

## **Validation of the Cologne Body Image Test for Use in Patients with Anorexia nervosa**

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### **Authors**

Eva-Sofie Pasler, Dr. Anna Katharina Alexandridis

### **Introduction**

Body image disturbance is a core symptom of anorexia nervosa. It can be assessed by verbal, perceptive, projective, or descriptive-observing methods and may focus on cognitive, affective, perceptive, or motor aspects of body image (Joraschky et al. 2009). However, common diagnostic procedures for body image disturbance are unidimensional/unimodal, and therefore limited in their ability to show the complex layers of body image disturbance. For example, established perceptive methods are limited to visual perception. Additionally, the most commonly used method, -- gathering data via questionnaires--, is biased by social desirability.

### **Objectives**

The idea of the Cologne Body Image Test (KKT) is to provide a multidimensional/multimodal instrument to picture the variety of body image disturbance in AN, taking into account visual, tactile, and kinesthetic perception of one's body. The test is conceptualized as a task-oriented diagnostic instrument, in which patients are instructed to estimate the girth of objects (i.e., a cylinder) and body parts (i.e., of oneself and of the test administrator) on the basis of standardized guided perception on the tactile, kinesthetic, and visual level. Within this procedure, patients' self-report of emotional strain and quality of emotion is elicited, as well as the degree of identification with objects or the test administrator. The aim of the study was to evaluate differences in girth estimations, emotional strain and identification with estimated objects by comparing inpatients with AN to healthy controls (HC).

### **Methods**

The Cologne Body Image Test was administered to 27 inpatients with a confirmed diagnosis of anorexia nervosa, and 27 healthy subjects matched in age and education level. The Eating Disorder Examination Questionnaire (EDE-Q; German translation by Hilbert & Tuschen-Caffier, 2006) was used to confirm inclusion of healthy subjects. Both groups also completed the Body Attitude Test (BAT) (Probst, Van Coppenolle & Vandereycken, 1995). Results were compared and contrasted between the two tests.

## Results

Correlations between the BAT and the KKT were calculated for criterion validity for the emotional qualities joy, anger, grief, and anxiety. The results vary from .5 to .7 for anger, grief, and anxiety, and showed a negative correlation of -.8 for joy.

The Cologne Body Image Test demonstrates significant differences in girth estimations of objects (small object:  $F(1)=8.48$ ;  $p<.01$ , large object:  $F(1)=6.50$ ;  $p<.05$ ) and estimations of own body parts (ankle:  $F(1)=9.46$ ;  $p<.01$ , pelvis:  $F(1)=5.15$ ;  $p<.05$ ) between the research groups. These significant differences do not appear in the first trial. No group effects on estimations of girths of the test administrator were found.

AN and HC differ significantly in emotional strain during girth estimations of own body parts (ankle:  $F(1)=14.44$ ;  $p<.001$ , pelvis:  $F(1)=22.02$ ;  $p<.001$ ), as well as in quality of emotion. Patients with AN feel significantly less joy and more intense anxiety during the girth estimations of their own ankles (joy:  $F(1)=57.16$ ;  $p<.001$ , anxiety:  $F(1)=37.18$ ;  $p<.001$ ), and especially of their own pelvises (joy:  $F(1)=63.54$ ;  $p<.001$ , anxiety:  $F(1)=37.72$ ;  $p<.001$ ) in comparison to healthy controls. Identification with estimated objects is significantly higher in anorexia nervosa patients. Accordingly, AN patients identify with their own body to a significant lesser extent than HC (ankle:  $F(1)=37.16$ ;  $p<.001$ , pelvis:  $F(1)=24.75$ ;  $p<.001$ ).

## Conclusion

The Cologne Body Image Test reveals differences in affective and perceptive aspects of body image between patients with anorexia nervosa, and healthy controls. Especially the absence of joy has shown to be a measure of body image disturbance in anorexia nervosa. Further research is needed to explain the similarities between AN and HC concerning girth estimations and emotional strain in the test administrator part of the KKT. In this controlled study, the Cologne Body Image Test showed potential to assess the different layers of body image disturbance via one multimodal, multidimensional, task-oriented assessment tool.

## References

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