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Mirror exposure to increase body satisfaction: Should we guide the focus of attention towards positively or negatively evaluated body parts?

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ABSTRACT

Background and Objectives: Though there is some evidence that body exposure increases body satisfaction, it is still unclear why exposure works and how attention should be guided during exposure. This pilot study manipulates the focus of attention during body exposure.
Methods: Female participants high in body dissatisfaction were randomly assigned to an exposure intervention that exclusively focused on self-defined attractive (n = 11) or self-defined unattractive (n = 11) body parts. Both interventions consisted of five exposure sessions and homework. Outcome and process of change were studied.
Results: Both types of exposure were equally effective and led to significant improvements in body satisfaction, body checking, body concerns, body avoidance and mood at post-test. Improvements for body satisfaction and mood were maintained at follow-up while body shape concerns and body checking still improved between post-test and follow-up. Body avoidance improvements were maintained for the positive exposure while the negative exposure tended to further decrease long-term body avoidance at follow-up.. The 'positive' exposure induced positive feelings during all exposure sessions while the 'negative' exposure initially induced a worsening of feelings but feelings started to improve after some sessions. The most unattractive body part was rated increasingly attractive in both conditions though this increase was significantly larger in the negative compared to the positive exposure condition.
Limitations: The sample size was small and non-clinical.
Conclusions: Both types of exposure might be effective and clinically useful. Negative exposure is emotionally hard but might be significantly more effective in increasing the perceived attractiveness of loathed body parts and in decreasing avoidance behavior.

1. Introduction

Body dissatisfaction is involved in the development, maintenance and relapse of eating disorders (Johnson & Wardle, 2005; Stice & Shaw, 2002). To increase body satisfaction, exposure is more and more used as part of eating disorder treatments. Studies show that mirror exposure increases body satisfaction of patients with anorexia nervosa (Key et al., 2002), normal weight eating disorder patients (Hildebrandt, Loeb, Troupe, & Delinsky, 2012), severely obese adolescents (Jansen et al., 2008), normal weight and overweight binge eaters (Hilbert, Tuschen-Caffier, & Vögele, 2002) and body dissatisfied students (Luethcke, McDaniel, & Becker, 2011; Moreno-Domínguez, Rodríguez-Ruiz, Fernández-Santaella, Jansen, & Tuschen-Caffier, 2012). These studies also show that body exposure can be done in several ways; it is still unclear how a good exposure should be done, and why it should be done that way. Some studies demonstrate the effectiveness of non-judgmental

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acceptance based exposure (Delinsky & Wilson, 2006; Hildebrandt et al., 2012; Trentowska, Svaldi, & Tuschen-Caffier, 2014 – though this latter study did not have a control condition), while others (Moreno-Domínguez et al., 2012) found that a focus on one's body while expressing the related feelings and thoughts elicited is more effective to increase body satisfaction than the non-judgmental describing of one's own body.

In an experimental eye-tracking study (Jansen, Nederkoorn, & Mulkens, 2005), we found that a healthy way of looking at one's own body is opposite to what most body dissatisfied patients do: While eating disorder patients focused on their self-defined negatively evaluated body parts during short exposure to pictures of their own body, healthy participants did exactly the opposite and focused on the own body parts that they had evaluated as most attractive. Moreover, providing evidence for a *causal* relationship between selective visual attention and body dissatisfaction, we found that the experimental manipulation of such an attentional bias towards negatively evaluated body parts in healthy students induced body dissatisfaction whereas the manipulation of a bias towards positively evaluated body parts increased body satisfaction in non-clinical body dissatisfied students (Smeets, Jansen, & Roefs, 2011). Translation of these experimental findings might mean that body exposure will be particularly effective when it induces an attentional bias towards body parts that are positively evaluated. Inducing such an attention bias might be considered the learning of a 'healthy' viewing pattern. In the present study, we compare the effectiveness of a body exposure intervention that is exclusively directed at body parts that are evaluated as most attractive vs. a body exposure intervention that is exclusively directed at body parts that are evaluated as most unattractive. It is hypothesized that focusing one's attention towards the most positively evaluated body parts will lead to a significantly stronger increase in body satisfaction and mood compared to focusing on the most negatively evaluated body parts. To also study the process of change, participants repeatedly rated their feelings during the exposure sessions and they also evaluated the attractiveness of their most extremely evaluated body parts (most unattractive and most attractive) after each session.

2. Method

2.1. Participants

First-year psychology students of Maastricht University voluntarily take part in an elaborate screening session at the beginning of each academic year. The Dutch questionnaire "My Looks" (Bouman, 1999), measuring body dissatisfaction (higher scores mean more body dissatisfaction), is part of this screening. The 20% highest female scorers with a self-reported Body Mass Index (BMI) between 19 and 27 were invited to take part in a training to improve body satisfaction. During screening interviews, it appeared that of the 27 interested students, five participants were not suitable to take part: four of them expressed no severe body dissatisfaction at the time of the interview and one participant was seriously depressed (BDI score > 30) and referred to mental health care. The remaining 22 female students were randomly assigned to the positive (n = 11) vs. negative exposure (n = 11). Mean age was 19.8 yrs (SD = 1.5, range 18–23) and mean BMI (measured at pre-test) was 23.5 (SD = 2.4, range 18–29). Two persons had a BMI >27: 27.2, 29.0, pointing to a discrepancy between their self-reported weight/height and the measured weight/height. We decided to include these participants in the study. There were no significant differences in age (t (20) = 1.1, *NS*) and BMI (t (20) = 1.3, *NS*) between both interventions. Participants received course credits or a €20 gift voucher for participation. The study was approved by the ethical committee of the Psychology department.

2.2. Design and interventions

All participants were treated individually by one of two female therapists (VV, YH) who each performed 50% of both exposure types. Exposure training and supervision were provided by cognitive behaviour therapists (SM, AJ). Both conditions consisted of a pre-session including pre-measurements, five exposure sessions, a post measurement and a follow-up. All sessions, except for the follow-up, took place within 3 weeks. Pre-measurements were done in the pre-session, post-measurements were done directly after the 5th exposure session. The follow-up measurement was one month after the post measurement. After the follow-up measurement, the participant was debriefed and received compensation. There were no drop-outs, all 22 participants completed all sessions.

2.2.1. Pre-session

In the pre-session, informed consent was signed, several questionnaires (see assessment) were completed and body weight and height were measured. Then 33 body parts were rated by the participant from 0 ("very unattractive") to 10 ("very attractive") and, depending on the condition, a hierarchy of either the 8 most attractive or the 8 most unattractive body parts was drawn up. To make the hierarchy, it was asked "for which of the body parts would it be the least difficult to look at and to talk about?" followed by "for which of the remaining body parts would it be the least difficult to look at and to talk about?" and so on.

After that, the rationale of the exposure was explained. Participants in the positive exposure condition were shown studies indicating that selective attention for negative body parts is related to body dissatisfaction while a focus on positive body parts is related to an increase in body satisfaction (Jansen et al., 2005; Smeets et al., 2011). It was explained that the goal of 'positive exposure' is to induce an attentional focus on positive body parts that, in the long run, should become more automatic and habitual. Participants in the negative exposure condition were explained that habituation to negative feelings without avoidance is necessary to increase body satisfaction. It was clarified that one usually avoids prolonged exposure to the body because of unpleasant feelings while prolonged exposure is necessary for the negative feelings to extinguish. The participants rated their expectations of the intervention (see assessment) and appointments for the 5 exposure sessions were made.

2.2.2. Exposure sessions

The intervention consisted of 5 individual exposure sessions within 3 weeks. The actual exposure in each session lasted 30 min; before and after the actual exposure, homework assignments were discussed. Participants in the positive exposure condition were exposed to their 8 self-defined most attractive body parts, participants in the negative exposure condition were exposed to their 8 self-defined most unattractive body parts. In every exposure session 2 body parts from the hierarchy were principally addressed, starting with the least difficult parts and building up to he two most difficult body parts from the hierarchy (in the last session). Flexibly switching back to previous body parts or moving on to a next one was allowed throughout all exposure sessions. In the last exposure session all 8 selected body parts were repeated. During the first exposure session, in vitro exposure took place: without a mirror and fully dressed. The participant was mentally exposed to her own body, being guided by the therapist to think of and talk about two specific body parts. After the 30 min in vitro exposure, homework was agreed upon and the participant was prepared for the next four in vivo sessions. In each of the next four sessions, 30 min of in vivo exposure was carried out. The participant stood before a large, full-