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Research report

Cognitive emotion regulation in euthymic bipolar disorder

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ABSTRACT

Background: Based on findings indicating increased stress reactivity and prolonged stress recovery in individuals with bipolar disorder (BD), it has been proposed that emotion regulation (ER) deficits lie at the core of this disorder. Recent studies show an increased use of maladaptive ER strategies and a decreased use of adaptive ER strategies in BD. Whether this pattern is merely a correlate of affective episodes or might be a stable characteristic of BD, however, remains to be explored. In addition, it is unclear whether these deficits in ER are specific to people with a history of BD.
Methods: We examined whether euthymic BD individuals differ from healthy controls (HC) and individuals with a history of Major Depressive Disorder (MDD) with respect to the cognitive ER strategies they habitually use (CERQ) in response to negative affect. The sample consisted of 42 bipolar patients, 43 patients with MDD and 39 HC.
Results: Compared to HC, euthymic BD and MDD individuals reported increased use of rumination, catastrophizing, and self-blame alongside decreased use of positive reappraisal, and putting into perspective. No differences were found between BD and MDD groups.
Limitations: These findings are based on self-reports reflecting the habitual use of ER-strategies. The use of more objective methods and the examination of the spontaneous use of ER-strategies in euthymic BD would be desirable.
Conclusions: Deficits in the habitual use of ER strategies may characterize BD and MDD individuals even outside of an acute episode and thereby play a role in the recurrence of affective disorders.

1. Introduction

According to the World Health Organization, bipolar disorder (BD) is one of the most disabling psychiatric disorders and a leading cause of non-fatal burdens (World Health Organization, 2008). BD is characterized by recurrent episodes of depression, periods of sustained and abnormally elevated mood, and/or mixed states with co-occurring depressive and manic symptoms (American Psychiatric Association, 2000). It has been proposed that negative life events trigger increases in depressive symptoms whereas certain positive life events trigger (hypo-)manic symptoms (Johnson, 2005). Research has also shown that individuals with BD display prolonged recovery following a stressful life event (Goplerud and Depue, 1985). In addition, experimental studies suggest that bipolar spectrum disorders are associated with impairments in emotional recovery. Subclinical cyclothymic subjects compared to healthy controls (HC), for example, exhibited elevated cortisol levels 3 h after a stressful task indicating prolonged stress recovery (Depue et al., 1985). Taken together, these findings suggest deficits in regulatory processes in BD and various authors have proposed that difficulties in emotion regulation lie at the core of BD (Phillips and Vieta, 2007; Johnson et al., 2007; Gruber, 2011).

According to Gross (1998) emotion regulation (ER) refers to processes by which individuals influence the appearance of emotions and how they experience and express these emotions. Some of these processes are implicit, automatic, and are performed without any consciousness or effort, whereas others are explicit, controlled, and are exerted consciously and with effort (Gyurak et al., 2011). Strategies that are performed consciously and effortfully can be subdivided into behavioral ER strategies (e.g., situation selection, expressive suppression) and cognitive ER strategies (e.g., cognitive reappraisal, rumination) (Gross and John, 2003; Garnefski and Kraaij, 2007). Although all ER strategies might be helpful in particular situations, studies suggest a general advantage of some ER strategies over others (e.g., Garnefski and Kraaij, 2007; Nezlek and Kuppens, 2008). Garnefski and Kraaij (2007), for example, showed that the use of catastrophizing, rumination, and self-blame is positively associated with symptoms of depression and anxiety whereas the use of positive reappraisal is negatively associated with these symptoms. Thus, ER strategies can be differentiated into (primarily) adaptive strategies and (primarily) maladaptive strategies.

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Despite the fact that BD is defined by dysregulated emotional states (American Psychiatric Association, 2000), few studies to date have investigated the habitual use of ER strategies in BD. The majority of these studies used the Response Styles Questionnaire (RSQ; Nolen-Hoeksema et al., 1993) and highlighted that, in response to negative life events, remitted BD participants ruminate more than HC (Thomas et al., 2007; Van Der Gucht et al., 2009). Moreover, self-reported rumination has been associated with higher levels of depression and hypomania in adolescents at risk for BD (Knowles et al., 2005; Thomas and Bentall, 2002). The use of a revised version of the RSQ (Knowles et al., 2005) has further revealed that, in response to negative affect, depressed and remitted BD participants use adaptive coping strategies (i.e., distraction and problem solving) less frequently compared to manic BD participants (Thomas et al., 2007). Interestingly, manic BD participants reported to use adaptive coping strategies even more frequently than HC (Thomas et al., 2007).

Compared to the RSQ and the revised version of the RSQ the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al., 2001) samples a broader range of cognitive strategies used to regulate emotions in response to negative events. In addition to the habitual use of rumination, the CERQ also assesses the use of self-blame, blaming others, catastrophizing, putting into perspective, positive reappraisal, acceptance, positive refocusing, and refocus on planning. Within the context of BD, the CERQ has been previously used in two studies. The first study highlighted that, in addition to the more frequent use of rumination, bipolar individuals compared to HC report a more frequent use of catastrophizing and self-blame in response to negative events (Green et al., 2011). This was confirmed by the second study, that also showed a less frequent use of putting into perspective within the BD group (Rowland et al., 2013). Concerning the other cognitive ER strategies assessed by the CERQ, neither Green et al. (2011) nor Rowland et al. (2013) found any differences between bipolar patients and HC. However, the participation of the BD subjects in both studies was based on diagnoses given previously to the beginning of the study in question (in other studies). In other words, subjects' current mood states were not assessed. Therefore, it is not unlikely that the inclusion of symptomatic individuals may have blurred differences between euthymic BD patients and HC: First, keeping in mind the symptoms of (hypo)-manic episodes, it is probable that individuals in a (hypo-) manic mood state are more likely to refocus on positive things, to positively reappraise, and to refocus on planning when being confronted with a negative event. Second, in the study by Thomas et al. (2007) manic BD participants reported a more frequent use of adaptive coping strategies as assessed by the RSQ not only compared to depressed and euthymic BD participants, but also compared to HC.

To summarize, there is preliminary evidence that euthymic BD individuals show increased use of rumination in response to negative events. However, no study thus far has compared euthymic BD participants to HC in their habitual use of a broad range of cognitive ER strategies as assessed by the CERQ. That is, thus far we do not know whether deficits in the use of cognitive ER strategies that have been reported in BD (Green et al., 2011; Rowland et al., 2013) are merely a correlate of acute affective symptoms or are present independently of acute symptoms and might thus constitute a risk factor for future episodes. Studies specifically examining euthymic BD participants are of particular importance, given that recent models propose that maladaptive reactions to negative and positive affect underlie the downward and upward spirals, respectively, which in turn might result in a depressive or a manic episode in BD (Gruber, 2011; Johnson, 2005). It is therefore the main goal of this study to compare the habitual use of cognitive ER strategies of interepisode BD and HC. Furthermore, to examine whether our findings are specific to the bipolar spectrum of affective disorders or generalize to other affective disorders, we included a sample of remitted unipolar depressed patients. To our knowledge there is only one study thus far that has examined the habitual use of cognitive ER strategies in remitted depression. In this study, recovered depression was associated with an increased use of rumination and catastrophizing as well as a decreased use of putting into perspective compared to HC (Ehring et al., 2008).

Due to the shared risk of remitted BD and remitted MDD for developing a depressive episode following a negative life event and based on previous studies that have examined the habitual use of ER in BD and MDD participants (Rowland et al., 2013; Green et al., 2011; Ehring et al., 2008; Van Der Gucht et al., 2009), we hypothesized that euthymic BD patients as well as remitted MDD patients display increased use of rumination and catastrophizing and decreased use of positive reappraisal and putting into perspective. Given that BD has repeatedly been associated with an increased use of self-blame (Green et al., 2011; Rowland et al., 2013), which has not been found in remitted MDD (Ehring et al., 2008), we further propose that euthymic BD patients, but not remitted MDD patients, display an increased use of self-blaming.

2. Methods

2.1. Participants

One hundred and twenty-four participants were recruited through an outpatient clinic as well as through advertisements posted on the Internet and within the community. Participants were invited for an interview if they were deemed eligible based on screening conducted per telephone. To determine the diagnostic status of participants, trained interviewers administered the Structured Clinical Interview for DSM-IV (SCID; First et al., 1996). Participants with BD ($n=42$) either met the diagnostic criteria for remitted bipolar I disorder (62%) or for remitted bipolar II disorder (38%), based on the diagnostic criteria in the fourth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 2000). Participants with MDD ($n=43$) either met DSM-IV criteria for recurrent MDD in remission (74.42%) or for an MDD single episode in remission (25.58%). Participants in the HC group ($n=39$) did not meet diagnostic criteria for any current or past Axis I disorder. Exclusion criteria for all participants were insufficient knowledge of the German language and age below 18 or above 69. Exclusion criteria for both clinical groups were lifetime psychotic symptoms (except mood-congruent delusions within affective episodes), current alcohol or substance dependency (if they met the lifetime diagnostic criteria they had to be abstinent for at least 24 months), current alcohol or substance abuse, cluster A personality disorders, borderline personality disorder, antisocial personality disorder, and current anorexia nervosa (BMI ≤ 18 kg/m^2). Furthermore, participants in both clinical groups had to be remitted for at least 8 weeks and were required to take no medication or to take medication on a stable dosage for at least 4 weeks. Of the 42 BD participants 81% and of the 43 MDD participants 39.5% were on various medications at the time of the study (one participant in the HC group took antidepressants due to sleep disturbances).

2.2. Assessment of clinical symptoms

To assess self-reported current symptom levels of depression, we used the Quick Inventory for Depressive Symptomatology Self-Report (QIDS-SR; Rush et al., 2003). The QIDS-SR comprises 16 items that assess presence and severity of 16 depression-related symptoms. It demonstrates high internal consistency with Cronbach's $\alpha=.86$ (Rush et al., 2003) and has proven to be suitable not only for MDD