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ACTIVATION OF IMPLICIT SELF-SCHEMAS AND A DIFFICULTY TO DISENGAGE FROM NEGATIVE COGNITIONS IN DEPRESSION: AN EXPERIMENTAL PSYCHOPATHOLOGY APPROACH

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An experimental analysis of the processes characterising psychopathology and its maintenance have become an established research area, called experimental psychopathology. Vulnerability for depression can be conceptualised as a combination of the existence of latent depressogenic self-schemas and incapacity to disengage from depressogenic cognitions. Therefore, the most recent research of our lab focused on these separate aspects of information processing. Based on measures of implicit cognition, remarkable results of positive self-esteem in depressed individuals which might be considered to be surprising from the perspective of cognitive theories of depression could be interpreted within a larger framework not only focussing on schema-activation but also on early versus elaborate processing and attentional bias. This endorses new questions that can be operationalised into new research projects in the future.

Introduction

The pattern of cognitive distortions observed during depression such as enhanced negative thinking, negative attributional style and increased accessibility of negative information has been frequently underpinned by different kinds of research (Abramson, Alloy, Hankin, Haeffel, & Gibb, 2002). These insights have been highly influential in the development of effective treatments for depression and it is now widely accepted that only empirically supported therapies should be used in clinical practice. However, many empirically validated techniques such as cognitive therapy are in fact the application of a set of procedures of which little is yet known with regard to the underlying working mechanisms and their relationship to vulnerability markers.

The development of cognitive therapy procedures such as teaching the patient to explore, examine and test the validity of his maladaptive belief system has been based on clinical theories of depression and, although much research has already been conducted on basic assumptions, process research

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investigating the validity of these theories remains an important research topic. Insight into working mechanisms underlying emotional problems (e.g., the processes underlying maladaptive schema activation) is clinically important because not all patients benefit equally from the current interventions based on the existing theories and because these insights are necessary for the further refinement and optimisation of psychotherapeutic techniques. This is also in line with the idea that empirically supported principles of change should be used in the treatment and prevention of psychopathology and not credential trademarked therapies per se (Rosen & Davidson, 2003). The enormous problem of relapse after successful therapy for depression (e.g., Segal, Williams, & Teasdale, 2002) which has led to the current view of depression as a chronic lifelong illness (for a review: see Judd, 1997) further underscores the necessity to understand working mechanisms, since successful interventions to facilitate long term prevention of relapse can only be developed when we know more about the basic processes underlying vulnerability factors.

Experimental approaches to psychopathology based on both cognitive psychology and neuropsychology and an experimental analysis of the processes characterising mental disorders and their maintenance have become an established research area, called experimental psychopathology. One could state that the dialogue with clinical practice guides this fundamental research since unresolved clinical questions are at the cornerstone of this research domain.

Investigating information processing in depression

Several theories on vulnerability factors for depression exist, in which the interplay of biological, cognitive and environmental factors is crucial, but these theories are difficult to test experimentally as a whole. Within cognitive therapy, the existence of negative self-related dysfunctional schemas is emphasised to explain the onset and maintenance of depression (Clark, Beck, & Alford, 1999). We developed a learning theory/neurobiological model for complex dysfunctioning with an emphasis on the fact that not only schema content is important but also the process behind the activation of negative self-schemas (De Raedt, Schacht, Cosyns, & Ponjaert-Kristoffersen, 2002).

Vulnerability for depression can be conceptualised as a combination of the existence of latent negative self-schemas and the incapacity to disengage from depressogenic thinking. This viewpoint is in line with the depressive cognitive loop model (Ingram, 1984) and the depressive interlock model (Teasdale & Barnard, 1993), which describes self-perpetuating negative cognitions after a stressor or negative mood has triggered depressogenic

thoughts.

In the present paper, we will discuss research of our lab on two related processes using experimental paradigms to uncover theoretically important psychological vulnerability factors: the automatic activation of depressogenic schemas and attentional biases reflecting dysfunctional disengagement processes.

Indirect measures of schema activation

At present, it is striking that schemas are mainly investigated using self-report questionnaires (Hammen, 1997). It may be doubtful, however, whether meaningful results can be achieved in this way. Self-reporting may be influenced by demand effects and social desirability and within cognitive models of depression it is assumed that the crucial negative schemas are not necessary consciously accessible (Beck, Rush, Shaw, & Emery, 1979; Young, 1994). These schemas are considered to be automatically activated and to escape reflection and reasoning (Clark et al., 1999). Therefore, a distinction is drawn between the underlying schema processes that may not be accessible and the products of such processes, which, for their part, are accessible within the conscious mind such as inferences and interpretations of situations (Ingram & Wisnicki, 1991). It is critical to test new paradigms which have been developed within experimental psychology and which could provide a satisfactory means of evaluating these underlying negative self-schema processes.

Indirect measures that could be useful to evaluate the activation of the above mentioned negative self-schemas measure so called "implicit self-esteem", which has been defined as an automatic evaluation of the self (Greenwald & Banaji, 1995). Although a debate is going on concerning this automaticity, definitions and the specific characteristics of different measures that are supposed to assess implicit self-esteem (See De Houwer, 2006), it is of major importance for our purposes that self-attitudes are measured by means of a procedure that is relatively free of deliberate strategic processes. The existing paradigms that are assumed to measure attitudes towards the self indirectly are based on the core assumption that people assign value to objects that are associated with their self, and that these attitudes can be activated automatically after confrontation with such objects.

The Name Letter Preference Task (NLPT) is based on the assumption that the initials of one's own name are associated with the self and that a measurement of how well people like these initials relative to all other letters reflects their implicit attitudes toward the self (Nuttin, 1985). Research has supported the validity of the NLPT as an indirect measure driven by automatic self-evaluations (Koole, Dijksterhuis, & van Knippenberg, 2001). However, the most widely used indirect measurement of self-related attitudes is the Implicit Association Test (IAT) (Greenwald & Farnham, 2000; Greenwald, McGhee, & Schwartz, 1998). We developed a self-esteem IAT during which participants are asked to categorise a series of words that appear in the middle of a computer screen as referring to "me" (e.g., own name) "not-me" (e.g., other name - name of the former participant insofar that this was different), "worth full" (e.g., competent) or "worthless" (e.g., inferior) by pressing one of two keys. During one block of trials, the same key has to be pressed for "me" and "worth full" words and the other key for "not-me" and "worthless" words. As outcome measure, we used the mean reaction time during this block subtracted from the mean reaction time during another block of trials during which the same key is used for "me" and "worthless" and the other key for "not-me" and "worth full" words. Previous research has already demonstrated the validity of such tasks for the indirect measurement of self related attitudes (e.g., Greenwald & Farnham, 2000). People with high implicit self-esteem should be faster when the same key is used for self and positive words as compared to the other task, since the self is more associated with positivity. Recently, De Houwer (2003) developed the Extrinsic Affective Simon Task (EAST), a modified version of the IAT based on a comparison of reaction speed on trials within a single task rather than on a comparison of reaction times on two separate tasks. During the first phase of the self-esteem EAST we used in our research, positive and negative white words appear in the middle of a computer screen and participants have to use one key for the positive white words (e.g., good) and the other key for negative white words (e.g., evil). In this way, the keys become extrinsically negative or positive valenced. During the second phase, bluish or greenish words appear that are self-related (e.g., own name) or unrelated to the self (e.g., other name). Participants are asked to react as quickly and accurately as possible on the basis of the colour of the word (e.g., bluish = press left, greenish = press right). During the third phase, white and coloured words are randomly displayed. Former EAST research has demonstrated that the meaning of the coloured words has an influence on reaction speed, although this is irrelevant to the execution of the task (De Houwer, 2003). For example, people tend to react faster when the coloured word is negative (e.g., spider) and the correct response for that colour was assigned to the negative key. In a self-esteem EAST, people with positive implicit self-esteem should respond faster when the same key has to be used for self-related coloured words and positive white words as compared to the situation where the same key is used for self and negative words.

Since we were interested in measuring self-related schemas indirectly, we investigated implicit self-esteem in currently depressed inpatients and nondepressed controls using these three different tasks: The NLPT, the selfesteem IAT and the self-esteem EAST (De Raedt, Schacht, Franck, & De Houwer, 2006). The results of the three experiments were all indicative of a positively biased implicit self-esteem in depressed individuals just as healthy controls, which might be considered to be surprising from the perspective of cognitive theories of depression. Therefore, we concluded that these remarkable results might imply that indirect tasks measure a different construct as compared to self-report measures. Interestingly, other researchers found similar positive IAT scores in formerly depressed and currently depressed people (Gemar, Segal, Sagrati, & Kennedy, 2001).

Although these results were consistent over three different tasks, they were in need of replication. Moreover, in the first study, we did not use an explicit measure of self-esteem. Therefore we designed a new study comparing implicit and explicit self-esteem, and differentiating between depressed patients with and without suicidal ideation (Franck, De Raedt, Dereu, & Van den Abbeele, in press). Since the IAT has been found to be the most reliable indirect measure (Bosson, Swann, & Pennebaker, 2000), and since our IAT data show higher reliability coefficients as compared to our EAST data, we further investigated implicit self-esteem in depressed patients using only the IAT. To evaluate explicit self-esteem, we used the Rosenberg self-esteem questionnaire (RSE) (Rosenberg, 1965). We could replicate our earlier findings, but only for the population with suicidal ideation. Currently depressed patients with suicidal ideation showed positive implicit self-esteem no different from non-depressed controls, but a lower explicit self-esteem as compared to the controls. In depressed patients without suicidal thinking however, implicit self-esteem was lower as compared to both depressed patients with suicidal ideation and non-depressed individuals. In fact, currently depressed individuals without suicidal ideation showed no significant difference between the two IAT tasks ("me/worth full" versus "me/worthless). Explicit self-esteem, on the other hand, was not different between the two groups of depressed patients but differed very significantly from the healthy controls. It is important to note that there were no significant differences in Beck Depression Inventory scores (t < 1), nor on RSE scores (t = 1.2, ns), between the currently depressed subjects with and without suicidal ideation.

If we assume that the IAT measures the automatic activation of selfschemas, the fact that these indirectly measured negative self-schemas are only observed in depressed people without suicidal thoughts, whereas depressed individuals with suicide ideation activate positive self-schemas might be indicative of specific processes. Our initial hypothesis for this study, based on the findings of Smith (in Bosson, Swann, & Pennebaker, 2000), was that currently depressed individuals with suicide ideation would show an unstable self-esteem as reflected by a high implicit and low explicit self-esteem whereas currently depressed individuals without suicide ideation would not show such a pattern. Although this hypothesis was confirmed, an alternative explanation for our results remained plausible. This idea will be elaborated thoroughly in the following paragraphs. Moreover, it is important to notice that most inpatients with major depression show suicidal thoughts (Modai, Kuperman, Goldberg, Goldish, & Mendel, 2004).

At first, suicide ideation and rumination are understandably closely related (e.g., Eshun, 2000). Lyubomirsky and Nolen-Hoeksema (1993) suggest that a subset of depressed individuals deliberately focus on their depressive symptoms which mean that some depressed patients intentionally dwell on their negative mood and cognitions in an attempt to cope with their depressed state. This refers to rumination, which has been defined as repetitively focusing on the fact that one is depressed, on one's symptoms of depression, the causes and the consequences (Nolen-Hoeksema, 1991). Ruminative thinking refers to verbally-based thinking in which general and abstract self-related information is cognitively rehearsed and associated (Nolen-Hoeksema, 2004), which is an elaborate process.

Rumination has been consistently found to be related to the severity of depressive symptoms and to a bad prognosis (Treynor, Gonzales, & Nolen-Hoeksema, 2003). Although several hypotheses have been suggested to explain why rumination increases depression, a recent hypothesis of Raes (2005) might be of importance to our findings of positive implicit self-esteem in depression. Just as Borkovec (1994) suggested that worry can be seen as a cognitive avoidance strategy, and since there is considerable overlap between worry and rumination, avoidance could be seen as the motor behind rumination in depression. By deliberately ruminating about one's depressed state in abstract terms (e.g., how should I go on with my life? where did things go wrong?), one might avoid detailed representations or memories (e.g., traumatic past events). As such, the depressed individual does not become overwhelmed by strong emotions that are associated with these representations. However, in the long term, this strategy backfires since rumination undermines problem-solving (Lyubomirsky & Nolen-Hoeksema, 1993) and prevents a true confrontation, which might interfere with healthy emotional processing (Rachman, 1980; Foa & Kozak, 1986). In a similar way, suicide ideation can also be conceived in itself as an avoidance strategy. It has indeed been demonstrated that depressed individuals develop suicide ideation escape from stresses (e.g., Vilhlalmsson, Kristjansdottir, to Sveinbjarnardottir, 1998). An hypothesis for which evidence has been found recently (Raes, Hermans, De Decker, Williams, & Eelen, 2003), is the affect regulation hypothesis of Williams (1996) which states that overgeneral memory is used as an avoidance strategy to minimise negative affect. Moreover, rumination and overgeneral memory have been found to be associated (Ramponi, Barnard, & Nimmo-Smith, 2004) but overgenerality has also

been found to be inversely related to parasuicide (Williams & Broadbent, 1986; Startup et al., 2001). Recently, Raes et al. (2005) replicated the findings of Ramponi and co-workers (2004), showing that rumination is associated with reduced memory specificity. Furthermore, rumination accounted for significant portions of the variance in suicide ideation scores (Eshun, 2000).

Avoidance could explain our findings concerning implicit self-esteem discrepancies in depressed people with and without suicide ideation. Hetts and Pelham (1999) have suggested that explicit self-evaluations might rely on strategic processes, whereas implicit self-evaluations would have been learned by automatic processes such a classical evaluative conditioning and implicit learning (Berry & Dienes, 1993). The developmental trend that selfevaluations based on very early experiences are generally positive (Paulhus, 1993) is underpinned by much research. For example, babies are characterised by a preference for positive feedback such as preferential orienting to voices that sound accepting (Fernald, 1993), which might be favourable in an evolutionary perspective. Repeated activation and practice might make these early positive self-schemas a part of the "automatic" self, resulting in mostly chronically activated positive self-evaluations (Paulhus, 1993). Depressed individuals might experience situations that are threatening for their selfesteem, but the early positive implicit bias might remain latent. It is important to highlight that, since learning and practice continue to evolve over a lifespan, both negative and positive implicit self-schemas may be present in a latent form. Since implicit measures are supposed to reflect an overlearned evaluation of the self that guides spontaneous reactions to self relevant stimuli without effortful reflective processing (see Greenwald & Banaji, 1995), the self stimuli used in the IAT might activate the early developed positive self whereas strategic processing (using questionnaires) might result in an evaluation of the actual self related to the actual (depressed) situation. This idea, which has already been underpinned by research (Rudman & Heppen: in Rudman, 2004), was originally postulated by Greenwald and Banaji (1995). We stated that suicidal thinking could be seen as an avoidance strategy in an attempt not to be overwhelmed by depression related representations. Insofar that this avoiding strategy is successful in decreasing the confrontation with negative self-representations, a confrontation with self-related stimuli would not automatically activate negative content, resulting in an automatic activation of the early developed positive self-schemas. However, when people with suicidal ideation are asked to fill in a questionnaire on selfschemas, deliberative processes do trigger negative self-evaluations. On the other hand, when avoidance strategies are not used as in depressed individuals without suicide ideation, the negative implicit self-cognitions might become available since no avoidance blocks the automatic negative evaluation of the self resulting in a negative self-esteem score on the implicit measures. In this way, people without suicide ideation confront themselves with all aspects of negative representations at all levels (implicit and explicit) which might in fact be favourable for emotional processing (Foa & Kozak, 1986; Rachman, 1980). This speculation is based on the context dependency of implicit measures. It has indeed been demonstrated thoroughly that IAT measures are context dependent and that the evaluations that are automatically activated upon a given stimulus depend on the construals of this stimulus in a given context (For a review on context dependence; see Fazio & Olson, 2003).

There might thus be an important difference between early automatic processes as measured by implicit tasks and later elaborate processes such as rumination and suicide ideation.

Difficulty to disengage from negative cognitions

The above mentioned discussion on rumination, suicide ideation and schema activation left one important question unanswered: what kind of process underlies the persistent character of negative elaborate cognitions? Attention processes might be crucial in answering this question. In contrast to process research on anxiety disorders, research investigating attentional biases towards negative stimuli in depression could not consistently demonstrate that depression is characterised by attentional bias using paradigms such as the emotional Stroop paradigm and the Dot Probe Task (e.g., MacLeod, Mathews, & Tata, 1986; Mogg, Bradley, Williams, & Mathews, 1993). However, much of this research used short stimulus presentations similar to anxiety research. In anxiety it can be argued that a rapid detection of threatening information is of importance to initiate a defensive response to deal with the situation but this may not hold for negative information in depressed patients (Mogg & Bradley, 2005). It has been suggested that prolonged elaboration of negative information at later stages could be more typical for dysphoria and depression (Hartlage, Alloy, Vázquez, & Dykman, 1993; Joormann, 2004). There is indeed some evidence for attentional biases to negative information only at long stimulus presentations in Dot Probe tasks, which has been interpreted as a difficulty to disengage from negative information in depressed subjects. This disengagement problem may be the working mechanism behind the continuous processing of negative information that is typical for depressed individuals, such as rumination. Nolen-Hoeksema has already drawn the link between attention and rumination by defining rumination processes as repetitively focusing attention on the fact that one is depressed, on one's symptoms of depression, the causes and the consequences. (Nolen-Hoeksema, 1991). However, Dot Probe designs do not measure disengagement processes in a straightforward way.

To investigate disengagement in more detail we conducted two studies with dysphoric versus non-dysphoric students using an emotional modification of the exogenous cueing task originally developed by Posner (1980), a task that allows to make a distinction between attentional engagement and disengagement. In our modification of this task, cues were presented at the left or at the right side of a computer screen at 250 ms., 500 ms. and 1500 ms., immediately followed by a target that could appear at the location of the cue or at the opposite location. The cues could be negative, positive or neutral self-referent words (Koster, De Raedt, Goeleven, Franck, & Crombez, 2005). When the intervals between cue onset and target onset are small (250 ms.) reactions are typically faster on the valid compared with the invalid trials (cue validity effect). At longer intervals, however, this cue validity effect disappears or reverses since attention to the previously attended stimulus is inhibited in favour of the exploration new locations, which might be considered to be adaptive from an evolutionary viewpoint. This phenomenon is called "inhibition of return" (Posner & Cohen, 1984). An absence of this inhibition of return is indicative for sustained or maintained attention (extended cue validity effect). Using this exogenous cueing task, engagement and disengagement to emotional stimuli can also be analysed separately. Attentional engagement to the emotional cue-word is measured by comparing reaction time on negative versus neutral validly cued words; disengagement of attention from the emotional cue-words is measured by comparing reaction time on negative versus neutral invalidly cued words.

The results of our experiments were indicative of the fact that dysphoric individuals show sustained attention for negative self-referent words that might be caused by a difficulty to disengage attention from these negative words. Interestingly, these effects were most strong at the 1500 ms word presentation, while no differences were found between dysphoric and non-dysphoric individuals when the words were presented for 250 ms. This is indicative of the fact that dysphoric people are characterised by a mood-congruent bias in later elaborations but not in the early stages of processing.

The experimental procedure described above to measure attentional bias can also be considered as an indirect measure, just as the IAT. The IAT evaluates the automatic evaluation of the self without the interference of elaborate processing, which means that it refers to early processes. The Posner paradigm using short presentation durations measures attentional bias towards negative stimuli which can also be considered as a measure of early automatic processes. The absence of an effect with measures evaluating different aspects of information processes (negative schema-activation and attentional bias) but at similar early stages of information processing is striking. Since a negative implicit self-esteem is only found in depressed patients without suicidal thinking, it would also be interesting to evaluate attentional bias in clinically depressed individuals with and without suicidal ideation. This might further elucidate working mechanisms underlying depressive cognition.

Conclusions

In this paper, we aimed at highlighting the importance to investigate not only products but also processes underlying cognitions in depression. We conceptualised depression based on the existence of latent negative selfschemas in combination with the incapacity to disengage from depressogenic thoughts. Some remarkable results that appear not to be in line with the cognitive schema theory of depression could be interpreted within a larger framework not only focussing on schema-activation but also on early versus elaborate processing and attentional bias. Based on our findings of positive schema activation, we speculated that depressed individuals can escape from automatic negative schema activation by elaborate processing such as rumination and suicidal thoughts. Coping styles such as ruminating and suicide ideation might be protective in the short run but with negative consequences in the long term, due to disengagement problems. A difficulty to disengage would not relate to the implicit schemas per se but to self-perpetuating metacognitive elaborate processes. The difference between early processing biases as observed in anxiety and elaborate processing as observed in depression highlights a possible core aspect with important clinical implications. Segal and colleagues (2002) already proposed attentional control or mindfulness training as a relapse prevention strategy to learn patients with vulnerability for depression to be in control of how they pay attention and for how long in order to escape out of the depressive interlock. However, a deeper understanding of the attentional mechanisms by other paradigms that focus not only on spatial attention, such as the Negative Affective Priming paradigm (Goeleven, De Raedt, Baert, & Koster, 2006), might further elucidate processes behind elaborate processing in depression and how to remediate its negative consequences.

It is obvious that this research and the few speculative answers it provides endorses new hypotheses and questions that could be operationalised into new experimental psychopathology research projects in the future.

References

- Abramson, L.Y., Alloy, L.B., Hankin, B.L., Haeffel, D.G., & Gibb, B.E. (2002). Cognitive vulnerability-stress models of depression in a self-regulatory and psychobiological context. In I.H. Gotlib & C.J. Hammen (Eds), *Handbook of Depression* (pp. 268-294). New York: The Guilford Press.
- Beck, A.T., Rush, A.J., Shaw, B.F., & Emery, G. (1979). *Cognitive therapy of depression*. New York: Guilford Press.
- Berry, D.C., & Dienes, Z. (1993). *Implicit learning: Theoretical and empirical issues*. Hove, England: Erlbaum.
- Borkovec, T.D. (1994). The nature, functions, and origins of worry. In G.C.L. Davey & F. Tallis (Eds), *Worrying: perspectives on theory, assessment and treatment* (pp. 5-33). Chichester: Wiley.
- Bosson, J.K., Swann, W.B., & Pennebaker, J.W. (2000). Stalking the perfect measure of implicit self-esteem: The blind men and the elephant revisited? *Journal of Personality and Social Psychology*, 79, 631-643.
- Clark, D.A., Beck, A.T., & Alford, B.A. (1999). Scientific foundations of cognitive theory and therapy for depression. New York: Wiley.
- De Houwer, J. (2003). The extrinsic affective Simon task. *Experimental Psychology*, 50, 77-85.
- De Houwer, J. (2006). What are implicit measures and why are we using them? In R.W. Wiers & A.W. Stacy (Eds), *Handbook of implicit cognition and addiction* (*pp. 11-28*). Thousand Oaks, CA: Sage Publishers.
- De Raedt R., Schacht, R., Cosyns, P., & Ponjaert-Kristoffersen, I. (2002). Pain-provoking behavior as a driven reaction to psychological distress: The bio-psychosocial neurotic loop model. *New Ideas in Psychology*, *20*, 59-87.
- De Raedt, R., Schacht, R., Franck, E., & De Houwer, J. (2006). Self-esteem and depression revisited: Implicit positive self-esteem in depressed patients? *Behaviour Research and Therapy*, 44, 1017-1028.
- Eshun, S. (2000). Role of gender and rumination in suicide ideation: A comparison of college samples from Ghana and the United States. *Cross-Cultural Research*, *34*, 250-263.
- Fazio, R.H., & Olson, M.A. (2003). Implicit measures in social cognition research: Their meaning and use. *Annual Review of Psychology*, 54, 297-327.
- Fernald, A. (1993). Approval and disapproval: Infant responsiveness to vocal affect in familiar and unfamiliar languages. *Child Development*, *64*, 657-674.
- Foa, E.B., & Kozak, M.J. (1986). Emotional processing of fear: Exposure to corrective information. *Psychological Bulletin*, *99*, 20-35.
- Franck, E., De Raedt, R., Dereu, M., & Van den Abbeele, D. (in press). Implicit and explicit self-esteen in currently depressed individuals with and without suicidal ideation. *Journal of Behavior Therapy and Experimental Psychiatry*.
- Gemar, M.C., Segal, Z.V., Sagrati, S., & Kennedy, S.J. (2001). Mood-induced changes on the implicit association test in recovered depressed patients. *Journal of Abnormal Psychology*, *110*, 282-289.
- Goeleven, E., De Raedt, R., Baert, S., & Koster, E.H.W. (2006). Deficient inhibition of emotional information in depression. *Journal of Affective Disorders*, 93, 149-157.

- Greenwald, A.G., & Banaji, M.R. (1995). Implicit social cognition: Attitudes, selfesteem, and stereotypes. *Psychological Review*, 102, 4-27.
- Greenwald, A.G., & Farnham, S.D. (2000). Using the Implicit Association test to measure self-esteem and self-concept. *Journal of Personality and Social Psychology*, 79, 1022-1038.
- Greenwald, A.G., McGhee, D.E., & Schwartz, J.L.K. (1998). Measuring individual differences in implicit cognition: The implicit association test. *Journal of Personality and Social Psychology*, 74, 1464-1840.
- Hammen, C. (1997). Depression. Hove: Psychology Press.
- Hartlage, S., Alloy, L. B., Vázquez, C., & Dykman, B. (1993). Automatic and effortful processing in depression. *Psychological Bulletin*, *113*, 247-278.
- Hetts, J.J., & Pelham, B.W. (1999). A case for the non-conscious self-concept. In G.B. Moskowitz (Ed.), *Cognitive social psychology: On the tenure and future of social cognition* (pp. 105-123). Mahwah, NJ: Erlbaum.
- Ingram, R.E. (1984). Toward an information-processing analysis of depression. *Cognitive Therapy and Research, 8,* 443-477.
- Ingram R.E., & Wisnicki, K. (1991). Cognition and depression. In P.A. Magaro (Ed.), Annual Review of Psychopathology, 1, 187-230.
- Joormann, J. (2004). Attentional bias in dysphoria: The role of inhibitory processes. *Cognition and Emotion, 18,* 125-148.
- Judd, L.L. (1997). The clinical course of unipolar major depressive disorders. Archives of General Psychiatry, 54, 989-991.
- Koole, S.L., Dijksterhuis, A., & van Knippenberg, A. (2001). What's in a name: Implicit self-esteem and the automatic self. *Journal of Personality and Social Psychology*, 80, 669-685.
- Koster, E.H.W., De Raedt, R., Goeleven, E., Franck, E., & Crombez, G. (2005). Mood-congruent attentional biases in dysphoria: Maintained attention and impaired attentional disengagement from negative information. *Emotion*, 5, 446-455.
- Lyubomirsky, S., & Nolen-Hoeksema, S. (1993). Self-perpetuating properties of dysphoric rumination. *Journal of Personality and Social Psychology*, 65, 339-349.
- MacLeod, C., Mathews, A., & Tata, P. (1986). Attentional bias in emotional disorders. *Journal of Abnormal Psychology*, 95, 15-20.
- Modai, I., Kuperman, J., Goldberg, I., Goldish, M., & Mendel, S. (2004). Fuzzy logic detection of medically serious suicide attempt records in major psychiatric disorders. *Journal of Nervous and Mental Disease*, 192, 708-710.
- Mogg, K., & Bradley, B.P. (2005). Attentional biases in generalized anxiety disorder versus depressive disorder. *Cognitive Therapy and Research*, 29, 29-45.
- Mogg, K., Bradley, B.P., Williams, R., & Mathews, A. (1993). Subliminal processing of emotional information in anxiety and depression. *Journal of Abnormal Psychology*, 102, 304-311.
- Nolen-Hoeksema, S. (1991). Responses to depression and their effects on the duration of depressive episodes. *Journal of Abnormal Psychology, 100,* 569-582.
- Nolen-Hoeksema, S. (2004). The response styles theory. In C. Papageorgiu & A. Wells (Eds), *Depressive rumination: Nature, theory, and treatment* (pp. 107-124). Chichester, UK: John Wiley & Sons.
- Nuttin, J.M. (1985). Narcissism beyond Gestalt awareness: The name letter effect.

European Journal of Social Psychology, 15, 353-361.

- Paulhus, D.L. (1993). Bypassing the will: The automatisation of affirmations. In D.M. Wegner & J.W. Pennebaker (Eds.), *Handbook of mental control* (pp. 573-587). Upper Saddle River (N.J.): Prentice-Hall.
- Posner, M.I. (1980). Orientation of attention. *Quarterly Journal of Experimental Psychology*, 32, 3-25.
- Posner, M.I., & Cohen, Y. (1984). Components of visual orienting. In H. Bouma & D. Bouwhuis (Eds.), *Attention and Performance* (Vol. X, pp. 531-556). Hove, UK: Lawrence Erlbaum Associates.
- Rachman, S.J. (1980). Emotional processing. *Behaviour Research and Therapy*, 18, 51-60.
- Raes, F. (2005). Specificity of autobiographical memory: An experimental investigation of the functional aspects and a prospective investigation of the predictive value for depression (Unpublished doctoral dissertation). Leuven: University of Leuven.
- Raes, F., Hermans, D., De Decker, A., Williams, J.M.G., & Eelen, P. (2003). Autobiographical memory specificity and affect regulation: An experimental approach. *Emotion*, *3*, 201-206.
- Raes, F., Hermans, D., Williams, J.M.G., Demyttenaere, K., Sabbe, B., Pieters, G., & Eelen, P. (2005). Reduced specificity of autobiographical memory: A mediator between rumination an ineffective social problem-solving in major depression. *Journal of Affective Disorders*, 87, 331-335.
- Ramponi, C., Barnard, P. J., & Nimmo-Smith, I. (2004). Recollection deficits in dysphoric mood: An effect of schematic models and executive mode? *Memory*, 12, 655-670.
- Rosenberg, M. (1965). *Society and the adolescent self-image*. Princeton, NJ: Princeton University Press.
- Rosen, G.M., & Davidson, G.C. (2003). Psychology should list empirically supported principles of change (ESP's) and not credential trademarked therapies or other treatment packages. *Behavior Modification*, 27, 300-312.
- Rudman, L.A. (2004). Sources of implicit attitudes. Current Directions in Psychological Science, 13, 79-82.
- Segal, Z., Williams, M., & Teasdale, J. (2002). Mindfulness-based cognitive therapy for depression: A new approach to preventing relapse. New York: Guilford Press.
- Startup, M., Heard, H., Swales, M., Jones, B., Williams. J.M.G., & Jones, R.S.P. (2001). Autobiographical memory and parasuicide in borderline personality disorder. *British Journal of Clinical Psychology*, 40, 113-120.
- Teasdale, J., & Barnard, P. (1993). Affect, cognition and change: Re-modelling depressive thought. Hove, U.K.: Lawrence Erlbaum Associates.
- Treynor, W., Gonzales, R., & Nolen-Hoeksema, S. (2003). Rumination reconsidered: A psychometric analysis. *Cognitive Therapy and Research*, *3*, 247-259.
- Vilhlalmsson, R., Kristjansdottir, G., & Sveinbjarnardottir, E. (1998). Factors associated with suicide ideation in adults. *Social Psychiatry and Psychiatric Epidemiology*, *33*, 97-103.
- Williams, J.M.G. (1996). Depression and the specificity of autobiographical memory. In D.C. Rubin (Ed.), *Remembering our past. Studies in autobiographical*

memory (pp. 244-267). Cambridge: Cambridge University Pres.

- Williams, J.M.G., & Broadbent, K. (1986). Autobiographical memory in suicide attempters. *Journal of Abnormal Psychology*, 95, 144-149.
- Young, J. E. (1994). Cognitive therapy for personality disorders: A schema-focused approach. Sarasota: Professional Resource Press.

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