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Effects of prolonged and repeated body image exposure in binge-eating disorder

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Abstract

Objective: The purpose of the present study was to investigate psychological mechanisms associated with prolonged and repeated body image exposure. **Method:** In an experimental design, 30 female volunteers diagnosed with binge-eating disorder (BED) (DSM-IV) and 30 non-eating-disordered controls (NC) were exposed to their physical appearance in a mirror. The confrontation procedure was guided by a standardized interview manual and took place on two separate days. Self-reported mood, appearance self-esteem, and frequency of negative cognitions were assessed repeatedly throughout the experiment. **Results:** During body image exposure sessions, binge-eating-disordered individuals showed significantly lower mood than controls while appearance self-esteem was diminished in both groups. During the second body image exposure session, higher levels of mood and appearance self-esteem were observed in both groups, and negative cognitions occurred less frequently. **Conclusion:** Results are discussed with regard to the therapeutic use of body image exposure.

Keywords: Binge-eating disorder; Body image; Body image exposure; Bulimia nervosa; Exposure therapy

Introduction

In contrast to the eating disorders bulimia nervosa (BN) and anorexia nervosa (AN), the undue influence of body shape and weight on self-evaluation has not yet been included in the DSM-IV [1] research criteria for binge-eating disorder (BED). However, there is increasing empirical evidence supporting the notion that a negative body image may be important in BED also. For example, compared to non-eating-disordered individuals with a similarly increased body mass index (BMI), patients with BED are more frequently concerned with body shape and weight [2–4], they are more dissatisfied with their bodies [5–7], and reveal more negative body-related cognitions elicited by a mirror task [8].

Psychological interventions for body image disturbance in BN and AN frequently include information about shape and weight concerns and their cognitive restructuring [9]. However, other body image interventions such as exposure techniques have rarely been systematically employed and investigated in eating-disordered patients but have been requested to improve the efficacy of cognitive–behavioural therapy [10]. To date, little is known about the psychological mechanisms associated with body image exposure and whether such exposure techniques are indicated for eating-disordered individuals.

Controlled studies investigating body image exposure techniques have only been reported for AN and BN [11–14]. A common feature of these exposure techniques is the provision of visual feedback of physical appearance thus enabling the patient to correct distorted body perceptions. It is interesting to note that studies evaluating body image exposure techniques focus mainly on the size perception component of body image disturbance. However, there are inconsistent results as to whether the estimation of body size is corrected by these techniques [11] or not [13]. Three studies [12–14] found that subjective feelings of fatness decreased after body image exposure. Visual feedback, therefore, appears to improve the cognitive–emotional component of body image disturbance without explicitly focusing on it. Since the validity of the size

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perception component leading to an overestimation of body size has increasingly been questioned for a variety of reasons [15–19], and also because both disorders, AN and BN, are more consistently affected by body image disturbance in terms of cognitive–emotional disturbances than by a perceptual body image disturbance [15,17], an explicit focus on cognitive–emotional aspects could be a useful treatment approach.

Compared to perceptually oriented techniques, exposure techniques, which focus more on cognitive–emotional aspects of body image disturbance, have rarely been described. One of these was developed by Tuschen et al. [20–22] for cognitive–behavioural therapy for BN. In their approach, patients are encouraged to describe their physical appearance in detail using a mirror or video technique. By describing the body as precisely and as neutrally as possible, negative evaluations such as "I am so fat" are aimed to be deemphasized. The description of the entire body intends to open the focus to usually ignored body areas, i.e., areas considered to be especially unattractive. Body image exposure is supposed to induce cognitive changes as well as habituation of negative feelings associated with the body. For cognitive therapy, body image exposure is used as an "emotionally priming" stimulus [23] to activate negative body-related schemata and to elicit negative cognitions. To enhance habituation processes of negative feelings associated with one's body such as disgust, tension, or feelings of anxiety or insecurity, body image exposure is prolonged (approximately of 20–45 min duration) and repeatedly performed (up to six sessions). In terms of learning theory, repeated and prolonged exposure with the conditioned stimulus "seeing one's own body" (CS) is supposed to induce decreases in the conditioned negative reactivity (CR) by preventing negative reinforcement, e.g., avoidance. Items for exposure are ranked corresponding to increasing levels of subjective distress (e.g., from street wear to bikini).

In this context, the aim of the present study is to experimentally investigate mechanisms associated with cognitive–emotional body image exposure in BED according to the principles described above. Body image consists of self-descriptions of the entire body. In order to standardize the experimental procedure, this self-description is guided by a standardized interview guideline, also warranting a prolonged duration of exposure sessions. Body image exposure is performed twice to allow for an investigation of intra- and intersession changes in the dependent variables, i.e., mood, self-esteem, and frequency of negative cognitions. We hypothesize that negative mood, lowered self-esteem, and negativity of thinking particularly characterize reactivity to body image exposure in individuals diagnosed with BED compared with non-eating-disordered individuals. We further expect that this reactivity will decrease on repeated body image exposure.

Method

Sample

Participants were 30 female volunteers with BED and 30 non-eating-disordered controls (NC). All participants were recruited through newspaper announcements and public notices, and at their choice received either a fee of euro 40.00 (78.3%) or course credits (21.7%). Over 134 women who responded to advertisements were screened in a telephone interview using DSM-IV diagnostic criteria. From this group 70 women were invited to attend a clinical interview, the structured diagnostic interview Mini-DIPS [24], which allows the classification of mental disorders according to DSM-IV criteria. Two women were excluded because of their diagnostic status (subthreshold BED), and eight women did not turn up for further appointments made for the study, leaving a sample of 60 volunteers.

Eating-disordered participants met DSM-IV criteria for BED [1]. They reported four binge-eating episodes or binge days per week for the last 6 months ($M = 3.6$, $SD = 1.7$). The first binge-eating episode had on average occurred 10 years prior to the present investigation at a mean age of 22 years (length of time with binge symptoms in years: $M = 10.3$, $SD = 7.7$; average age: $M = 22.3$, $SD = 10.0$). Participants in the control group did not report any symptoms of disordered eating or any other mental disorder.

Individuals diagnosed with BED had an average age of 32 years ($M = 32.3$; $SD = 11.3$) and a BMI of 27 kg/m^2 ($M = 26.7$; $SD = 5.1$). Non-eating-disordered study participants were matched for age and weight (ANOVAs at $p > .05$; NC: age: $M = 30.4$, $SD = 9.6$; BMI: $M = 25.5$, $SD = 4.5$). Furthermore, there was no significant difference in sociodemographic variables such as marital status, education level, or professional status between groups (chi squares at $p > .05$; partnership: singles: BED: 40.0%; NC: 43.3%; high school graduates: BED: 66.7%; NC: 73.3%; professional status: BED: 33.3% working, 50.0% students, 16.7% others; NC: 23.3% working, 63.3% students, 13.3% others).

Compared with the control group, participants with BED had a higher General Symptomatic Index of the Symptom Checklist [25,26] (ANOVA at $p < .05$; BED: $M = 64.5$, $SD = 11.1$; NC: $M = 44.7$, $SD = 9.7$), and they showed significantly more discontent on the Body Shape Questionnaire (BSQ) [27,28] and on the body dissatisfaction scale of the Eating Disorder Inventory (EDI) [29,30] (ANOVAs at $p < .05$; BSQ: BED: $M = 122.5$, $SD = 32.9$; NC: $M = 75.2$, $SD = 27.7$; EDI body dissatisfaction: BED: $M = 1.9$, $SD = 0.8$; NC: $M = 1.0$, $SD = 0.8$). Additionally, volunteers in the BED group reported a lower general self-esteem score on the FSKN, a German rating scale for self-esteem [31] ($p < .05$; BED: $M = 40.3$, $SD = 9.8$; NC: $M = 48.6$, $SD = 8.1$).