# Memory for actions and dissociation in obsessive-compulsive disorder

chotic-like and schizotypal symptoms. *J Nerv Ment Dis* 172: 681–691.
Chapman LJ, Chapman, JP, Raulin, M (1976) Scales for physical and social anhedonia. *J Abnorm Psychol* 85:374–382.
Chapman LJ, Chapman JP, Raulin, ML (1978) Body-image aberration in schizophrenia. *J Abnorm Psychol* 87:399–407.
Chapman LJ, Edell WS, Chapman JP (1980) Physical anhedonia, perceptual aberration, and psychosis proneness. *Schizophr Bull* 6:639–653.
Claridge GS (1990) Can a disease model of schizophrenia survive? In RP Bentall (Ed.), *Reconstructing schizophrenia* (pp 157–184). London: Routledge.
Coleman MJ, Levy D, Lenzenweger M, Holzman, P (1996) Thought disorder, perceptual aberrations, and schizotypy. *J Abnorm Psychol* 103:469–473.
Drewer HB, Shean GD (1993) Reaction time crossover in schizotypal subjects. *J Nerv Ment Dis* 181:27–30.
Eckblad M, Chapman LJ (1983) Magical ideation as an indicator of schizotypy. *J Consult Clin Psychol* 51:215–225.
Gooding DC, Kwapil TR, Tallent K (1999) Wisconsin Card Sorting Test deficits in schizotypal individuals. *Schizophr Res* 40:201–209.
Gruzelier JH (1996) The factorial structure of schizotypy: Part I. Affinities with syndromes of schizophrenia. *Schizophr Bull* 22:611–620.
Gunderson JG, Siever LJ, Spaulding E. (1983) The search for a schizotype: crossing the border again. *Arch Gen Psychiatry* 40:15–22.
Jourard SM (1971) *Self-disclosure: An experimental analysis of the transparent self.* New York: Wiley & Sons, Inc.
Kety SS, Rosenthal D, Wender PH, Schulsinger F (1968) The types and prevalences of mental illness in the biological and adoptive families of adoptive schizophrenics. In D Rosenthal, SS Kety (Eds.), *The transmission of schizophrenia* (pp 345–362). New York: Pergamon Press.
Kendler KS (1985) Diagnostic approaches to schizotypal personality disorder: A historic perspective. *Schizophr Bull* 11;538–553.
Kendler K, McGuire M, Gruenberg A, Walsh D (1995) Schizotypal symptoms and signs in the Roscommon family study. *Arch Gen Psychiatry* 52:296–303.
Kwapil TR, Chapman LJ, Chapman J (1999) Validity and usefulness of the Wisconsin Manual for Assessing Psychotic-like Experiences. *Schizophr Bull*, 25, 363–375.
Liddle PF (1987) The symptoms of chronic schizophrenia. *Br J Psychiatry* 151:145–151.
Meehl PE (1962) Schizotaxia, schizotypy, schizophrenia. *Am Psychol* 12:827–838.
Meehl PE (1964) *Manual for use with checklist of Schizotypic signs.* Unpublished manuscript, University of Minnesota.
Meehl PE (1990) Toward an integrated theory of schizotaxia, schizotypy, and schizophrenia. *J Pers Dis* 4:1–99.
Numbers JS, Chapman LJ (1982) Social deficits in hypothetically psychosis-prone college students. *J Abnorm Psychol* 91:255–260
O'Driscoll GA, Lenzenweger M, Holzman P (1998) Antisaccades and smooth pursuit eye tracking and schizotypy. *Arch Gen Psychiatry* 55:837–843.
Rado S (1962) *Psychoanalysis of behavior: Collected papers* (Vol 2). New York: Grune & Stratton.
Spitzer RL, Endicott J, Gibbon M (1979) Crossing the border into borderline personality and borderline schizophrenia. *Arch Gen Psychiatry* 36:17–24.
Tyrka AR, Cannon T, Haslam N, Mednick S, Schulsinger F, Schulsinger H, Parnas J (1995) The latent structure of schizotypy: I. *J Abnorm Psychol* 104:173–183.
Vollema MG, and van den Bosch R (1995) The multidimensionality of schizotypy. *Schizophr Bull*, 21:19–31.
Zborowski MJ, Garske JP (1993) Interpersonal deviance and consequent social impact in hypothetically schizophrenia-prone men. *J Abnorm Psychol* 102:482–489.

Glenn Shean, Ph.D.
Aaron Wais, B.A.[1]

[1] Department of Psychology, College of William & Mary, P.O Box 8795, Williamsburg, Virginia 23187-8795. Send reprint requests to Dr. Shean.

## Memory for Actions and Dissociation in Obsessive-Compulsive Disorder

A number of authors have suggested that memory dysfunctions are implicated in the ritualistic behavior of obsessive-compulsive disorder (OCD) patients. More specifically, it has been argued that OCD patients suffer from a poor memory for actions (for a review see, Tallis, 1997). According to one version of this theory, OCD patients, in particular those who exhibit repetitive checking, have difficulty in differentiating between memories of performed acts and memories of imagined acts. This impairment in reality monitoring would fuel patients' need to engage in compulsive behavior (*e.g.*, checking). In the words of Sheffler Rubinstein et al. (1993; p. 764): "perhaps in everyday life, checkers' repetitive behavior is prompted in part by an inability to accurately remember what action they took in a particular circumstance."

Studies examining reality monitoring skills of OCD patients have come up with mixed results. Thus, whereas Sheffler Rubinstein et al. (1993) and Ecker and Engelkamp (1995) found evidence to suggest that, compared with control individuals, persons with OCD characteristics more often misremember whether they have performed or only imagined certain actions, McNally and Kohlbeck (1993), Brown et al. (1994), and Constans et al. (1995) reported that OCD patients do not differ from normals in terms of reality monitoring skills.

A more robust finding emerging from this research domain is that OCD patients have less confidence in their own memory performance (*e.g.*, McNally and Kohlbeck, 1993) or desire more detail before they are comfortable with their memory performance (Constans et al., 1995). Similarly, findings reported by MacDonald et al. (1997) support the idea that checking in OCD is a symptom of decreased confidence in memory.

Reality monitoring deficits have also been linked to high levels of dissociation. In fact, Hyman and Pentland (1996; p. 104) interpreted Bernstein and Putnam's (1986) widely used Dissociative Experiences Scale (DES) to be "a measure of individual differences of difficulties in reality monitoring." In line with this, there are some preliminary findings suggesting that people who score high on the DES are prone to memory errors that can be framed in terms of a reality monitoring deficit (*e.g.*, Hyman and Pentland, 1996). With this in mind, the present study sought to examine whether reality monitoring deficits in OCD patients critically depend on levels of dissociation.

### *Methods*

*Participants.* Nineteen individuals (12 women) with DSM-IV (American Psychiatric Association, 1994) diagnosed OCD and 16 nonpatient controls (5 women) matched on education and age participated in the study. Patients were re-

cruited from a local outpatient facility specializing in the treatment of anxiety disorders. They formally consented to participate in the study, which took place before or during the early phase of their treatment. A Dutch version of the Structured Clinical Interview for DSM-IV (SCID; First et al., 1997) was administered by a clinician (not the patient's therapist) to establish the OCD diagnosis. Seven patients were checkers, nine engaged in compulsive washing and cleaning, whereas the remaining patients suffered from other OCD symptoms (*e.g.*, obsessive thoughts). Four patients were on psychotropic medication. Nonpatient controls were recruited by advertisements in local newspapers. They were also evaluated with the SCID so as to exclude controls with OCD characteristics. Controls signed a written consent and were paid for their participation in the study.

*Procedure.* Both OCD patients and controls underwent a brief reality monitoring task derived from Cohen (1981). They were given verbal descriptions of actions (*e.g.*, "stretch your arm"; "look at the ceiling"). The verbal descriptions were printed on separate cards. When the participant had read the card, the experimenter gave the instruction to either perform or to imagine the action. Three test trials were given, and when the experimenter had assured that participant understood the task, the experiment proper started. There were 18 trials on which participants had to carry out a simple action and 18 trials during which they only had to imagine performing an action. Performance and imagination trials were, of course, randomly presented. Next, participants filled out the 28-item DES, which is a standard measure of dissociation. After this, participants received a surprise recognition task that involved the 36 action descriptions. Participants were asked to indicate whether they had performed or only imagined each item and they also indicated on 3-point scales (0 = not sure; 3 = absolutely sure) how much confidence they had in their answers.

### *Results*

Table 1 shows mean proportions of correct reality monitoring identifications, mean confidence ratings for correct identifications, and DES scores. As can be seen, OCD patients did not have fewer correct reality monitoring identifications than controls; if anything, OCD patients tended to perform better on the reality monitoring task ($t[33] = 1.6$, $p = .11$). In contrast, they were less confident about their correct identifications than were controls (corrected $t[26.2] = 1.7$, $p < .05$; one-tailed). Compared with controls, OCD patients had higher DES scores (corrected $t[28.9] = 2.6$, $p < .01$). Across the entire sample, DES scores did not correlate with proportions of correct identifications ($r = .29$, $p > .09$), but there was a significant connection between DES and confidence ratings ($r = -.37$, $p = .04$), indicating that higher scores on the DES are related to reduced confidence in correct reality monitoring decisions. Separate correlational analyses for each subgroup (*i.e.*, OCD patients and nonpatient controls) showed that DES scores were negatively associated with confidence ratings in the OCD group ($r = -.41$, $p = .05$; one-tailed), but not in the control group ($r = .13$, NS). A series of separate one-way analyses of variance (ANOVAs) in which OCD patients with checking symptoms were systematically compared with OCD patients with other symptoms and nonpatient controls by means of post-hoc Tukey tests ($p$ set at $< .01$) revealed no differences between checkers ($N = 7$) and other OCD patients ($N = 12$).

TABLE 1
*Mean Proportion of Correct Reality Monitoring Identifications, Confidence Ratings, and DES Scores of OCD Patients (N = 19) and Nonpatient Controls (N = 16); Standard Deviations Are Given between Parentheses*

| Group | Proportion Correct | Confidence | DES |
|---|---|---|---|
| OCD patients | .97 (.034) | 2.88 (.150) | 24.5 (16.1) |
| Controls | .94 (.059) | 2.95 (.087) | 12.6 (08.9) |

### *Discussion*

The present study found no evidence to suggest that OCD patients in general or checkers in particular suffer from poor reality monitoring of memory for action. Compared with nonpatient controls, OCD patients did not perform worse when they had to remember whether an action was carried out or only imagined. In fact, OCD patients tended to show superior performance on the reality monitoring task. Although OCD patients were found to have higher dissociation levels, there is no reason to believe that dissociation modulates reality monitoring performance. However, OCD patients did differ from nonpatient controls in having less confidence in their correct reality monitoring decisions and this reduced confidence was found to be related to dissociation. The higher patients scored on dissociation, the less confidence they had in their (intact) reality monitoring skills.

The results of our study are in line with those of previous studies. Both McNally and Kohlbeck (1993) and Constans et al. (1995) found no differences in reality monitoring ability between OCD patients and controls, whereas Brown et al. (1994) reported superior reality monitoring performance of OCD patients compared with normal control individuals. Likewise, both McNally and Kohlbeck (1993) and MacDonald et al. (1997) noted that OCD patients have reduced confidence in their memory performance. As to dissociation, there has been a tendency in the literature to treat this variable as a measure of individual differences in reality monitoring ability (*e.g.*, Hyman and Pentland, 1996). Yet, studies that directly addressed this issue by comparing reality monitoring performance of individuals scoring high or low on the DES found little or no evidence for the assumption that people with high DES scores suffer from reality monitoring deficits (*e.g.*, Koppenhaver et al., 1997; Merckelbach et al., 2000; Van den Hout et al., 1996). Although the DES contains items that allude to reality monitoring difficulties (*e.g.*, not sure if remembered event happened or was a dream; so involved in fantasy that it seems real), respondents' endorsement of these items may reflect memory distrust rather than reality monitoring problems per se. Support for this line of reasoning comes from studies that found a considerable overlap between DES and self-reported cognitive failures (*e.g.*, Merckelbach et al., 1999). What this suggests, then, is that high dissociation is linked to an unfavorable evaluation of one's own cognitive efficiency.

In the older literature, OCD and dissociative disorders have often been treated as two completely different types of neurosis (*e.g.*, Pitman, 1987). On the other hand, more recent work (*e.g.*, Ross and Anderson, 1988) has drawn attention to some interesting parallels between these conditions. The present results suggest that one shared feature may be an overly critical attitude toward one's own memory functioning.

*Conclusion*

Unlike studies on reality monitoring ability in schizophrenic patients (*e.g.*, Brebion et al., 1997), studies on reality monitoring of OCD patients have generally yielded disappointing results. Thus, the current results in combination with those of previous research indicate that it is time to discard the hypothesis that OCD patients tend to misremember whether they performed or only imagined actions. Instead, it seems more fruitful to concentrate on these patients' underestimation of their own memory functioning and the role that dissociation plays in this regard.

### References

American Psychiatric Association (1994) *Diagnostic and statistical manual of mental disorders* (4th Ed). Washington, DC: Author.

Bernstein EM, Putnam FC (1986) Development, reliability, and validity of a dissociation scale. *J Nerv Ment Dis* 174:727–735.

Brebion G, Smith MJ, Gorman JM, Amador X (1997) Discrimination accuracy and decision biases in different types of reality monitoring in schizophrenia. *J Nerv Ment Dis* 185:247–253.

Brown HD, Kossly SM, Breiter HC, Baer L, Jenike MA (1994) Can patients with obsessive-compulsive disorder discriminate between percepts and mental images? A signal detection analysis. *J Abnorm Psychol* 103:445–454.

Cohen RL (1981) On the generality of some memory laws. *Scand J Psychol* 22:267–281.

Constans JI, Foa E, Franklin ME, Mathews A (1995) Memory for actual and imagined events in OC checkers. *Behav Res Ther* 33:665–671.

Ecker J, Engelkamp J (1995) Memory for actions in obsessive-compulsive disorder. *Behav Cogn Psychother* 23:349–371.

First MB, Spitzer RL, Gibbon M, Williams JBW (1997) *Structured Clinical Interview for DSM-IV Axis I Disorders.* New York: Biometrics Research Department.

Hyman I, Pentland J (1996) The role of mental imagery in the creation of false memories. *J Memory Language* 35:101–117.

Koppenhaver JM, Kumar VK, Pekala RJ (1997) Dissociativity, imagery vividness, and reality monitoring. *Dissociation* 10: 21–28.

MacDonald PA, Antony MM MacLeod CM, Richter MA (1997) Memory and confidence in memory judgments among individuals with obsessive-compulsive disorder and non-clinical controls. *Behav Res Ther* 35:497–505.

McNally RJ, Kohlbeck PA (1993) Reality monitoring in obsessive-compulsive disorder. *Behav Res Ther* 31:249–253.

Merckelbach H, Muris P, Horselenberg R, Stougie S (2000) Dissociative experiences, response bias, and fantasy proneness in college students. *Pers Individ Diff* 28:49–58.

Merckelbach H, Muris P, Rassin E (1999) Fantasy proneness and cognitive failures as correlates of dissociative experiences. *Pers Individ Diff* 26:961–967.

Pitman RK (1987) Pierre Janet on obsessive-compulsive disorder (1903). *Arch Gen Psychiatry* 44:226–232.

Ross CA, Anderson G (1988) Phenomenological overlap of multiple personality disorder and obsessive-compulsive disorder. *J Nerv Ment Dis* 176:295–299.

Sheffler Rubenstein C, Peynircioglu ZF, Chambless DL, Pigott TA (1993) Memory in subclinical obsessive-compulsive checkers. *Behav Res Ther* 31:759–765.

Tallis F (1997) The neuropsychology of obsessive-compulsive disorder: A review and consideration of clinical implications. *Br J Clin Psychol* 36:3–20.

Van den Hout MA, Merckelbach H, Pool K (1996) Dissociation, reality monitoring, trauma, and thought suppression. *Behav Cogn Psychother* 24:97–108.

Harald Merckelbach, Ph.D.
Ineke Wessel, Ph.D.[1]

[1] Department of Experimental Psychology, Maastricht University, P.O. Box 616, 6200 MD, Maastricht, The Netherlands. Send reprint requests to Dr. Merckelbach.

## Books

MENNINGER, ROY W., AND NEMIAH, JOHN C. *American Psychiatry after World War II, 1944–1994.* Washington, DC: American Psychiatric Press, Inc., 2000. xxv + 651 pp. $49.00.

Few of the giants of early 20th century psychiatry are still with us. The generation trained during and shortly after World War II has been thinned by time, and its survivors are definitely in the senior category. More than that, the survivors' predominantly longitudinal view of human behavior, persistent interest in patients' life stories, and in the significance of the therapeutic relationship, sets them apart from the cross-sectional view and the pharmacy-driven therapies of the majority of younger colleagues. We welcome any documentation of our fading era.

This volume of 25 chapters by 37 authors is such a welcome document. It is destined to become an important reference about the growth and vicissitudes of a field that can be identified as a liberal profession or as a medical specialty uniquely embedded in the socio-culture of its time. It contains most of the relevant dates, numbers, and lists that will be used by later students of the subject, especially those interested in the organizational life of the American Psychiatric Association (APA). In places, in their efforts to be complete, the individual chapters resemble outlines, careful to include attention to all aspects of a topic for which future investigators might search. This is not a history in the sense of presenting a guiding theory, framework, or organizational principle that unifies the 25 chapters, which are actually separate, though occasionally overlapping, essays. Nor, although it inevitably touches on the topics, is it an account of the mental health and psychological well-being of postwar Americans. It does, however, embody the perspectives of its authors, all of whom have lived through at least part of the period in question. The editors, themselves part of the senior generation, have lived through