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Rumination, distraction, and mindful self-focus in depressed patients

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ABSTRACT

Rumination has been proposed as a cognitive risk factor for the onset and maintenance of depression. In parallel, mindfulness interventions have shown to reduce the risk for recurrence of depressive episodes. This study aimed to investigate effects of short periods of induced rumination, distraction, and mindful self-focus on sad mood in depressed patients and to assess possible moderator effects of habitual variables on respective mood changes. Seventy-six depressed patients 3.5 years after discharge from inpatient treatment were subjected to negative mood induction and subsequently randomly assigned to a rumination, distraction, or mindful self-focus induction. Habitual aspects of rumination, distraction, and mindfulness were assessed by questionnaires. Compared to rumination, the induction of a mindful self-focus and of distraction showed clear beneficial effects on the course of negative mood. While habitual distraction predicted better mood outcomes across all conditions, patients high in habitual mindfulness tended to show stronger negative mood reduction specifically after the induction of a mindful self-focus. This study indicates that – similar to distraction – an experimentally induced mindful self-focus is able to reduce negative mood in depressed patients. Implications regarding possible subgroups of patients who might particularly benefit from mindfulness-based interventions are discussed.

Studies indicate lifetime prevalence rates of Major Depression between 13 and 19% (Hasin, Goodwin, Stinson, & Grant, 2005) and relapse rates of up to 80% in first episode patients (Judd, 1997). The chronic relapsing condition of depressive disorders has been addressed by cognitive and neurophysiological vulnerability theories, and growing literature focuses on respective treatments (Fava, Tomba, & Grandi, 2007; Kuehner, 2005; Segal, Williams, & Teasdale, 2002).

The Response Styles Theory (RST) by Nolen-Hoeksema (1991; Nolen-Hoeksema, Wisco, & Lyubomirsky, 2008) represents a cognitive vulnerability theory for the onset, exacerbation, and maintenance of depressive episodes. Two different coping styles, namely rumination and distraction, address cognitive and behavioural responses to depressive moods and symptoms. Ruminative responses comprise passively focusing one's attention on one's dysphoric symptoms and on their possible causes and consequences. Distractive coping is defined as actively turning one's attention away from one's depressive symptoms on to pleasant or neutral thoughts and actions. The theory presumes that rumination and distraction are purposeful trait-like styles of responding to or trying to cope with negative mood (Nolen-Hoeksema, 1991). According to RST, distraction should lead to mood repair through refocusing on positive aspects, while rumination as a dysfunctional mode of self-focused attention is supposed to activate negative associative memory networks, to interfere with attention and instrumental behaviour, and to impair problem solving. As a consequence, rumination is supposed to maintain or to amplify dysphoric and depressive states and to represent a cognitive vulnerability factor for future depressive episodes (Nolen-Hoeksema, 1991; Nolen-Hoeksema et al., 2008).

Previous research has shown that ruminative and distractive responses to depressed mood, as assessed by the Response Styles Questionnaire (RSQ; Nolen-Hoeksema & Morrow, 1991), exhibited reasonable temporal stability in clinical and nonclinical samples (Bagby, Rector, Bacchiochi, & McBride, 2004; Kuehner & Weber, 1999), supporting the proposed trait-like characteristics of response styles. Furthermore, observational studies reported evidence for the predictive validity of rumination regarding severity of depressive symptoms in nonclinical samples (Hong, 2007; Nolen-Hoeksema, Stice, Wade, & Bohon, 2007; Sarin, Abela, & Auerbach, 2005), while respective results from clinical samples are mixed (Arnow, Spangler, Klein, & Burns, 2004; Kuehner & Weber, 1999; Raes et al., 2006). All those studies controlled for concurrent depression levels, suggesting that a ruminative response style does

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not merely reflect a cognitive epiphenomenon of depression. In another line of research, a number of laboratory studies with experimentally induced response styles reported detrimental effects of rumination and beneficial effects of distraction on depression-related emotional and cognitive processes (e.g., Donaldson & Lam, 2004; Kuehner, Holzhauer, & Huffziger, 2007; Kuehner, Huffziger, & Liebsch, 2009; Lavender & Watkins, 2004; Lyubomirsky, Kasri, & Zehm, 2003; Rimes & Watkins, 2005; Sutherland & Bryant, 2007). One study found that trait rumination enhanced the negative impact of induced rumination in the laboratory (Kuehner, Holzhauer, & Huffziger, 2007).

Originating from Buddhist philosophy, the core concept of mindfulness includes receptive attention to and non-evaluative and sustained moment-to-moment awareness of mental states and processes. A mindful mode of processing involves a receptive state of mind in which attention is kept to register internal and external events as phenomena in a non-judgemental, accepting way (Brown, Ryan, & Creswell, 2007a). In this context, even unpleasant thoughts and feelings are openly accepted with the notion that they are transient. According to Brown, Ryan, and Creswell (2007b) mindfulness should be delineated from other modes of self-focused attention due to the latter's proneness to negative biased self-centered thoughts. In contrast, the pure observant stance during mindfulness is supposed to allow unbiased information processing and therefore greater opportunities for adaptive self-regulation (Brown et al., 2007b, p. 273).

The multidimensional concept of mindfulness has been integrated into Western psychology, although with varying operationalizations and degrees of complexity (cf. Brown et al., 2007a). One body of research has developed self-report scales to assess momentary state mindfulness (e.g., Lau et al., 2006) or trait-like aspects of mindfulness, the latter describing the tendency to sustain mindful states over time (e.g., Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006). Psychometric evaluations have found trait mindfulness scales to correlate negatively with indicators of psychopathology and neuroticism, and positively with extraversion, affect regulation, and acceptance of emotions (cf. Brown et al., 2007a). Habitual mindfulness also predicted emotional states and behavioural motivation in two longitudinal studies (Brown & Ryan, 2003; Levesque & Brown, 2007). In a first fMRI study, high mindfulness was linked to greater affect regulation through enhanced prefrontal cortical inhibition of amygdalar responses (Creswell, Way, Eisenberger, & Lieberman, 2007).

A second body of research has incorporated the concept of mindfulness into therapeutic interventions to teach a more mindful approach to mental problems. Usually, these interventions are characterized by intensive training including mindful meditation practice over several weeks. One of these interventions, Mindfulness-Based Cognitive Therapy for Depression (MBCT; Segal et al., 2002), has been developed for relapse prevention in depression and focuses on specific cognitive processes, including ruminative tendencies. During MBCT, depressed patients are taught to develop a non-judgemental and decentred awareness of their ruminative state of mind to prevent the deleterious loop of negative thoughts and moods. The capacity of mindfulness-based interventions to reduce trait rumination has gained empirical support (Jain et al., 2007; Ramel, Goldin, Carmona, & McQuaid, 2004; Shapiro, Brown, & Biegel, 2007). Shapiro et al. (2007) found that an increase in mindfulness during intervention predicted a drop in rumination, and Jain et al. (2007) reported that the effects of a mindfulness intervention on reducing distress were partially mediated by reducing rumination.

A third research strategy aims at investigating effects of an experimentally induced mindful self-focus on emotional and cognitive processes (e.g., Arch & Craske, 2006; Broderick, 2005; Kuehner et al., 2009; Singer & Dobson, 2007). In contrast to the above described mindfulness intervention programs, these experimental manipulations include only short induction periods of selected mindfulness elements (e.g., non-judgemental state of mind, awareness of the breath), therefore allowing comparisons with other forms of induced attention focusing. Importantly, these studies do not claim to capture the complex processes involved in therapeutic mindfulness interventions. Three studies compared the effects of an induced mindful self-focus with induced rumination and distraction and provided ambiguous results. While Broderick (2005) identified even higher mood improvement after induced mindfulness than after distraction, the study by Kuehner et al. (2009) showed the magnitude of mood change after a mindful self-focus induction to be between the effects achieved after rumination and distraction. Finally, in the study by Singer and Dobson (2007) induced mindfulness and distraction caused similar mood improvements in a sample of remitted depressed patients.

Clearly, these studies differ in the extent of identified mood changes following the induction of a mindful self-focus. Two aspects may account for this: First, the available studies implemented methodologically different induction procedures and, secondly, different populations possibly show distinct reactions towards the induction of a mindful self-focus. It may be hypothesized, for example, that especially individuals with a history of depression might benefit from a mindful attention focus induced in the laboratory. Compared to healthy subjects, they have experienced negative mood shifts that seem uncontrollable and distressing and might therefore feel a particular need for strategies to prevent such mood disturbances.

Aims of the present study were to assess the effects of experimentally induced rumination, distraction, and mindful self-focus on the course of mood after negative mood induction in a clinical sample of depressed patients 3.5 years after discharge from inpatient treatment. These patients underwent an induction paradigm that was already used in a previous nonclinical study (Kuehner et al., 2009). We expected that the induction of a mindful self-focus – similar to distraction and in contrast to rumination – would improve previously induced negative mood in the present patient sample. Furthermore, we assessed the impact of habitual rumination, distraction, and mindfulness on the course of mood during response induction to check for possible moderator effects of these variables[1].

Methods

Participants

Within the context of a 3.5 year follow-up assessment of a larger longitudinal study, we investigated 76 depressed patients originally recruited during their inpatient treatment at the Central Institute of Mental Health in Mannheim, Germany (cf. Kuehner & Buerger, 2005). Diagnostic inclusion criteria were Major Depression, single (F32) or recurrent (F33) episode, and Dysthymic Disorder (F34) according to ICD-10 (WHO, 1992) at index admission. At the present 3.5-year follow-up examination after index discharge, the patients' current diagnostic status was assessed using the Structured Clinical Interview for DSM-IV Axis I (SCID-I; Wittchen, Wunderlich, Gruschwitz, & Zaudig, 1997). In all, 58 patients (76.3%) were

[1] While the term "trait" is used commonly in the literature to assess habitual aspects of rumination, distraction, and mindfulness, we acknowledge that these characteristics most closely reflect enduring cognitive styles, i.e., preferred ways of thinking, placed at the interface between cognition and personality (Sternberg, 2000).