Memory and memory confidence in obsessive–compulsive disorder

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Received in revised form 9 May 2000

Abstract

Pathological doubt, often found in individuals with obsessive–compulsive disorder (OCD), has been theoretically linked to memory deficits, but empirical evidence for such deficits has been mixed. In contrast, many studies suggest that individuals with OCD have low confidence in their memories. The present study aimed to build upon previous research by measuring memory accuracy and confidence in OCD using ecologically valid, idiographically-selected stimuli. Individuals with OCD (OCs), anxious controls (ACs), and nonanxious controls (NACs) were exposed to a set of objects that the OCs had identified as safe, unsafe, or neutral. Participants were then asked to recall as many objects as possible and to rate their confidence in each memory. This process was repeated 6 times, using the same stimuli for each trial. Contrary to hypothesis, no group differences emerged in memory accuracy. However, OCs’ memory confidence for unsafe objects showed a progressive decline over repeated trials. This pattern was not observed among NACs or ACs. Furthermore, OCs with primary checking reported lower confidence in long-term memory than did OCs without primary checking. These results suggest that when OCs are repeatedly exposed to threat-related stimuli (such as repeated checking), their level of confidence in remembering these stimuli paradoxically decreases. © 2001 Elsevier Science Ltd. All rights reserved.

Keywords: Obsessive-compulsive disorder; Memory; Confidence; Cognition

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PII: S0005-7967(00)00064-4
1. Memory and confidence biases in OCD

Pathological doubt is often observed in individuals with OCD (OCs; e.g., Rasmussen & Eisen, 1989). Reed (1985) suggested that OCD-related doubt reflects uncertainty about the properties of a stimulus, situation, or action. For example, OCs frequently report uncertainty about whether they have performed actions correctly, have committed infractions, have contacted contaminants, etc. In an attempt to reduce their doubt, OCs are likely to engage in compulsive behaviors such as checking, washing, assurance-seeking, and repeating activities. Rachman and Hodgson (1980) posited a strong relationship between pathological doubt and checking rituals. In a similar vein, Rasmussen and Eisen (1992) proposed that although doubt can be found across the range of OCD symptoms, it is “seen in its purest form” (p. 750) in patients with predominant checking rituals (e.g., driving around the block to ascertain that they did not run over anyone, returning home to make sure that the front door is locked, and calling relatives to check that they have not been harmed). One hypothesis about the source of doubt is that OCs have a general memory deficit (cf. Reed, 1977).

Despite the intuitive appeal of a memory-deficit theory of OCD, empirical studies have yielded mixed results. In one study, individuals with subclinical checking concerns showed no differences in memory for words, compared to non-checkers, but exhibited poorer recall for previously completed actions (Rubenstein, Peynircioglu, Chambless, & Pigott, 1993). This pattern appears stronger for checkers than for washers (Sher, Frost, Kushner, Crews, & Alexander, 1989; Sher, Frost, & Otto, 1983). Furthermore, neuropsychological studies indicate that OCs show deficits in nonverbal memory, compared to NACs (Boone, Ananth, Philpott, Kaur, & Djenderjian, 1991; Christensen, Kim, Dyksen, & Hoover, 1992; Cohen et al., 1996; Dirson, Bouvard, Cottraux, & Martin, 1995; Savage et al., 1996; Zielinski, Taylor, & Juzwin, 1991). Other investigations, however, have failed to find evidence of an overall memory deficit among OCs (Abbruzzese, Bellodi, Ferri, & Scarone, 1993; Brown, Kosslyn, Breiter, Baer, & Jenike, 1994; Foa, Amir, Gershuny, Molnar, & Kozak, 1997; MacDonald, Antony, MacLeod, & Richter, 1997; McNally & Kohlbek, 1993). Thus, the literature is mixed regarding the presence of a general memory deficit in OCD.

An alternative to the general deficit hypothesis is the hypothesis that OCs have memory deficits only for threat-related stimuli or activities. For example, an individual who fears leaving the oven on will exhibit poor memory for whether or not they had turned the oven off, but will show normal memory performance for non-feared activities. The few studies investigating this hypothesis suggest a bias in the opposite direction, i.e., enhanced memory for threat-related information. Using threat-relevant and threat-irrelevant actions, Constans, Foa, Franklin and Mathews (1995) found that compared to NACs, OC checkers exhibited superior recall for previously completed actions, but only when those actions elicited anxiety. Recently, Radomsky and Rachman (1999) found similar results using a different paradigm. OC washers and NACs were asked to look at everyday (neutral valence) objects, touched with either a clean cloth or one they were told was “probably dirty.” In a subsequent recall test, OCs recalled more “contaminated” objects than “clean” objects, and recalled fewer “clean” objects than did NACs. Thus, there are two studies suggesting that OCs show a specific bias toward remembering threat material relevant to OCD.

A third hypothesis is that OCs suffer from low confidence in their memories which leads to pathological doubt. Two studies have assessed memory confidence in OCs using a “reality moni-
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