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Difficulties in emotion regulation across the spectrum of eating disorders

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Abstract

Theoretical models consider difficulties in emotion regulation (ER) as central trans-diagnostic phenomena across the spectrum of eating disorders (ED). However, there is a lack of studies directly comparing ED subtypes regarding ER problems. Furthermore, patients with anorexia nervosa-restricting type (AN-R) and patients with AN-binge/purge type (AN-BP) have usually been merged into one overall AN group in previous research on ER. In order to overcome these limitations of previous studies, the present study investigated specific ER difficulties in 120 patients with different ED subtypes, including AN-R, AN-BP, bulimia nervosa (BN), and binge-eating disorder (BED). As compared to 60 healthy normal-weight controls (NWC) and 29 healthy over-weight controls (OWC), all ED subtypes reported greater difficulties in ER. ED subtypes did not differ regarding most domains of ER except BED showing less severe ER difficulties in some domains. In addition, AN-BP but not BN reported greater impulse control difficulties than AN-R and BED. The findings underscore the relevance of ER difficulties in ED and support the trans-diagnostic view of ER difficulties being present across the whole spectrum of ED. In addition, the present results suggest that certain domains of ER may be linked more closely to certain ED subtypes than to others.

1. Introduction

Recent etiological models of eating disorders (ED) emphasized the role of difficulties in emotion regulation (ER) as trans-diagnostic factors across the spectrum of ED [1–3]. Adaptive ER involves both the experience and differentiation as well as the attenuation and modulation of affective states [4–6]. In line with the theoretical models on disturbed ER as a trans-diagnostic factor across ED, previous research demonstrated impaired abilities to experience and differentiate emotions in anorexia nervosa (AN) [7,8], bulimia nervosa (BN) [9,10], and binge-eating disorder (BED) [11,12]. Likewise, AN and BN [9,13] as well as BED [14,15] reported difficulties regarding the attenuation and modulation of emotional arousal. However, there is a lack of studies comparing different ED subtypes directly with each other regarding these two broad domains of ER difficulties. A few studies found poorer emotional awareness and clarity in AN than in BN [16–18]; other studies, however, failed to illustrate such differences [9,10,19]. Similarly, previous studies failed to show any differences between AN and BN regarding the attenuation and modulation of emotions [9,15,17]. Solely one previous study [19] compared AN, BN, and BED in order to elucidate whether certain ER difficulties are specific to certain ED subtypes. In this study, no significant differences between ED subtypes emerged for most ER facets the authors were assessing. However, as compared to AN and BN, BED reported less problems with certain ER components. It is however worth mentioning that this study was based on small sample sizes and thus may have been underpowered. In addition, as in almost all studies on ER difficulties in ED, patients with anorexia nervosa-restricting type (AN-R) and with anorexia nervosa–binge/purge type (AN-BP) were merged into one single group. Thus, it remains unknown whether there are any differences in ER difficulties between these two AN subgroups.

Despite the theoretical models regarding ER difficulties as trans-diagnostic factors in ED and empirical research supporting this view, there may be an alternative perspective on at least one subcomponent of ER: impulse control. By definition, ED subtypes differ in terms of impulsivity [20]. In

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contrast to AN-R, patients with bulimic-type ED (i.e., AN-BP, BN, and BED) show impulsive eating behavior (i.e., binge eating) which can be considered as an attempt to cope with aversive affect by providing short-term comfort and/or distraction [21,22]. Thus, patients with bulimic-type ED may feature greater difficulties in controlling their behavior in response to affective states than patients with AN-R.

Moreover, bulimic-type ED may be further differentiated regarding impulse control difficulties. For example, BED shows less frequent, and rather extended time frames of binge episodes [23] as well as lower amounts of caloric intake during binges [24] than BN. In addition, as compared to weight-matched controls, studies using neuropsychological tests repeatedly found exaggerated impulsive decision making and impaired inhibitory control in both BN [25–27] and AN-BP [24,28,29], but not in BED [30–32]. Impulsivity appears as a multifaceted construct [33] and results may largely depend on the specific subcomponent being assessed. However, inhibitory control is assumed to be a basic neurocognitive function which may be a key factor impacting one's ability to modulate emotional arousal and affective impulses [34]. In sum, findings of less difficulties in inhibitory control and less pronounced binge eating in BED than in BN and AN-BP give rise to the hypothesis that BED may feature less difficulties in impulse control regarding emotional states than BN and AN-BP.

In order to overcome some of the limitations of previous studies on ER in ED, and to examine the links between specific components of ER and each ED subtype, the present study assessed self-reported ER difficulties in clinical samples from the full spectrum of ED (i.e., AN-R, AN-BP, BN, and BED) and two healthy control groups, one normal-weight control group (NWC) and one over-weight control group (OWC). The latter one was included to control for mere weight effects.

In line with the theoretical models highlighting ER difficulties in the development and maintenance of ED, we hypothesized that (1) all ED subtypes will report higher levels of ER difficulties than healthy controls (i.e., AN-R, AN-BP, BN vs. NWC; and BED vs. OWC) regarding all facets of ER assessed. Based on models describing ER difficulties as trans-diagnostic phenomena, we expected that (2) ED subtypes will not differ regarding most of the ER components assessed. However, according to the specific phenotypes of ED subtypes (binge/purge vs. restricting), we expected that (3) bulimic-type ED will report more ER difficulties regarding impulse control than patients with a restricting type ED. Based on empirical findings of heightened impulsive decision making and impaired inhibitory control in BN and AN-BP but less consistent in BED and findings of less pronounced binge eating in BED than in BN and AN-BP, we also expected that (4) BN and AN-BP will report more ER difficulties regarding impulse control than BED. Since to our best knowledge this will be the first investigation of potential ER differences between AN subtypes, the fifth hypothesis was explorative and aimed to (5) clarify whether (except for impulse control) treating AN-R and AN-BP as one group in the context of ER difficulties can be regarded as an appropriate procedure.

2. Methods

2.1. Participants

The total sample comprised 120 female ED patients and 89 female healthy controls. The subsamples were composed of 35 women diagnosed with AN-R, 22 with AN-BP, 34 with BN, 29 with BED, as well as 60 NWC, and 29 OWC. Patients were recruited consecutively from three inpatient units and an outpatient center of a university hospital as well as via advertisements in the local media. BED, OWC, most of the BN as well as half of the NWC took part in a larger project which will be described elsewhere. Two thirds of the AN patients also took part in a previous study of our workgroup [13]. Healthy control subjects (i.e., NWC and OWC) were also recruited via advertisements in the media and from the university campus. Exclusion criteria for both healthy control groups were any current diagnosis according to the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* (*DSM-IV*; [20]) and a lifetime diagnosis of any ED. NWC further had to have a normal body mass index (BMI) in the range between 18.5 and 25 kg/m^2, whereas OWC had to have a BMI above 25 kg/m^2. Exclusion criteria for ED patient groups were a current diagnosis of any substance use disorder, and a lifetime diagnosis of a manic episode or psychosis. Written informed consent was obtained from all participants. The study had been approved by the ethics committee of the university.

2.2. Material

In order to assess episodes of mental disorders, the Structured Clinical Interview for *DSM-IV* (SCID; [35,36]) was conducted by the first four authors (T.B., M.S., M.W., E. B.) who were all specifically trained for SCID administration. The SCID has demonstrated good reliability in previous studies [37]. ER difficulties were assessed with the *Difficulties in Emotion Regulation Scale* (DERS; [4]). The DERS is a 36-item self-report scale that captures a broad range of clinically relevant difficulties in ER on six subscales: (1) non-acceptance of emotional responses (i.e., a tendency to have negative secondary emotional responses to one's own negative emotions); (2) difficulties in engaging in goal-directed behavior (i.e., difficulties concentrating and accomplishing tasks when experiencing negative emotions); (3) impulse control difficulties (i.e., problems with remaining in control of behavior when experiencing negative emotions); (4) lack of emotional awareness (i.e., difficulties associated with attending to and acknowledging one's emotions); (5) limited access to effective ER strategies (i.e., beliefs that, once upset, one will not be able to regulate one's emotions); and (6) lack of emotion clarity (i.e., lack of