ suppression		.38**		.27

Notes: BPD = borderline personality disorder; MDD = major depressive disorder; CTQ = Childhood Trauma Questionnaire; DERS = Difficulties in Emotion Regulation Scale; ERQ = Emotion Regulation Questionnaire.

[a]Borderline Symptom List used as the criterion variable. [b]Beck Depression Inventory used as the criterion variable.

*$p < .05$

**$p < .01$

as the criterion variable; for the MDD subsample, the BDI score was used as the criterion variable. As emotional abuse and neglect were the only CTQ scales that were uniquely associated with emotional dysregulation after we had controlled for confounders in the previous analyses (see Table 3), both subscales were entered simultaneously in the first step to establish their association with psychopathology as measured by the BSL and BDI, respectively. In the second step, we added all ERQ scales to test whether emotion regulation difficulties were associated with BPD symptom severity after self-reported emotional abuse and neglect were controlled.

In the BPD group, emotional abuse accounted for unique variance in the BSL score in the first step, $F(2, 48) = 4.35$, $p = .02$, $R^2 = .12$. This was reduced to marginal nonsignificance when emotion regulation variables were entered into the regression equation. Regarding the emotion regulation variables, DERS total score and ERQ suppression were significantly related to the BSL score in the second model, $F(5, 48) = 5.59$, $p < .01$, $R^2 = .32$. In the MDD group, neither self-reported childhood trauma nor emotion regulation difficulties significantly explained variance in the BDI score: childhood trauma, $F(2, 47) = 0.01$, $p = .98$; emotion regulation difficulties, $F(5, 47) = 2.02$, $p = .10$. Although childhood trauma variables and the BDI score were significantly associated with emotion regulation difficulties in the total sample, these associations were not found in the MDD subgroup.

DISCUSSION

In the present study, we investigated the association between self-reported traumatic childhood experiences and emotion regulation in individuals with BPD and MDD as well as in healthy control participants. In line with previous findings, borderline and depressed patients reported a higher level of childhood abuse and neglect than healthy controls (e.g., Molnar et al., 2001; Zanarini et al., 1997). In particular, BPD patients had experienced even more emotional abuse than MDD patients. The high occurrence of childhood emotional abuse in the BPD patients is consistent with prior results (Bierer et al., 2003; Lobbestael, Arntz, & Bernstein, 2010). As hypothesized in several models of BPD (Putnam & Silk, 2005) and depressive psychopathology (Gotlib & Joormann, 2010), both BPD and MDD patients reported more clinically relevant difficulties in emotion regulation, as measured by the DERS, compared with healthy participants. With regard to the use of cognitive reappraisal and expressive suppression, both patient groups rated less adaptive (cognitive reappraisal) and more maladaptive (expressive suppression) strategies.

The main finding of our study supports the assumption of a specific link between childhood maltreatment, especially emotional abuse and neglect, and emotion regulation difficulties. In particular, a history of emotional neglect (i.e., emotional deprivation and psychological unavailability) was associated with less frequent use of cognitive reappraisal, and a history of emotional abuse (i.e., psychological maltreatment, verbal assaults or humiliation) was related to more frequent use of expressive suppression. Thus, our results indicate that emotional neglect was associated with a lack of adaptive emotion regulation strategies, and emotional abuse was associated with dysfunctional emotion regulation strategies. Investigating different types of abuse simultaneously, we found no unique effect of sexual and physical abuse or neglect on emotion regulation difficulties. However, a history of sexual and physical abuse has repeatedly been shown to be associated with maladaptive behavior that is considered indicative of emotion regulation difficulties, such as dissociation, self-harm, and suicidal behavior (e.g., Gladstone et al., 2004; Soloff, Lynch, & Kelly, 2002). Burns et al. (2010) also failed to find emotional dysregulation predicted by sexual abuse and argued that emotional abuse is even more chronic than sexual or physical abuse and, therefore, emotion regulation is particularly likely to be affected by the detrimental effects of emotionally abusive experiences. Furthermore, emotional traumas and their confounding effects might not have been adequately recognized in previous studies focusing on only one childhood trauma type. Moreover, as mentioned previously, it may be taken into account that different abuse subtypes most likely contribute to distinct patterns of emotion regulation difficulties. For example, physical abuse is suggested to lead to more aggressive and violent behavior (Briere & Runtz, 1990). It can be speculated that emotional abuse and neglect may affect core processes of emotion

regulation development and, therefore, have detrimental effects on emotion regulation over and above other forms of childhood adversities. Hankin (2005) suggested that emotionally abusive statements provide direct causal explanations to the child about himself or herself (e.g., "You're stupid"), whereas physically and sexually abusive events can be attributed to other causes (Rose & Abramson, 1992). Furthermore, consequences of childhood adversities may differ as a function of the relationship between the victim and the perpetrator (Freyd, 1996). Goldsmith, Chesney, Heath, and Barlow (2013) demonstrated that trauma experiences, including a betrayal by a important caregiver or partner, have a substantial impact on emotion regulation difficulties. Of note is that childhood abuse (e.g., emotional abuse) is often characterized by high levels of betrayal.

Our results provide preliminary support that perceived emotion regulation difficulties and the use of more dysfunctional regulation strategies play a role in the association between self-reported emotional abuse and adult BPD symptomatology, probably via mediational effects. These findings are in line with Gratz et al. (2008), who found that emotion dysregulation partially mediates the association between emotional abuse and BPD diagnosis among inner-city substance users. In MDD, no significant impact of self-reported childhood adversities and emotion dysregulation on depressive symptoms was found. Other studies, however, have found that emotion regulation correlated with current symptom level in MDD (Garnefski & Kraaij, 2006). Because of the small sample size of the diagnostic subgroups, the preliminary results of the subgroup analyses should be interpreted cautiously and do not permit firm comparisons between both disorders. However, Belford, Kaehler, and Birrell (2012) recently supposed that betrayal trauma plays a prominent role in the development of BPD characteristics. Indeed, the authors showed a link between (severe) betrayal trauma and BPD traits in a sample of colleague students that was mediated by relational health (i.e., the quality of the participant's relationships with peers, mentors, and communities). The authors hypothesized that betrayal trauma may lead to the development of insecure attachment styles, resulting in poor relational health, which has been related to maladaptive emotion regulation (Gross & John, 2003). One may hypothesize that the dimension of betrayal trauma, supposed to be high in emotional abuse, may be indicative of BPD psychopathology. However, we did not investigate betrayal trauma in our study, and therefore these suggestions remain speculative.

Despite these restrictions, our results highlight the unique impact of emotional abuse and neglect on both adaptive and nonadaptive emotion regulation. This may have some clinical implications for treatment strategies addressing emotion regulation difficulties. In addition to the importance of accurately assessing emotional maltreatment, our results reinforce the necessity of treatment strategies for long-term maladaptation related to childhood trauma that include interventions explicitly focusing on emotion regulation

skills (Steil, Dyer, Priebe, Kleindienst, & Bohus, 2011). However, although we have shown specific relationships between perceived childhood adversities, emotion dysregulation, and later psychopathology, the effects of childhood trauma are considered multivariate in their ultimate presentation (Briere & Jordan, 2009). Childhood adversity is not necessarily an antecedent for emotion regulation difficulties, and not all maltreated children develop adult psychopathology. In particular, one should consider several protective factors (Campbell-Sills, Forde, & Stein, 2009) that appear to buffer children who are at risk for emotional and behavioral maladjustments.

The results of this study need to be regarded as preliminary and are restricted by several limitations. First, we assessed childhood trauma and emotion dysregulation exclusively by using self-report questionnaires. Despite the empirical evidence for the validity of the administered questionnaires, we cannot rule out the possibility of response bias (Hardt & Rutter, 2004) and limits of self-reporting emotion regulation (Cole, Martin, & Dennis, 2004). Future research should therefore assess aversive childhood experiences more comprehensively, including through clinical interviews (e.g., the Early Trauma Inventory; Bremner, Vermetten, & Mazure, 2000), to examine additional trauma characteristics, such as the onset of childhood maltreatment, that might have a particular impact on emotion regulation (Ehring & Quack, 2010). Likewise, further studies would benefit from alternative assessments of emotion regulation strategies (e.g., physiological parameters) to investigate emotion regulation online and moment by moment using more objective or even implicit methods. Second, the cross-sectional design of the present study did not permit us to test causal effects. Several latent variables (e.g., current, nontraumatic stressors) may explain, at least partly, the observed associations. Prospective studies are needed to address these limitations.

In summary, the present study provides evidence that self-reported childhood trauma, especially emotional abuse and neglect, is related to emotion regulation difficulties. In particular, a history of emotional abuse was linked to the use of a dysfunctional emotion regulation strategy (expressive suppression), and emotional neglect was associated with nonuse of an adaptive strategy (cognitive reappraisal). Moreover, emotion regulation difficulties play a role in the association between self-reported emotional abuse and acute BPD symptomatology, probably via mediational effects. Further research is needed to clarify causal mechanisms.

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