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CORRESPONDENCE

I'm in a virtual body: a locked allocentric memory may impair the experience of the body in both obesity and anorexia nervosa

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In a recent paper, Guardia and colleagues [1] observed an altered representation of the body in an obese patient: the patient experienced both implicitly and explicitly a wider body even after a successful weight reduction (before, 125 kg; after, 60 kg). On the one hand, this outcome is not uncommon and has been found also in about 30 % of the patients experiencing laparoscopic adjustable gastric banding [2]. On the other hand, this result has some similarities with another recent work by Guardia and colleagues [3] with anorexia nervosa patients: the patients experienced both implicitly and explicitly a wider body and the magnitude of the overestimation which was correlated with the size of the patient's body prior to disease onset. These data suggest a possible role of an inefficient memory of the body in the etiology of body image distortion in both obesity and anorexia nervosa. Specifically, according to the Allocentric Lock Hypothesis [4, 5] individuals with these disorders may be locked to an allocentric (from outside) memory of the body that is no longer updated by contrasting egocentric representations driven by perception. The main effects of this cognitive bias are two: experiential and cognitive. The first is the permanent experience of a "wrong" body, totally independent of the shape or the size of the real body: whatever the individuals will do to modify their real body, they will always be present in a virtual body (the allocentric memory) that is different from the real one. The second effect is cognitive: the allocentric memory reorganizes existing memories and structures the acquisition of new ones. Specifically, the virtual body stored in the memory produces a priming effect on any body-related experience drawing the individuals' attention to previously stored body-related stimuli and biasing interpretation of future body-relevant events. A possible key to unlock this virtual body is virtual reality: a recent controlled trial [6] with obese BED and a case study with an obese bariatric patient [7] demonstrated the ability of a virtual reality enhanced cognitive behavioral approach in reducing body image dissatisfaction and in improving the long-term outcome of the treatment.

In conclusion, these data suggest the need for a transdiagnostic approach recognizing that some overlapping dimensions can exist among obesity and anorexia nervosa. Thinking about these disorders as sharing a common etiology related to a specific cognitive impairment involving the experience of the body may yield important insights.

Further neuropsychological studies should investigate the efficiency of the egocentric and allocentric spatial reference frames in individuals with eating and weight disorders using both specific experimental designs and advanced brain imaging tools. The final aim should be an improvement of our knowledge about the role of body perception experiences in the etiology and in the treatment of these disturbances.

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