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Memory bias in anorexia nervosa: Evidence from directed forgetting

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Abstract

The aim of this study was to examine memory bias for disorder-relevant information in anorexia nervosa by using the directed forgetting paradigm. Normal controls and patients with anorexia nervosa were given a list consisting of neutral and disorder-relevant words, which they were either asked to remember (R) or forget (F). Memory performance was measured by a free recall and a Yes/No recognition task for all items. There was a directed forgetting effect for both groups; however, the magnitude of the effect (difference between R and F words) was smaller for the patient group due to higher recall of F items. Further analyses showed that this was true only for disorder-relevant but not for neutral items. Our findings support the existence of a strong memory bias for disorder-relevant information in patients with anorexia nervosa, who had difficulty in avoiding the processing of information that they were asked to forget.

Keywords: Memory bias; Anorexia nervosa; Eating disorders; Directed forgetting; Information processing

1. Introduction

Cognitive behavioral theories of eating disorders assign a significant role to cognitive processes in the maintenance of the pathology (Vitousek & Hollon, 1990; Williamson, White, York-Crowe, & Stewart, 2004). These theories argue that patients with eating

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disorders have a self-schema that focuses on different domains (e.g., size, shape, weight, food, etc.). These schema guide information processing and lead attention to weight-relevant stimuli (either internal or external) in the environment, resulting in a bias favoring disorder-related information (Williamson, 1996; Williamson, Muller, Reas, & Thaw, 1999; Williamson et al., 2004). One prediction of cognitive–behavioral models is that such disorder-relevant information would be well attended to and encoded because patients with eating disorders cannot avoid processing such information (i.e., cannot disengage from the stimuli). Since there already is an existing schema, acquisition of and memory for that information would be facilitated. More recent transdiagnostic theoretical approaches (Fairburn, Cooper, & Shafran, 2003) argue for the continuity between eating disorders that are claimed to be categorically different (anorexia nervosa (AN), bulimia nervosa (BN), and EDNOS). This model suggests that there is a core psychopathology common to all these eating disorders and that common mechanisms, including cognitive biases, play a role in the maintenance (Shafran, Lee, Cooper, Palmer, & Fairburn, 2007).

1.1. Attention bias in eating disorders

There are several studies addressing attention biases in eating-related psychopathology, mostly using the emotional Stroop task. This line of research consistently showed that patients with AN and those with BN (e.g., Ben-Tovim & Walker, 1991; Ben-Tovim, Walker, Fok, & Yap, 1989; Cooper, Anastadiades, & Fairburn, 1992; Davidson & Wright, 2002; Green, Corr, & De Silva, 1999) as well as analogue groups such as dieters or high-restraint individuals (Ferraro, Andres, Stromberg, & Kristjanson, 2003; Francis, Stewart, & Hounsell, 1997) have positive attentional biases toward disorder-related material. Similar findings have been reported with the dot-probe paradigm (Reiger et al., 1998; Shafran et al., 2007).

In their review of information processing in eating disorders, Lee and Shafran (2004) observed that (a) an overwhelming majority of studies with patients and analogue groups found a bias for disorder-relevant information, (b) such biases tended to be more consistent for patients than for analogue groups, and (c) larger effects were observed in patients with AN than those with BN. They also noted a relative scarcity of research on memory biases in patients with eating disorders. They were able to locate more than 25 published articles on attention biases, but only six on memory biases, three of which were carried out with analogue samples.

1.2. Memory bias in eating disorders

In the first study on this issue, King, Polivy, and Herman (1991) looked at whether obese and eating disordered individuals showed a memory bias for weight- and food-related information about a person described in an essay. They found that both groups recalled more weight- and food-related information than other items, implying the existence of a memory bias. They also reported a moderate correlation between restraint scores and the frequency of mention of disorder-relevant information in a different task in which the participants were asked to report several types of information (e.g., five types of things they spent most time thinking about). However, the results of this study should be interpreted with some caution because the comparison involved only 6 eating disordered