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Imagery rescripting in cognitive behaviour therapy: Images, treatment techniques and outcomes

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Abstract

Although imagery rescripting has long been part of cognitive behaviour therapy (CBT), recent years have seen a growing interest in the use of imagery rescripting interventions in CBT, especially with patients who struggle with distressing, intrusive imagery. This growth in the clinical applications of imagery has led to the creation of the current special issue of collected papers on imagery rescripting, which is designed to: (a) present research and clinical applications of imagery rescripting techniques to problematic mental imagery, (b) consider problematic imagery across a wide range of psychological disorders that might be a target for imagery rescripting (including novel areas such as mental contamination, bulimia and suicidality), (c) explore a variety of imagery rescripting techniques in the treatment of PTSD, as well as depression, social phobia, and snake phobia, and (d) stimulate interest for future treatment innovation in the use of imagery rescripting techniques to address other clinical disorders. The aim of this editorial is to summarise the collected papers presented and the links between them. A working definition of two types of imagery rescripting is provided, along with a heuristic framework for conceptualising the range of imagery techniques in cognitive therapy.

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Keywords: Mental imagery; Imagery rescripting; Intrusion; PTSD; Depression; Suicide

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1 Although the use of imagery as a therapeutic strategy in treating affectively distressed
2 patients has been advocated by clinicians across a variety of theoretical orientations,
3 mental imagery is becoming one of the “hot topics” in modern cognitive behaviour
4 therapy (CBT). Imagery interventions in CBT are based on the premise that mental
5 imagery has a powerful impact on emotion, and that mental imagery in a clinical setting
6 can be a powerful psychotherapeutic tool for alleviating emotional distress.

7 Since its inception, cognitive therapy has emphasised the role of mental imagery (Beck,
8 1976). Contending that mental activity may take the form of words and phrases (verbal
9 cognitions) or images (visual cognitions), Beck observed that affective distress can be
10 directly linked to visual cognitions—as well as to verbal cognitions—and that modifying
11 upsetting visual cognitions can lead to significant cognitive and emotional shifts (Beck,
12 Emery, & Greenberg, 1985). Similarly, in his work with traumatic memories, Smucker
13 (1997) noted that since much of the cognitive-affective disturbance associated with
14 intrusive trauma-related memories is embedded in the traumatic images themselves,
15 directly challenging and modifying the traumatic imagery becomes a powerful, if not
16 preferred, means of processing the traumatic material. Other CBT clinicians and
17 researchers have likewise found that intrusive, affect-laden images can cause significant
18 distress across psychological disorders, including post-traumatic stress disorder and
19 depression (see Hackmann & Holmes, 2004; Hirsch & Holmes, 2007 for reviews). Kosslyn,
20 Ganis, and Thompson (2001) further observed that while mental images often take a visual
21 form, they may include other sensory modalities as well, such as auditory, olfactory, and
22 kinaesthetic.

23 Imagery rescripting interventions have long been part of CBT, and psychotherapy more
24 broadly (Edwards, 2007, this volume). The earliest known form of imagery rescripting
25 appears to have been employed in the latter part of the 19th century by Pierre Janet (1919),
26 a prominent French physician, who used a procedure called “imagery substitution” (i.e.,
27 replacing one image with another) with hysterical patients (see Van Der Kolk & Van Der
28 Hart, 1989, for a more detailed description of Janet’s work). In the late 20th and early 21st
29 centuries, there has been a renewed interest in the use of imagery rescripting with traumatic
30 memories, which includes the seminal work of Arntz and Weertman (Arntz & Weertman,
31 1999; Weertman & Arntz, 2007) and Smucker and colleagues (Rusch, Grunert,
32 Mendelsohn, & Smucker, 2000; Smucker & Dancu, 1999/2005; Smucker, Dancu, Foa, &
33 Niederee, 1995; Smucker & Niederee, 1995). Yet, in spite of this recent burgeoning of
34 interest in intrusive imagery, little research has directly addressed the relationship between
35 mental imagery and emotions. With the growing use of mental imagery by cognitive-
36 oriented clinicians, it is especially important to consider the theoretical rationale and
37 cognitive science supporting the clinical use of imagery as well as its relevance for CBT.

38 The current special issue—“Imagery Rescripting in Cognitive Behavior Therapy:
39 Images, Treatment Techniques and Outcomes”—presents research and clinical applica-
40 tions related to imagery rescripting techniques, and offers a theoretical rationale for its use.
41 The Imagery Rescripting (IR) techniques addressed are those in which either (1) a pre-
42 existing negative mental image (IR “Type A”) is transformed into a more benign image
43 (i.e., negative image to positive image rescripting), or (2) a new positive image (IR “Type
44 B”) is constructed afresh to capture those positive meanings needed to counteract the key
45 psychological concerns for a patient (i.e., using a fresh positive image to rescript negative
46 schematic beliefs). In the latter case, there need not be an underlying negative image that is
47 repeatedly troubling the patient.

1 There is an interesting bi-directional axiom present in the technique of imagery
2 rescripting: “Emotional memory is perceptual,” and conversely, “perceptual-imagery is
3 emotional”. Arntz, de Groot, and Kindt (2005) have shown in the context of traumatic
4 stimuli that emotional memory is perceptual in that it is imagery-based in nature. Thus, if
5 one is remembering something that is highly emotional, it is likely to be in the form of an
6 image. Holmes and colleagues have proposed a special relationship in the other direction;
7 namely, that mental imagery is more emotional than verbal processing of the same
8 material. This has been experimentally demonstrated using a cognitive interpretation bias
9 paradigm for both negative and positive material (Holmes & Mathews, 2005; Holmes,
10 Mathews, Dalgleish, & Mackintosh, 2006), as well as in an evaluative learning paradigm
11 (Holmes et al., 2006). Just to hold an image in mind (e.g., imagining jumping off a cliff),
12 whether it is a memory or a newly constructed image, is a more emotionally charged
13 experience than thinking about the same information verbally (e.g., thoughts of jumping
14 off a cliff). In relation to this specific example, Holmes, Crane, Fennell, and Williams
15 (2007) propose that suicidal people can ‘flash-forward’ to images of their suicidal plans.
16 Overall, the above experimental findings lead us to two proposals with clinical
17 implications: (1) Imagery has a more powerful impact on negative emotion than verbal
18 processing of the same material, and therefore imagery should be examined during clinical
19 assessment across disorders, and (2) Imagery also has a more powerful impact on positive
20 emotion than does verbal processing, and therefore cognitive behavioural techniques used
21 to promote positive change should also employ imagery.

22 Let us consider the first proposal—*Imagery has a more powerful impact on negative*
23 *emotion than verbal processing of the same material, and therefore imagery should be*
24 *examined during clinical assessment across disorders*. A negative cognition in the form of an
25 image rather than a verbal thought will be associated with stronger emotion. It is therefore
26 important to assess for negative mental imagery (not only verbal thoughts) across
27 psychological disorders, and not just those in which we are expecting to find problematic
28 imagery, such as with PTSD and social phobia.

29 In this special issue, we include a number of papers which highlight fresh areas where
30 imagery occurs across a range of psychological difficulties. These include imagery in the
31 area of suicidality (Holmes et al., 2007), an elegant and detailed study of imagery and
32 memory in obsessive compulsive disorder (OCD; Speckens, Hackmann, Ehlers, &
33 Cuthbert, 2007) alongside further observations of imagery in OCD, and the discovery of
34 imagery’s likely link in mental contamination (Rachman, 2007). The links between imagery
35 in bulimia nervosa and childhood memories are carefully explored by Somerville, Cooper,
36 and Hackmann (2007) see also (Ohanian, 2002). The peri-traumatic processes that underlie
37 some children’s experience of persistent distressing imagery after viewing traumatic
38 material presented by the media, such as the news of September 11, 2001, are explored by
39 Holmes, Creswell, and O’Connor (2007). Their findings suggest that the presence of
40 recurring, distressing imagery is predictive of a long-term traumatic reaction in children,
41 but only when intense fear was experienced peri-traumatically.

42 In the context of social phobia, Stopa and Jenkins (2007) suggest that negative imagery
43 is in itself not only problematic, but may also inhibit access to positive memories while
44 facilitating access to negative memories. The negative consequences of experiencing
45 negative imagery clearly need to be further explored. While cognitive models of social
46 phobia have clearly held that negative imagery of the self is central to the maintenance
47 cycle of the disorder (Hirsch, Clark, Mathews, & Williams, 2003; Hirsch, Meynen, &

Clark, 2004), clinically we have often focussed on such imagery in the visual modality. Hirsch and Clark (2007) highlight the role of distortions of auditory imagery; that is, how someone with social phobia might imagine their voice to be coming across to others. This offers a fresh perspective in terms of image modality, reminding us of the multimodal definition of imagery provided by Kosslyn, Ganis, and Thompson (2001): “Mental imagery occurs when perceptual information is accessed from memory, giving rise to the experience of ‘seeing with the mind’s eye’, ‘hearing with the mind’s ear’ and so on. By contrast, perception occurs when information is directly registered from the senses”.

Let us consider our second proposal—*Imagery also has a more powerful impact on positive emotion than verbal processing, and therefore cognitive behavioural techniques used to promote positive change should also employ imagery.* As such, it may be important to use imagery techniques in promoting positive emotion, rather than using only verbal methods. A clear example of this is the pioneering work of Arntz and colleagues for borderline and other personality disorders (Arntz & Weertman, 1999; Giesen-Bloo et al., 2006; Weertman & Arntz, 2007; Young, Klosko, & Weishaar, 2003), in which a key component is the use of imagery to introduce positive or benign meanings to counteract negative schematic beliefs where such beliefs themselves need not be in the form of an image (see IR “Type B”, above). Further, if it is the case that imagery has a more powerful impact on negative emotion than does verbal processing of the same material, then such negative imagery may be best modified not just through verbal challenges to the image, but by presenting alternative positive information in an imagery modality. Image restructuring of pre-existing negative imagery (IR “Type A”) provides us with just such a technique (e.g. imagery restructuring version of PTSD flashbacks, Ehlers & Clark, 2000; Grey, Young, & Holmes, 2002).

This special issue presents several of the techniques and outcomes associated with recent work on IR “Type A”, such as the much-awaited work by Grunert, Weis, Smucker, and Christianson (2007) on the application of imagery rescripting and reprocessing therapy with survivors of traumatic industrial accidents suffering from PTSD. Interestingly, the cases they report are all those in which initial attempts at using prolonged imaginal exposure had failed. The success when employing the alternative technique of imagery rescripting of the PTSD images (IR “Type A” as defined above) suggests the relative effectiveness of this technique above exposure for dealing with traumatic imagery.

The relative efficacy of imagery rescripting, when compared to or combined with other interventions, is explored in several articles in this special issue. Hunt and Fenton (2007) directly contrast in vivo (rather than imaginal) exposure with imagery rescripting (another form of IR “Type A”) in an elegant experimental study with participants who have snake phobias. This indicates that imagery rescripting may be particularly powerful for specific fears when followed by brief in vivo exposure therapy. In a sizable PTSD sample, Arntz, Kindt, and Tiesema (2007) contrast imaginal exposure with imaginal exposure enhanced with imagery rescripting. Results indicated that the addition of imagery rescripting to imaginal exposure rendered treatment more acceptable to both patients and therapists. Further, the addition of imagery rescripting led to improved outcomes for non-fear PTSD emotions such as anger, guilt and shame. Also in the area of PTSD, Kindt, Buck, Arntz, and Soeter (2007) examine perceptual (imagery-based) and conceptual processing in predicting treatment outcome. Findings illustrated that an increase in perceptual processing subsequently led to an increase in conceptual processing, which in turn has

1 been shown to have a beneficial effect on main outcome measures for PTSD. This again
2 illustrates the power of focussing on imagery-based processing in treatment.

3 The special issue also presents ground-breaking work using imagery rescripting in the
4 treatment of psychological disorders where, to our knowledge, this technique has not been
5 previously reported. Wheatley et al. (2007) offer rich information about successful case
6 studies on using imagery scripting on intrusive memories in major depressive disorder.
7 Wild, Hackmann, and Clark (2007) pioneer the use of IR of early memories in social
8 phobia with striking results. Both studies underscore the seminal contribution of Ann
9 Hackmann (Hackmann, 1999; Hackmann & Holmes, 2004) in helping to bring the imagery
10 arena into mainstream CBT.

11 It is noteworthy that this special issue is a sequel to the first special issue in the literature
12 on mental imagery in psychopathology which was edited by Holmes and Hackmann
13 (2004). That volume included papers describing clinical imagery in PTSD (Conway,
14 Meares, & Standart, 2004; Ehlers, Hackmann, & Michael, 2004), bipolar disorder (Mansell
15 & Lam, 2004), depression (Gilbert & Irons, 2004), psychosis (Morrison, 2004), and social
16 phobia (Hirsch et al., 2004; Stopa & Bryant, 2004), as well as for the first time imagery in
17 agoraphobia (Day, Holmes, & Hackmann, 2004), body dysmorphic disorder (Osman,
18 Cooper, Hackmann, & Veale, 2004) and substance cravings (May, Andrade, Pannaboke,
19 & Kavanagh, 2004). It also included papers on more basic properties of imagery and fear
20 imagery acquisition (Bywaters, Andrade, & Turpin, 2004a, 2004b; Dadds, Hawes,
21 Schaefer, & Turpin, 2004).

22 In the current special issue, “Imagery Rescripting in Cognitive Behaviour Therapy:
23 Images, Treatment Techniques and Outcomes”, we take a significant step further by
24 expanding the range of disorders in which intrusive imagery is considered, including
25 suicidality, OCD, mental contamination and bulimia. Secondly, this issue adds new studies
26 to the body of literature on treatment possibilities for problematic intrusive imagery,
27 namely, imagery rescripting techniques. The treatment studies describe both variations of
28 how imagery rescripting is applied, as well as its relative efficacy against other techniques.
29 All of the above disorders, in which negative intrusive imagery has now been shown to be a
30 problem, could plausibly be aided with imagery rescripting, and we await future exciting
31 work in this area.

32 We believe this special issue is timely. While cognitive therapy has many well-
33 disseminated techniques to deal with verbal thoughts, clinicians report that their skills in
34 working with imagery lag behind. There is an increasing need to understand what types of
35 mental imagery occur across a variety of psychological disorders, and how to work with
36 such images. Imagery rescripting provides us with just one such tool. There are of course,
37 many techniques that use imagery, or tackle problematic imagery in some way.

38 A heuristic framework for conceptualising different imagery techniques in cognitive
39 therapy is presented in Fig. 1. Those techniques that work directly with intrusive
40 problematic imagery (as illustrated in several papers in this volume) are labelled “direct
41 technique imagery-interactive”. To use a metaphor, if the image was a painting, we would
42 be working directly on the canvas directly interacting with the image itself in some way—
43 such as, directly examining the picture, re-painting parts of it, and so on. On the y-axis of
44 Fig. 1, we suggest that such direct, ‘imagery-interactive’ work can be used to address
45 negative imagery or promote positive imagery. Techniques for directly addressing negative
46 imagery may range from imaginal exposure (Foa, Steketee, Turner, & Fischer, 1980) and
47 systematic desensitisation (Wolpe, 1958), to a number of imagery rescripting interventions:

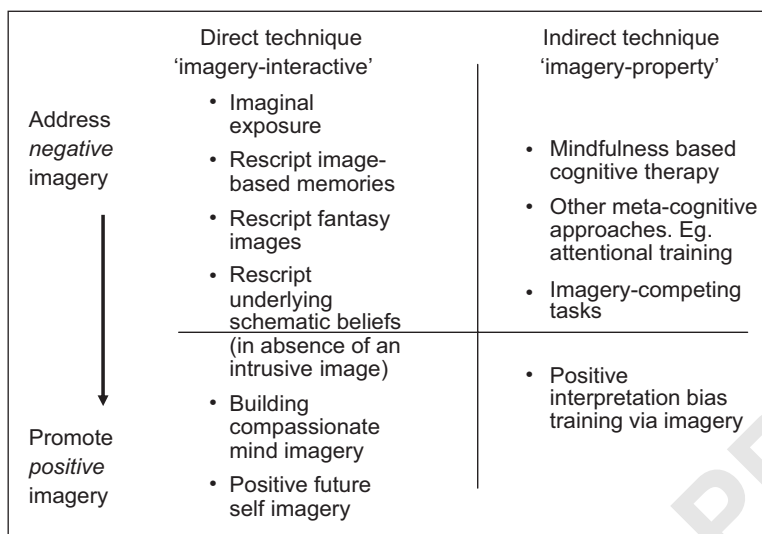


Fig. 1. Examples of types of 'imagery' techniques on two dimensions (1) addressing intrusive negative imagery to promoting positive imagery (2) working with the image directly or indirectly.

imagery restructuring "Type A" of memories such as those of trauma memories (Arntz et al., 2007; Grunert et al., 2007); imagery restructuring "Type A" of fantasy images such as negative images without clear autobiographical memories that represent feared outcomes (as in OCD and potentially suicidality); imagery restructuring "Type B" of underlying schematic beliefs such as in borderline and other personality disorders (Arntz et al., 2007; Weertman & Arntz, 2007). This use of imagery rescripting in addressing schemas brings us to the direct construction of positive imagery in promoting mental health. A flagship example would be the use of imagery in Padesky's "NEW Paradigm-CBT approach to personality disorders" (Mooney & Padesky, 2000; Padesky & Mooney, 2007). Another innovative example is Lee's "perfect nurturer image" to promote self-soothing and comforting (Lee, 2005) in compassionate mind techniques, which could be used for example in depression (Gilbert & Irons, 2004).

The superficial impression might be that applying imagery restructuring "Type B" simply changes a negative image into a positive image. In reality, however, the rescripting can help the patient by offering a fresh perspective on things that happened in the past, eliciting new feelings that are not all necessarily positive (such as anger), identifying unmet needs, and confronting the patient with reality (e.g., that some experiences were painful and involved maltreatment) so that a healthy mourning process can ensue. Although the activation and confrontation of these highly emotional issues may be quite intense and temporarily distressing, the effect of such therapeutic work can be extremely positive and lead to significant cognitive shifts that promote emotional and psychological growth (Giesen-Bloo et al., 2006; Weertman & Arntz, 2007).

On the right-hand side of Fig. 1, "indirect techniques" are noted which work on 'imagery-properties'. To continue with our "painting metaphor", rather than painting directly on the image on the canvas itself, we might choose to view the canvas (or the notion of painting!) in a different way. Recognising that a negative image is merely a

mental representation, and not reality *per se*, could be helpful. Therapeutically, this might be achieved via a meta-cognitive approach (Wells, 2000) or mindfulness-based cognitive therapy (Segal, Teasdale, & Williams, 2002; Williams, Teasdale, Segal, & Kabat-Zinn, 2007). Recently and still largely at an experimental stage, it has been suggested that cognitive tasks might be used to disrupt problematic imagery (Holmes, Brewin, & Hennessy, 2004; Kavanagh, Andrade, & May, 2005; Kemps, Andrade, May, & Szmales, 2002). Another experimental avenue for the future in the “cognitive bias modification” tradition is to focus on modifying people’s underlying cognitive biases in imagery production. An example of this would be to encourage them to more routinely use positive imagery, e.g., when confronted with ambiguity (Holmes, Lang, & Shah, 2007; Holmes et al., 2006), as a means of promoting the relatively automatised production of benign or positive imagery when encountering novel stimuli that may be perceived as negative, e.g. threatening.

As portrayed in Fig. 1, imagery restructuring techniques are the heart of our CBT tool box for working with imagery. We hope that this special issue contributes to the use of imagery with a greater range of disorders, presents new work on imagery rescripting techniques, and opens up a vision to stimulate future growth in this exciting area.

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