

Developing and Testing a Computerized Perceptual Training Paradigm to Alleviate Body Image Distortion

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Abstract

Body image distortion is a central feature of many mental health disorders, but particularly in eating disorders and muscle dysmorphia, yet current treatment approaches often show limited efficacy. This research aimed to establish key parameters for a cognitive-bias intervention to reduce body image concerns through perceptual training, and to provide an initial evaluation of its effectiveness in both sub-clinical and clinical populations. Across a series of experiments, participants—including healthy adults with significant body size concerns, individuals diagnosed with eating disorders, and males with muscle dysmorphia—completed a four-day computer-based training programme. Using state-of-the-art computer-generated body stimuli, participants judged whether bodies appeared “thin” or “fat” and received feedback intended to recalibrate their perceptual threshold for body size.

Results demonstrated significant improvements in body satisfaction and systematic changes in the perception of what constitutes a “thin” body in both clinical and sub-clinical groups. When adapted for muscle dysmorphia, the paradigm similarly shifted perceptions of muscularity, with participants subsequently judging less muscular bodies as larger than before training. Importantly, these perceptual and attitudinal changes were maintained at a three-month follow-up, indicating durable effects.

These findings provide convergent evidence that body image distortion can be modified through targeted perceptual learning mechanisms, offering a promising adjunct to existing cognitive-behavioral interventions. Ongoing work aims to refine the intervention parameters to minimize cognitive load for patient groups and to evaluate its long-term impact within a clinical recovery framework. The ultimate goal is to integrate this paradigm into clinical practice as an evidence-based, low-burden treatment for body image distortion.

Keywords

Body image, eating disorders, intervention, clinical, perception.