Explicit and implicit memory biases in depression and panic disorder

R.M. Baños a,*, P.M. Medina b, J. Pascual b

a Department of Personality, Assessment and Psychological Treatments, Faculty of Psychology, Universidad de Valencia, Avda. Blasco Ibáñez 21 46010 Valencia, Spain
b Department of Methodology, Faculty of Psychology, Universidad de Valencia, 46010 Valencia, Spain

Received 22 September 1999

Abstract

The purpose of the present study was to investigate the presence of a bias for emotional information (panic-related, depression-related, positive and neutral) in explicit memory and implicit memory (by means of free recall and word-stem completion tasks, respectively) among depressed (N=20) and panic (N=20) patients. Three different encoding conditions (graphemic, semantic and self-reference) were used. The results of this study failed to show the existence of a mood-congruent memory bias for both implicit and explicit memory in these emotional disorders. According to the correlational analyses performed, differences among categories of emotional words meant less than the difference among various types of encoding and memory bias in order to differentiate among groups. © 2000 Elsevier Science Ltd. All rights reserved.

Keywords: Depression; Panic disorder; Implicit memory; Explicit memory; Mood-congruent memory

1. Introduction

Mood-congruent memory (MCM) has been defined as the tendency to recall information that is consistent with one’s mood (Watkins, Mathews, Williamson & Fuller, 1992). Several cognitive theories have accounted well for this bias, as for example, Bower’s (1981) spreading activation...
theory or Beck’s (e.g. Kovacs & Beck, 1978) schema approach. However, there are some problems with these theories. Both approaches predict the presence of a MCM bias in all emotional disorders. This bias appears to be a robust finding in depression (for a review, see Blaney, 1986) but, in contrast, anxious patients do not seem to show facilitated recall or recognition memory for threat-related stimuli. Given these discrepancies, Williams, Watts, MacLeod and Mathews (1988) developed an alternative theory of emotional disorders. Following the approach of Mandler (1980), they proposed two stages in the cognitive processing: an automatic, preattentive stage (integration or activation) and a subsequent strategic, postattentive stage (elaboration). Integration or activation refers to the process that serves to strengthen the internal cohesiveness of a mental representation, whereas elaboration involves the formation and strengthening of associations between a mental representation and other existing representations in memory. Anxiety would be associated with the facilitated integrative processing of the threat-related information, but with no equivalent bias in the elaborative processing of such information. In contrast, depression would show the opposite pattern.

Graf and Mandler (1984) discussed the potential relevance of the distinction between integration/activation and elaboration for explicit memory (EM) and implicit memory (IM). Most of investigators agree on the fact that EM performance depends more on the extent of elaboration whereas IM depends more on the extent of integration/activation (Graf & Mandler, 1984). Consequently, Williams et al.’s (1988) theory predicts that anxiety disorders would be characterised by implicit, but no explicit, MCM bias, whereas depressive disorders would be characterised by explicit, but no implicit, MCM bias.

Regarding depression, although it is well established that this disorder is associated with facilitated EM for negative emotional stimuli (e.g. Derry & Kuiper, 1981; Dobson & Shaw, 1987; Mathews & Bradley, 1983), there are controversial results about IM for emotional information. In some studies (Danion, Kauffmann-Muller, Grange, Zimmermann & Greth, 1995; Denny & Hunt, 1992; Hertel & Hardin, 1990; Watkins et al., 1992), depressives showed facilitated EM, but no IM, for negative information. However, other studies (Bradley, Mogg & Miller, 1996; Bradley, Mogg & Williams, 1994, 1995; Ruiz-Caballero & González, 1994, 1997; Watkins, Vache, Verney & Mathews, 1996) found that depression was associated with MCM bias in automatic aspects of IM. Nevertheless, only two of the latter studies used clinical populations (Bradley et al., 1995, 1996).

In contrast to depression, anxiety disorders are rarely associated with enhanced EM for threat-related information (with the exception of Panic Disorder), and research on MCM in anxiety has yielded equivocal results. On the one hand, several studies have found that GAD is characterised by implicit, but no explicit, MCM (e.g. MacLeod & McLaughlin, 1995; Mathews, Mogg, May & Eysenck, 1989), but others failed to replicate this finding (e.g. Mathews, 1994). Patients with PTSD also seem to exhibit IM bias for combat-related words (Amir, McNally & Wiegartz, 1996). However, social phobics do not seem to show either IM or EM bias (Lundh & Öst, 1997; Rapee, McCallum, Melville, Ravenscroft & Rodney, 1994), except for the subgroup of nongeneralised social phobics, who did show an IM bias (Lundh & Öst, 1997).

Regarding Panic Disorder (PD), several studies have shown that these patients are characterised by an enhanced conscious recall for threatening material. Furthermore, Becker, Rinck and Margraf (1994); Cloitre and Liebowitz (1991); Lundh, Czyzykow and Öst (1997) and McNally, Foa and Donnell (1989) reported a greater threat-bias in an EM task than in an IM task for PD patients.