

# Metacognition, Mindfulness and the Modification of Mood Disorders

John D. Teasdale\*

Medical Research Council Cognition and Brain Sciences Unit, Cambridge, UK

A distinction is made between metacognitive knowledge (*knowing that* thoughts are not necessarily always accurate) and metacognitive insight (*experiencing thoughts as events in the field of awareness, rather than as direct readouts on reality*). This distinction, and its relevance to preventing relapse and recurrence in depression, is examined within the *Interacting Cognitive Subsystems (ICS) theoretical framework*. This analysis suggests, as an alternative to cognitive therapy with its focus on *changing the content of depression-related thought, the strategy of changing the configuration*, or mode, within which depression-related thoughts and feelings are processed, i.e. changing one's *relationship* to inner experience. Specifically, facilitating a metacognitive insight mode, in which thoughts are experienced simply as events in the mind, offers an alternative preventative strategy. Mindfulness training teaches skills to enter this mode, and forms a central component of Mindfulness-based Cognitive Therapy, a novel, cost-efficient group preventative programme, for which there is encouraging evidence of effectiveness. Copyright © 1999 John Wiley & Sons, Ltd.

A recovered depressed patient attending a relapse prevention programme developed the liberating metacognitive insight 'thoughts aren't facts'. When she excitedly shared this insight with her husband, he responded 'I was born knowing that'. Allowing a little poetic licence on the exact age at which he acquired this metacognitive knowledge, his comment reflected the fact that, at one level, this information about thoughts is commonplace. **Indeed, at that level, the patient herself already knew it.** And yet, in that form, this metacognitive knowledge had **had little 'saving' power in protecting her from the effects of depressive thought patterns.** On the other hand, the metacognitive insight acquired in the relapse prevention programme appeared to be one of the most important outcomes contributing to the preventative effects of the programme, not just for this woman, but for participants more widely.

How can we best describe and understand the distinction between what I have called

**metacognitive insight and what is usually described as metacognitive knowledge?** How can we understand the ways in which such insights might help recovered depressed patients avoid relapse and recurrence of depression? How can we foster the development of such insights? This paper attempts to answer these questions.

## METACOGNITIVE KNOWLEDGE AND METACOGNITIVE EXPERIENCE

A traditional teaching story (Shah, 1974, p. 122) may help illustrate further the distinction that I have referred to as the contrast between insight and knowledge: Uwais was asked 'How do you feel?'. He replied 'Like one who has risen in the morning and does not know whether he will be dead in the evening'. His questioner responded 'But this is the situation of all men'. Uwais replied 'Yes, but how many of them feel it?'

This story points the contrast between the 'factual' knowledge that we may all die at any time, and the direct 'experiential' awareness, from

\*Correspondence to: John D. Teasdale, MRC Cognition and Brain Sciences Unit, 15 Chaucer Road, Cambridge CB2 2EF, UK.

one moment to the next, that life is transient, and its end unpredictable. The former, even if frequently repeated, can remain isolated 'cold' information, whereas the latter is likely to have profound effects on our views of everything, and can radically affect the way we live from moment to moment. Applied to our introductory example, this contrast highlights the difference between, on the one hand, actually *experiencing* thoughts *as* thoughts (that is, as events in the mind, rather than as direct readouts on reality) in the moment that they occur, and, on the other hand, simply thinking *about* thoughts as 'other than facts'.

How, if at all, have researchers in metacognition dealt with this issue? Within the study of metacognition, a distinction is made between metacognitive knowledge and metacognitive experience. Does this distinction clarify the contrast I wish to make? Metacognitive knowledge has been defined as 'that segment ... of stored world knowledge that has to do with people as cognitive creatures and with their diverse cognitive tasks, goals, actions and experiences. An example would be a child's acquired belief that unlike many of her friends, she is better at arithmetic than at spelling,' (Flavell, 1979, p. 906). Metacognitive experiences, on the other hand, have been defined as 'any conscious cognitive or affective experiences that accompany and pertain to any intellectual enterprise. An example would be the sudden feeling that you do not understand something another person just said' (Flavell, 1979, p. 906). Another, highly researched, example would be the 'feeling of knowing', the intuitive sense that one knows a certain piece of information even though, at the moment of feeling that sense, one cannot actually recall the information (Nelson *et al.*, 1984). Some metacognitive experiences are best described as items of metacognitive knowledge that have entered experience. Others, such as the feeling that one is still far from reaching the solution to a puzzle, are not. Thus, metacognitive knowledge and metacognitive experiences can be regarded as partially overlapping sets (Flavell, 1979, p. 908).

Unfortunately, the distinction between metacognitive knowledge and metacognitive experience that is made by workers in metacognition, such as Flavell, does not accurately capture the distinction between knowledge and insight that I wish to make: the experience of knowing *that* thoughts are not facts is just as much a metacognitive experience as directly experiencing thoughts *as* thoughts (that is, as events in the mind, rather than as, necessarily, accurate reflections of reality).

The distinction I wish to make between metacognitive insight and metacognitive knowledge is of potentially great importance and can be grasped fairly directly on the basis of one's personal experience, and yet, in other ways, this distinction is quite subtle and does not seem to map neatly onto the contrasts that are currently made within research on metacognition. If we are to discuss this issue in more detail, and to explore its potential clinical implications, it would be helpful to do so within a systematic cognitive framework. Interacting Cognitive Subsystems (ICS) (Barnard and Teasdale, 1991; Teasdale and Barnard, 1993; Teasdale, 1993, 1996) provides such a framework.

#### THE INTERACTING COGNITIVE SUBSYSTEMS (ICS) FRAMEWORK—TWO KINDS OF MEANING

Interacting Cognitive Subsystems (ICS) is a comprehensive conceptual framework, within which, in principle, accounts of all aspects of information-processing can be developed. ICS is based on a few, basically simple, ideas. One central assumption is that the mind works using a number of qualitatively different kinds of information, or mental codes. Each of these codes represents a distinct aspect of experience. Of particular relevance to the present discussion are the mental codes related to meaning. ICS recognizes two qualitatively distinct kinds of meaning, a specific and a more generic, and suggests that emotion is linked directly only to the more generic form of meaning.

In ICS, specific meanings are represented by patterns of Propositional code, and refer to specific concepts and the relationships between them, as in, for example, 'the cat sat on the mat'. Meaning at this level is not difficult to grasp, and corresponds fairly closely to the meanings conveyed by single sentences in language. This kind of meaning has also been referred to as explicit, or declarative knowledge. Such meanings have a truth value that can be assessed, and the examination of such meanings, by the collection of data, consideration of evidence and the like, is, of course, the focus of much activity in cognitive therapy (Beck *et al.*, 1979). Nonetheless, according to ICS, such specific meanings, themselves, have no *direct* relationship to emotion production (Teasdale, 1993). In this way, it is possible to discuss 'coolly', at an intellectual level, specific emotion-related meanings without, necessarily, feeling the associated emotions or being drawn into emotion-related behaviours; this, of

course, is one of the potential advantages of having such a symbolic level of representation.

ICS also recognizes a more generic level of meaning, corresponding to schematic mental models of experience, and represented in patterns of Implicational code. Such meanings represent deep regularities, themes, interrelationships and prototypical features extracted from the patterns of specific meanings and sensory features that recur across experiences that share deep similarities, even though they may be superficially different. These higher order meanings are much more difficult to convey than specific meanings as there is no direct correspondence between this level of representation and language. Implicational meanings are implicit, rather than explicit, and do not have a truth value that can be evaluated or tested by the collection of evidence. Sensory features, such as tone and loudness of voice, or proprioceptive feedback (e.g. from bodily sensations related to posture or facial expression), can make a direct contribution to Implicational meaning.

Implicational meanings are associated with intuitive, holistic, 'felt senses' or feelings with implicit meaning content. For example, a sense of confidence marks the processing of schematic models associated with themes of competence, worth, optimism and positive expectancy. Similarly, in the earlier example of the teaching story, Uwais' stress on the importance of *feeling* the awareness that he could be dead by evening would be interpreted, within ICS, as emphasizing the importance of actively creating schematic models encoding themes related to the impermanence of life and the unpredictability of its end.

ICS proposes that only the generic Implicational level of meaning is directly linked to emotion; specific Propositional meanings only contribute indirectly to the production of emotion through their contribution to emotion-related Implicational meanings.

The relationship between specific and generic meanings is analogous to the relationship between the letters that make up a sentence and the meaning of the sentence. A sentence conveys a specific meaning that is qualitatively different from and greater than the sum of its individual letters. In the same way, the generic meaning of a schematic model is qualitatively different from and greater than the sum of the patterns of specific meanings that contribute towards it. Poetry illustrates this relationship (Teasdale and Barnard, 1993, p. 73):

O what can ail thee, knight at arms.

Alone and palely loitering?  
The sedge has wither'd from the lake.  
And no birds sing.

The sense of melancholy and abandonment conveyed by this poem marks the synthesis from the pattern of specific meanings, imagery and sounds, of Implicational schematic models (higher order meanings) encoding such themes; the total effect of the poem cannot be conveyed by a single specific meaning, nor can it be simply reduced to the sum of the components contributing towards it.

As far as treatment is concerned, the important points arising from the distinction between two kinds of meaning recognized within the ICS framework are the following: (i) only generic meanings are directly linked to emotion; (ii) generic and specific meanings are qualitatively different so that one cannot simply be reduced to another; and (iii) different forms of intervention are likely to be required for these two kinds of meaning (Teasdale, 1993, 1997).

#### METACOGNITIVE KNOWLEDGE AND METACOGNITIVE INSIGHT WITHIN ICS

How can ICS, with its distinction between two distinct kinds of meaning, help us to understand the distinction between metacognitive insight and metacognitive knowledge, as I used these terms in my introductory example?

Metacognitive knowledge, of a specific factual form, such as 'All thoughts are not necessarily factually correct', corresponds to stored specific Propositional meanings encoding the relations between the designated concepts. Such meanings would be manipulated when we think 'intellectually' *about* thoughts. Just as we can acquire the knowledge 'Canberra is the capital of Australia' without having to take a trip there ourselves, the stored Propositional meanings representing metacognitive knowledge can be acquired 'vicariously', encoded in the verbal input from others (or from books) without, for example, having to repeatedly experience, personally, the disconfirmation of the factual content of our thoughts.

According to ICS, specific Propositional meanings, on their own, will have little impact on emotional state; it is only to the extent that they contribute to emotion-related generic Implicational meanings that they will affect emotion. From this perspective, it is, therefore, unsurprising that the 'intellectual' metacognitive knowledge that

'thoughts aren't facts', alone, offers little help to those in distress. What about metacognitive insight? From an ICS perspective, whereas metacognitive knowledge is represented at the level of specific, Propositional meanings, metacognitive insight is represented at the level of higher order, schematic Implicational meanings.

Changes in representations at the Implicational level have to be acquired by some form of experiential learning in which the components contributing to the new representation are actually experienced in new patterns for new representations to be laid down; such learning cannot be acquired vicariously by 'book knowledge' alone. At the Implicational, schematic level, representations can have direct effects on emotion production, and so it is quite possible for changes in Implicational metacognitive representations to have important therapeutic consequences, as in the case of the woman who acquired the deeply felt insight 'thoughts aren't facts'. It is useful to distinguish two aspects of metacognitive insight: (i) the general 'view' within which, for example, thoughts and feelings would be seen as 'only' transient events in the field of awareness; (ii) the instantiation of that general view with respect to particular thoughts and feelings *as they are being processed*. The former corresponds to a stored Implicational schematic model concerning the interrelationships between thoughts, feelings and reality that is much richer in implicit meaning than the bare Propositional statement 'thoughts are not facts'. The latter corresponds to the on-line application of such a model to the thoughts and feelings that are being concurrently generated in that moment. Such processing merits a more detailed description.

#### METACOGNITIVE INSIGHT AND THE INTERACTION BETWEEN PROPOSITIONAL AND SCHEMATIC LEVELS OF MEANING

In multi-level cognitive theories, such as ICS, representations of a topic at one level of information, in one mental code, can feed the creation of representations related to that topic at other levels of information, in other mental codes, and those distinct representations, both related to the same topic, can be processed, in different parts of the processing system, in close temporal proximity. In this way, different aspects of any experience or topic can be processed concurrently at a number of different levels. For example, the affective qualities

of the sound of someone's voice as they are talking to us can be extracted in one part of the system, while the specific meanings of their verbal utterances are being decoded in another part of the system. Information from these two levels of representation can then be integrated in a different part of the system to derive higher order meanings reflecting both the patterns of specific meanings in what is being said and the voice tone in which it is being said.

Applied to metacognitive insight, these considerations suggest that representations of the specific Propositional meanings encoded in verbalizable thought can both contribute to the production of Implicational schematic models encoding higher order meanings, and, themselves, be the topic of those higher order meanings.

In the usual mode of interaction between Propositional and Implicational meanings, as, for example, in thinking through a problem, or analysing a situation, patterns of specific Propositional meanings contribute to the synthesis of problem- or situation-relevant schematic models, without themselves becoming the topic of the schematic models created. In this non-metacognitive mode, the schematic models accessed from memory will be related to problem-solving, and the like. These models will provide an informational context in which fragments of Implicational code derived from specific meanings are treated as 'factual' building blocks from which schematic models related to the analysis or solution of the currently presenting problem or situation can be derived.

By contrast, in the metacognitive mode in which thoughts are *concurrently* experienced as mental events rather than facts, generic 'thoughts aren't facts' schematic models will have been accessed from memory. These models will provide an informational context, at the Implicational level, in which fragments of Implicational code derived from the specific meanings determining thought content in other parts of the processing system will, at this level, be treated as 'mental events'. The result will be that, subjectively, thoughts are experienced, simultaneously, as both thoughts and as 'events in the mind'. Note that such simultaneity would not be possible if the metacognitive information that 'thoughts are not facts' were represented at the same (specific Propositional) level as the specific meanings of the thoughts; just as the teeth cannot bite themselves, it is not possible for the level of the information processing system dedicated to processing specific Propositional meanings simultaneously to process both specific meanings related

to thought content and specific meanings indicating that those thoughts are only events. Rather, metacognitive processing at this level might involve thoughts *about* thoughts, either before or after they have occurred, rather than experiencing thoughts *as* thoughts as they occur.

Within ICS, the existence of two levels of meaning, with specific level meanings standing in the same relation to higher order meanings as do letters to the specific meaning of a sentence, allows concurrent processing of cognitive and metacognitive levels of representation. There is a direct parallel with, at lower levels of representation, the relation of the letter 'f' to the meaning of the sentence 'The last letter of this sentence is an "f"'.

How does this detailed analysis help us to understand why metacognitive insight might be useful clinically? In answering this question, I shall focus primarily on the persistence and prevention of depression.

#### INTERACTIONS BETWEEN TWO LEVELS OF MEANING IN THE PERSISTENCE OF DEPRESSION

Within the ICS framework, Implicational schematic models encoding higher order meanings are derived from patterns of specific Propositional meanings. Equally, Implicational schematic models generate specific Propositional meanings. In other words, specific meanings feed the creation of schematic models, which in turn lead to more specific meanings and so on. According to ICS, these reciprocal transformations form the foundation of cycles of continuing exchange of information and mutual influence between subsystems processing these two levels of representation. This exchange is so central to a wide range of information processing in tasks involving so-called 'controlled processing' that it has been dubbed the 'central engine of cognition' (Teasdale and Barnard, 1993, p. 76).

As well as playing a pivotal role in cognitive tasks such as comprehension, planning, problem solving and directed memory search, central engine activities have been implicated in the onset and persistence of emotional disorders, specifically depression (Teasdale, 1993, 1996, 1997; Teasdale and Barnard, 1993). Figure 1 shows a sketch of the ICS analysis of a self-perpetuating 'depressive interlock' processing configuration, which, it has been suggested, can act to maintain states of

depression by ruminative, negative self-focused cognitive processing.

In the configuration shown in Figure 1, the immediate antecedent to the generation of depression is the processing of schematic models encoding higher order meanings with depressogenic themes, such as globally negative view of the self as pathetic or worthless, a view of present difficulties as highly aversive, uncontrollable and likely to persist and the like. According to this analysis, the maintenance of the depressed state is dynamic and depends on the continuous creation and regeneration of schematic models encoding depressogenic themes; if the synthesis of such models ceases, then depression will lift.

Figure 1 illustrates two interconnected feedback loops that, once established, can act to regenerate depressogenic schematic models and so maintain depression. The first 'cognitive loop' involves the central engine; in the depressive interlock configuration the interaction between the subsystems dealing with specific and higher order meanings becomes dominated by processing information with negative, depressive content; depressogenic schematic models generate negative specific meanings (such as attributions for particular failures to personal, global characterological inadequacies, or expectations of future failures and continuing depression); patterns of such meanings, in turn, can regenerate depressogenic schematic models closely similar to those from which they, themselves, were derived, and so the cycle can be maintained.

The other 'sensory loop' operates through the effects of sensory feedback from the effects of depression on the body. Schematic models can receive contributions from both patterns of specific meanings and from patterns of sensory information that have been recurring features of situations in which those patterns of specific meanings have previously been processed. Sensory feedback from the bodily consequences of the depressed state will have been a recurring feature of previous situations in which depression has been experienced for any length of time. It follows that such feedback, in conjunction with the contributions from the cognitive loop, can act to regenerate further depressogenic schematic models and so endow the depressive interlock configuration with self-perpetuating properties.

It is assumed that the type of information circulating round the cognitive loop of the depressive interlock configuration is similar to that suggested by negative self-focus (Pyszczynski and

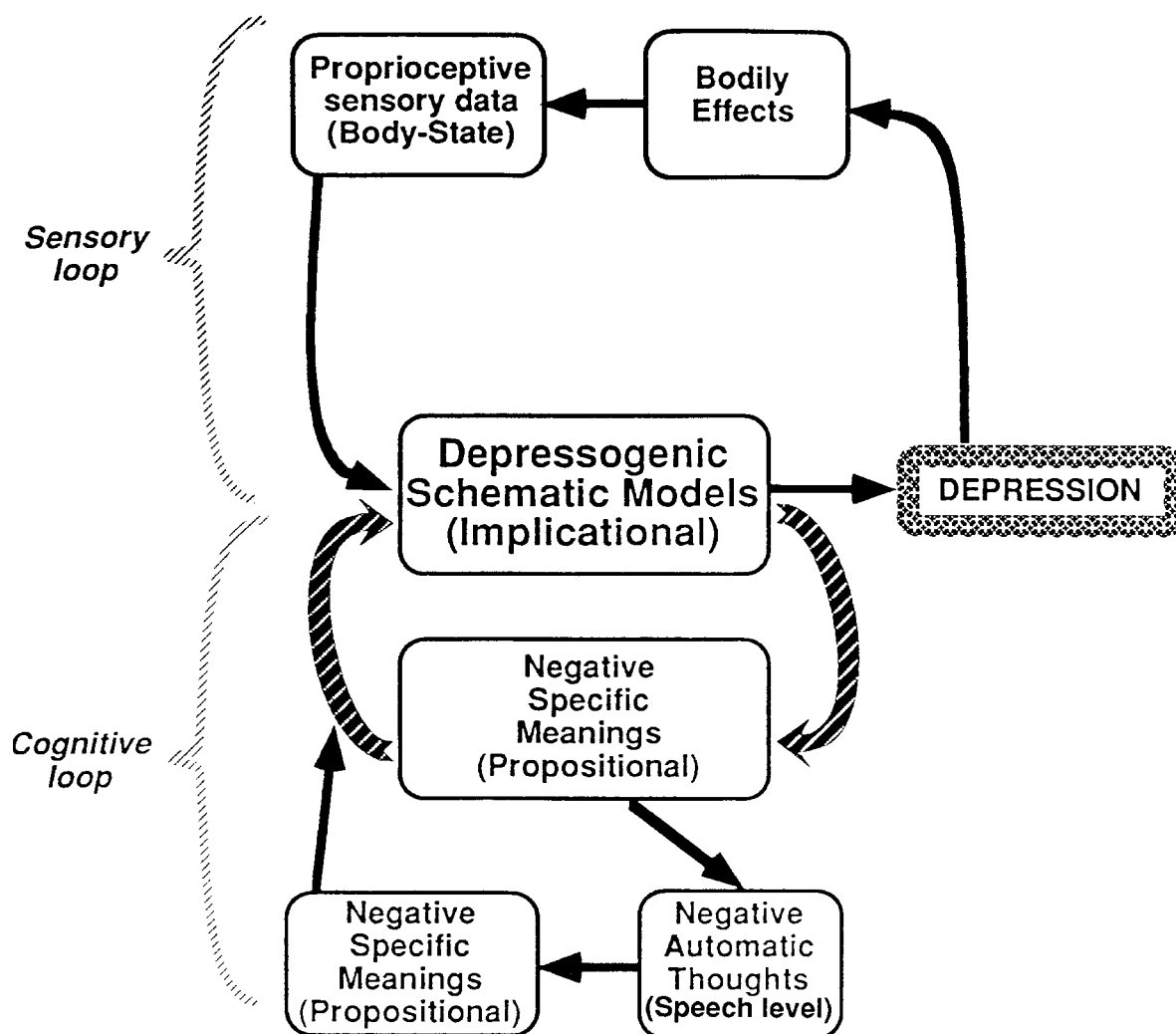


Figure 1. Depressive interlock: a self-perpetuating processing configuration that can establish/maintain the depressed state. The central engine of cognition (Implicational–Propositional–Implicational cycles) is shown in broad, hatched arrows. (From Teasdale (1996), with permission.)

Greenberg, 1987) and ruminative (Nolen-Hoeksema, 1991) cognitive models of depression. This content is predominantly negative, self-related, focused on discrepancies between the current perceived state of the self and the desired state, and often seems to be related to attempts to reduce depression by understanding its causes in relation to aspects of personal inadequacy. Unfortunately, the ruminative cognitive strategies employed in these attempts often seem to involve extended pondering over irremediable personal inadequacies and deficiencies. Such pondering not only fails to achieve the intended goals, but also maintains discrepancies between present and desired

self-states as the topic of processing cycles, so perpetuating, rather than reducing depression. The predominant subjective quality of such processing is thinking *about* the self, *about* depression-related thoughts and feelings and *about* how to understand what is going on. From the ICS perspective, the subjective quality of thinking *about* is a marker of central engine processing cycles in which the dominant controlling influence is at the Propositional (specific thought) level (cf. Hurlburt, 1993, chapter 5).

The ICS analysis assumes that cognitive vulnerability to persistent depression, and to relapse to depression after recovery, is related to the ease with

which the depressive interlock configuration can be re-established at times of dysphoric mood. Consistent with this view, a measure of ruminative processing style developed by Nolen-Hoeksema has been shown to be predictive of risk and persistence of depression (Nolen-Hoeksema and Morrow, 1991). Sample items from this scale include, in response to a request to the respondent to indicate what they normally do when feeling depressed, 'Think about all your shortcomings, failings, faults, mistakes', 'Think about how sad you feel', 'Isolate yourself and think about the reasons why you feel sad'. Again, such items, focusing on thinking *about*, suggest central engine processing dominated by the relatively specific Propositional level.

From this perspective, the target of interventions to prevent relapse and recurrence in depression is to reduce the probability that ruminative processing cycles, of the kind supported by the depressive interlock configuration, become established at times of increasing dysphoria.

#### PREVENTING THE ESTABLISHMENT OF DEPRESSIVE INTERLOCK TO REDUCE RISK OF RELAPSE

In principle, there are a variety of strategies that could be used to prevent the establishment of the depressive interlock configuration or to interrupt it, once established. At the simplest level, one could engage the central engine in processing information quite unrelated to depression, as in an engaging distraction task, such as describing in detail the contents of a visual scene. Because the cognitive resources of the central engine can only process a certain amount of information in a given time, loading up those resources with the processing of non-depressive information would reduce the capacity available for processing the depressive information necessary to sustain the interlock configuration. Consequently, this configuration would be less likely to become established, or to be maintained, if already established. Although distraction does seem to be a useful strategy for dealing with mild, 'normal' depressed moods (Nolen-Hoeksema, 1991), experience suggests that its effects on clinical depression are short lived (Fennell *et al.*, 1987), and that it may not offer a viable approach to preventing relapse.

Another strategy is to focus on changing the negative self-related meanings, both specific and schematic, that sustain the depressive interlock

configuration. This, of course, is the approach of cognitive therapy, and, as is well known, there is good evidence for the effectiveness of cognitive therapy for depression, both as an acute treatment and as a way to reduce risk of relapse following completion of the acute treatment phase (e.g. Blackburn *et al.*, 1986; Evans *et al.*, 1992; Simons *et al.*, 1986).

The ICS analysis suggests a further strategy to avoid becoming trapped in the depressive interlock configuration at times of relapse that is in many ways complementary to the cognitive therapy approach. This strategy involves neither redirecting processing to non-depressive material, as in distraction, nor directly changing the content of negative thinking. Rather, it involves processing similar contents (negative self-related thoughts and feelings), but within a different processing configuration. That is, the topic of processing remains broadly the same, but, because this topic is processed through a different configuration, with different input-output relationships, the system avoids 'settling' into the vicious self-perpetuating cycles of the depressive interlock configuration. Rather, alternative configurations can allow a continuing development and evolution of the way in which depression-related material is processed over successive cycles, so that processing does not get stuck in the well worn 'mental grooves' of the depressive interlock configuration.

An example of such an alternative configuration would be one in which, in contrast to the 'thinking about' depression-related material that characterizes Propositionally dominated, ruminative, interlock processing, central engine processing is controlled from the Implicational, schematic, level. Subjectively, such processing would be characterized more in terms of processing depression-related material 'experientially', rather than ruminatively 'thinking about' it. Because such a configuration would also make heavy demands on central engine resources, the establishment of this processing configuration would be mutually incompatible with the interlock configuration. Accordingly, if the chance of processing the kinds of negative thought and feeling that become accessible at times of potential relapse through such alternative configurations can be increased, the chances of processing them through the interlock configuration are decreased, and the risk of relapse is reduced.

The detailed rationale for the strategy of shifting the processing configuration through which depression-related material is processed, rather than processing non-depressive content, or attempting

to change depression-related thoughts, is complex and cannot be presented in full here. Aspects of this rationale have been presented elsewhere (Teasdale *et al.*, 1995). It may help to characterize this approach as focusing on changing an individual's *relationship* to depression-related thoughts and feelings, rather than (as in cognitive therapy) focusing on the *content* of those thoughts and feelings. Alternatively, one could describe this strategy as establishing a different mode of cognitive processing within which to handle depression-related cognition (cf. Beck, 1996; Teasdale, 1996, 1997). For example, the Implicationally controlled cognitive mode, in which negative, self-critical thoughts are experienced with metacognitive insight as 'events in the mind', is quite different from the Propositionally dominated depressive interlock cognitive mode in which they are experienced as reflections of reality. Consequently, if, at times of potential relapse, negative depressive material could be processed through this metacognitive mode, rather than through the interlock mode, probability of relapse to depression could be reduced.

How, practically, do we train individuals at risk for depression in the skills of establishing the metacognitive insight mode? As would be expected from the emphasis placed on experiential learning for changing representations at the Implicational level (where the main action is as far as metacognitive insight is concerned), the answer to this question is likely to involve an emphasis on practice rather than verbal discussion.

#### MINDFULNESS-BASED COGNITIVE THERAPY, METACOGNITIVE INSIGHT AND PREVENTION OF RELAPSE AND RECURRENCE IN DEPRESSION

Training individuals to relate, with detached mindfulness, to thoughts as events in the mind has been used as a way to reduce psychological suffering for at least 2500 years, from the time of the Buddha onwards (Goldstein and Kornfield, 1987). Practices developed within this tradition are central to Kabat-Zinn's (1990) Mindfulness-Based Stress Reduction programme (see below). Beck (1976, pp. 243–244) has underlined the importance of 'distancing' and 'decentering' from thoughts in the practice of cognitive therapy. Acceptance and Commitment Therapy (originally called Comprehensive Distancing) (Kohlenberg *et al.*, 1993), based on Hayes' (1987) contextual approach to cognitive activity,

trains individuals to relate to thoughts as hypotheses to be tested; there is preliminary evidence for the effectiveness of such comprehensive distancing in the treatment of depression (Zettle and Hayes, 1987; Zettle and Rains, 1989). Wells and Matthews (1996, p.886), from their S-REF analysis of emotional disorder, have recommended training in 'detached mindfulness' as a component of cognitive treatment for emotional disorders.

Based on analyses similar to those described in preceding sections, Zindel Segal, Mark Williams and I have developed a cost-efficient, group, skills-based programme specifically designed to help patients who have recovered from depression, following treatment with anti-depressant medication, learn psychological skills that will help them to reduce their risk of future relapse and recurrence. The programme, known as Mindfulness Based Cognitive Therapy (MBCT), draws heavily on the Mindfulness-Based Stress Reduction Programme developed by Jon Kabat-Zinn and his colleagues at the University of Massachusetts Medical Center (Kabat-Zinn, 1990). This programme has already demonstrated preliminary encouraging evidence for its effectiveness in treating chronic pain (Kabat-Zinn, Lipworth and Burney, 1985; Kabat-Zinn *et al.*, 1986), generalized anxiety and panic (Kabat-Zinn *et al.*, 1992), and psoriasis (Bernhard *et al.*, 1988). The relevance of this programme to the goal of preventing relapse and recurrence in depression by fostering the ability to establish processing configurations (cognitive modes) characterized by metacognitive insight will be apparent from the following excerpts from Jon Kabat-Zinn's (1990) descriptions of the effects of this programme:

It is remarkable how liberating it feels to be able to see that your thoughts are just thoughts and they are not 'you' or 'reality'. For instance, if you have the thought that you have to get a certain number of things done today and you don't recognize it as a thought but act as if it's 'the truth', then you have created a reality *in that moment* in which you really believe that those things must all be done today.

... On the other hand, when such a thought comes up, if you are able to step back from it and see it clearly, then you will be able to prioritize things and make sensible decisions about what really does need doing. You will know when to call it quits during the day. So the simple act of recognizing your thoughts *as thoughts* can free you from the distorted reality they often create

and allow for more clear sightedness and a greater sense of manageability in your life (Kabat-Zinn, 1990. pp.69–70; original italics).

Within mindfulness-based stress reduction, and within MBCT, the ability to see thoughts as thoughts, with a detached but *inclusive* awareness, is acquired by systematic, repeated practice in mindfulness training. Mindfulness has been defined as 'paying attention in a particular way: on purpose, in the present moment, and non-judgementally' (Kabat-Zinn, 1994, p.4). From the present perspective, the essence of mindfulness is to use intentional control of attention to establish a type of alternative information processing configuration (or cognitive mode), that is incompatible with the depressive interlock configuration (and, also, with the configurations maintaining a range of other disorders). This cognitive mode has been popularly characterized as one of 'being', in contrast to the more usual 'doing' modes that make up so much of our lives and which, when distorted (as in the depressive interlock configuration), can lock us into dysfunctional emotional states.

In practice, mindfulness training involves intentionally maintaining awareness on a particular object of attention, such as the physical sensations in the body as the breath moves in and out, from one moment to the next. Whenever the mind wanders, as it inevitably will, to thoughts, feelings, sounds or other bodily sensations, the contents of awareness are noted, and the attention is then gently but firmly escorted back to the designated object of attention. This process is repeated over and over again within repeated daily periods of mindfulness practice. Such practice provides repeated experiences in which the ability to relate to thoughts as events in the field of awareness is facilitated by designating a non-thought (frequently bodily) primary focus of attention, against which the experience of thoughts can be registered as simply another event in awareness rather than as the primary 'stuff' of the mind or the self. This detached perspective of moment to moment metacognitive insight with respect to thoughts is further facilitated by the instruction to note the content of thoughts as they arise and then to let go of them and return to the primary focus of attention. In this way, a primary focus such as the breath can serve as an 'anchor' which can be used to return awareness to the present moment and limit the extent to which one becomes 'lost' in the 'reality' created by the thought streams in which we are so often immersed. Mindful observation of thoughts also

allows us to recognize familiar, recurring patterns in thought content, so facilitating further the ability to see them as patterns of the mind rather than as necessarily valid readouts on reality. Within the AC(M)T programme, extended mindfulness practice with the thoughts, feelings and bodily sensations that occur in the non-depressed state is used to give recovered depressed participants the skills to enter the 'being' cognitive mode, characterized by a relation of metacognitive insight to the contents of consciousness. The programme then prepares participants to use these skills at times of potential relapse to pre-empt the establishment of the depressive interlock configuration and so reduce the risk of relapse and recurrence of depression.

Mark Williams, Zindel Segal and I have recently completed a clinical trial evaluating the effectiveness of Mindfulness-Based Cognitive Therapy in a group of patients with recurrent depression (median of three previous episodes of major depression). The results, as yet unpublished, are encouraging, suggesting that this approach can lead to significant reductions in rates of relapse. Such findings suggest that approaches such as MBCT, which focus directly on establishing a different metacognitive relationship to dysfunctional thoughts rather than trying to change the content of thoughts, may have considerable therapeutic potential, and offer a complementary intervention strategy to that of more traditional cognitive (therapy) approaches to treatment.

## REFERENCES

- Barnard, P. J. and Teasdale, J. D. (1991). Interacting cognitive subsystems: a systemic approach to cognitive-affective interaction and change. *Cognition and Emotion*, **5**, 1–39.
- Beck, A. T. (1976). *Cognitive Therapy and the Emotional Disorders*. New York: International Universities Press.
- Beck, A. T. (1996). Beyond belief: a theory of modes, personality, and psychopathology. In: P. M. Salkovskis (Ed.), *Frontiers of Cognitive Therapy*. New York: Guilford, pp. 1–25.
- Beck, A. T., Rush, A. J., Shaw, B. F. and Emery, G. (1979). *Cognitive Therapy of Depression*. New York: Guilford.
- Bernhard, J. D., Kristeller, J. and Kabat-Zinn, J. (1988). Effectiveness of relaxation and visualization techniques as an adjunct to phototherapy and photochemotherapy of psoriasis. *Journal of the American Academy of Dermatology*, **19**, 572–573.
- Blackburn, I. M., Eunson, K. M. and Bishop, S. (1986). A two-year naturalistic follow-up of depressed patients treated with cognitive therapy, pharmacotherapy, and a combination of both. *Journal of Affective Disorders*, **10**, 67–75.

- Evans, M. D., Hollon, S. D., De Rubeis, R. J., Piasecki, J., Grove, W. M., Garvey, M. J. and Tuason, V. B. (1992). Differential relapse following cognitive therapy and pharmacotherapy for depression. *Archives of General Psychiatry*, **49**, 802–808.
- Fennell, M. J. V., Teasdale, J. D., Jones, S. and Damlé, A. (1987). Distraction in neurotic and endogenous depression: an investigation of negative thinking in major depressive disorder. *Psychological Medicine*, **17**, 441–452.
- Flavell, J. H. (1979). Metacognition and cognitive monitoring. *American Psychologist*, **34**, 906–911.
- Goldstein, J. and Kornfield, J. (1987). *Seeking the Heart of Wisdom: the Path of Insight Meditation*. Boston: Shambhala.
- Hayes, S. C. (1987). A contextual approach to therapeutic change. In: N. S. Jacobson (Ed.), *Psychotherapists in Clinical Practice: Cognitive and Behavioral Perspectives*. New York: Guilford, pp. 327–387.
- Hurlburt, R. T. (1993). *Sampling Inner Experience in Disturbed Affect*. New York: Plenum.
- Kabat-Zinn, J. (1990). *Full Catastrophe Living: the Program of the Stress Reduction Clinic at the University of Massachusetts Medical Center*. New York: Dell.
- Kabat-Zinn, J. (1994). *Wherever You Go There You Are: Mindfulness Meditation in Everyday Life*. New York: Hyperion.
- Kabat-Zinn, J., Lipworth, L. and Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *Journal of Behavioral Medicine*, **8**, 163–190.
- Kabat-Zinn, J., Lipworth, L., Burney, R. and Sellers, W. (1986). Four-year follow-up of a meditation-based program for the self-regulation of chronic pain: treatment outcomes and compliance. *The Clinical Journal of Pain*, **2**, 159–173.
- Kabat-Zinn, J., Massion, A. O., Kristeller, J., Peterson, L. G., Fletcher, K. E., Pbert, L., Lenderking, W. R. and Santorelli, S. F. (1992). Effectiveness of a meditation-based stress reduction program in the treatment of anxiety disorders. *American Journal of Psychiatry*, **149**, 936–943.
- Kohlenberg, R. J., Hayes, S. C. and Tsai, M. (1993). Radical behavioral psychotherapy: two contemporary examples. *Clinical Psychology Review*, **13**, 579–592.
- Nelson, T. O., Gerler, D. and Narens, L. (1984). Accuracy of feeling-of-knowing judgements for predicting perceptual identification and relearning. *Journal of Experimental Psychology: General*, **113**, 282–300.
- 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. and Morrow, J. (1991). A prospective study of depression and posttraumatic stress symptoms after a natural disaster: the 1989 Loma Prieta earthquake. *Journal of Personality and Social Psychology*, **61**, 115–121.
- Pyszczynski, T. and Greenberg, J. (1987). Self-regulatory perseverance and the depressive self-focusing style: a self-awareness theory of reactive depression. *Psychological Bulletin*, **102**, 122–138.
- Shah, I. (1974). *Thinkers of the East*. Harmondsworth: Penguin.
- Simons, A. D., Murphy, G. E., Levine, J. L. and Wetzel, R. D. (1986). Cognitive therapy and pharmacotherapy for depression: sustained improvement over one year. *Archives of General Psychiatry*, **43**, 43–48.
- Teasdale, J. D. (1993). Emotion and two kinds of meaning: cognitive therapy and applied cognitive science. *Behaviour Research and Therapy*, **31**, 339–354.
- Teasdale, J. D. (1996). Clinically relevant theory: integrating clinical insight with cognitive science. In: P. M. Salkovskis (Ed.), *Frontiers of Cognitive Therapy*. New York: Guilford, pp. 26–47.
- Teasdale, J. D. (1997). The relationship between cognition and emotion: the mind-in-place in mood disorders. In: D. M. Clark and C. G. Fairburn (Eds), *Science and Practice of Cognitive Behaviour Therapy*. Oxford: Oxford University Press, pp. 67–93.
- Teasdale, J. D. and Barnard, P. J. (1993). *Affect, Cognition and Change: Re-Modelling Depressive Thought*. Hove: Erlbaum.
- Teasdale, J. D., Segal, Z. V. and Williams, J. M. G. (1995). How does cognitive therapy prevent depressive relapse and why should attentional control (mindfulness) training help? *Behaviour Research and Therapy*, **33**, 25–40.
- Wells, A. and Matthews, G. (1996). Modelling cognition in emotional disorder: the S-REF model. *Behaviour Research and Therapy*, **34**, 881–888.
- Zettle, R. D. and Hayes, S. C. (1987). Component and process analysis of cognitive therapy. *Psychological Reports*, **61**, 939–953.
- Zettle, R. D. and Rains, J. C. (1989). Group cognitive and contextual therapies in treatment of depression. *Journal of Clinical Psychology*, **45**, 436–445.