

**iMAGery focused psychological therapy for persecutory delusions in PSYchosis
(iMAPS): A novel treatment approach**

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iMAGery focused therapy for persecutory delusions in PSychoSis (iMAPS):**A novel treatment approach****Abstract**

Intrusive mental imagery and negative beliefs about self and others are frequently reported problems for individuals who experience psychosis, but there are few treatment approaches, which have specifically targeted these. Intrusive mental images and negative schema have been identified as potential maintaining factors for persecutory delusions. These can range from paranoia related recurrent intrusive images (e.g. being attacked by others, being followed by unknown figures who mean you harm) from the past or “flash-forward” future paranoia related intrusive mental images. In this article we outline clinical issues and adaptations of an imagery focused approach for persecutory delusions. Drawing on a number of sources including a systematic literature review, a qualitative study exploring core beliefs, an experience sampling study and techniques from existing manuals and approaches, we adapted these imagery approaches to work with images and schema. The close links between imagery and core beliefs highlighted an opportunity to also use imagery rescripting approaches to transform negative schema and reduce persecutory delusions. Individuals with psychosis often want help with intrusive mental images and negative beliefs; adapted evidence based imagery focused interventions can be used and the interventions may also help to reduce persecutory delusions.

Keywords: psychosis; imagery; cognitive behavioural therapy; delusions; paranoia

Highlights

- First description of imagery rescripting treatment approach for persecutory delusions in psychosis
- Detailed session by session guide and examples of approach
- Key challenges and ways these can be overcome are discussed

Introduction

Intrusive, anxiety provoking mental images have been identified as key features of psychosis (Morrison, Beck, Glentworth, Dunn, Reid, Larkin and Williams 2002; Schulze et al. 2013). These images are often linked with stressful events or previous trauma which can be common in psychosis (Varese et al., 2012) and lead to the development of negative beliefs about the self and others (Fowler et al., 2006). One study found that 74% ($n = 26$ out of 35) of individuals with psychosis reported images linked with their psychotic symptoms (Morrison et al. 2002). More recently, Schulze, Freeman, Green and Kuipers (2013) examined intrusive images in 40 individuals with psychosis who had persecutory delusions. Seventy three percent ($n = 29$) described persecutory beliefs (e.g. *strangers in the street follow me and want to kill me*), paranoid related images (e.g. *image of myself hanging from a handrail in my house*) and associated beliefs (e.g. *I am vulnerable and need to be on my guard*) related to these images. As such, it seems that imagery could be a route to accessing core beliefs or schemas, particularly the meaning of these images (Wild, Hackmann and Clark 2007; 2008) although this has not been explored widely in people experiencing persecutory delusions.

Imagery rescripting has been utilised in reducing distress associated with intrusive images in a number of mental health disorders (Arntz, 2012). This includes post traumatic stress disorder (Arntz, Sofi, & van Breukelen, 2013), Body Dysmorphic Disorder (Willson, Veale, & Freeston, 2016) and more broadly in working with aversive childhood memories (Morina, Lancee, & Arntz, 2017). It is also a key component of Schema Therapy, which seeks to change unhelpful schemas (beliefs) which maintain distress (Arntz and Jacob, 2012). Imagery rescripting is an approach which involves imagining an image or memory from the observer's perspective, and then re-imagining this from the wider view perspective, but this time with the observer (self) remaining present. Several case studies have described using some techniques to change distressing images in psychosis. These include a single case study

in psychosis, where working with images associated with persecutory delusions seemed to support reductions in distress, conviction and preoccupation in relation to these beliefs (Morrison, 2004). A recent small case series study ($N = 4$) applied imagery rescripting specifically to individuals who hear voices and found clinically significant reductions in distress, negative affect, and reduced conviction in the beliefs associated with the imagery at one week follow up and one month (Ison et al. 2014). This research suggests that intrusive images and negative schema are maintaining factors for persecutory delusions (Schulze et al. 2013; Smith et al. 2006) and so strategies to reduce the distress of these may also help to reduce the severity of paranoia. A case series has tested an iMAgery focused approach for persecutory delusions for people with PSychoSis (iMAPS) and appears feasible and acceptable (Taylor, Bee, Kelly, Emsley, & Haddock, 2018; Under Review-a). Briefly, the therapy draws on a number of sources including a systematic literature review, a qualitative study exploring core beliefs, an experience sampling study and techniques from existing manuals and approaches. The adapted imagery approach works with images and schema. The close links between imagery and core beliefs offered the potential of using imagery techniques and imagery rescripting approaches to transform images and negative schema, reducing persecutory delusions.

The participants recruited to the case series study were under the care of an early intervention psychosis service, thus they were within three years of their first presentation to mental health services. Therefore, at this stage we cannot assume that the approach will be feasible and acceptable for clients who are at ultra high risk of developing psychosis, or those who have longer term established psychotic experiences over many years.

There are initial indications that for some clients working with images and imagery in this way reduces the distress of images, decreases negative beliefs and has an indirect reduction on persecutory delusions. In this article, we outline our initial experiences of using

imagery approaches to assess, formulate and intervene with images and schema for people with persecutory delusions to reduce the distress and frequency of images and negative beliefs.

Overview of Intervention

Aims of intervention

The iMAPS intervention had two aims: i) to work with intrusive mental images ii) to work with underlying schematic beliefs which may be associated with mental images.

Development of Imagery focused Intervention Protocol

The iMAgery focused therapy for persecutory delusions in Psychosis (iMAPS) approach was developed from a number of sources. This included a systematic review of schema therapy across mental health disorders, partly to identify if there were any existing examples of a schema therapy style intervention explored in psychosis, and also to examine if schema therapy led to schema change and symptom change (Taylor, Bee, & Haddock, 2017).

Additional work included a qualitative study of core beliefs in psychosis to explore and analyse these thematically (Taylor, Haddock, Speer, & Bee, In Press), and a daily experience sampling method study of positive and negative core schema in psychosis (Taylor et al., 2018; Under Review-b). The approach was also influenced by a number of areas of existing cognitive behavioural therapy work in imagery including a CBT imagery manual by Hackmann, Bennett-Levy and Holmes (2011), an adapted formulation model by Hales et al. (2014), some techniques from schema therapy (Young et al. 2003; Arntz and Jacob, 2012); and the authors' theoretical and clinical experience. These references were utilised to create a new therapy treatment approach, which informed the protocol for each therapy session and brief handouts for participants. The iMAPS therapy sessions followed a standard cognitive behavioural therapy approach, such as including an agenda, regular summaries, feedback at start and end of session, and use of techniques such as a collaborative approach, Socratic

questioning, guided discovery and between session tasks (Beck, 2011). We describe in detail a session-by-session guide, and then illustrate with clinical examples to demonstrate the intervention in practice. Whilst the UK National Institute for Health and Care Excellence (NICE) for Psychosis (2014) recommends at least 16 sessions of CBT therapy following a manual, the six session intervention was tested as a stand alone intervention. This is a similar approach to work by Freeman and colleagues (2015) Worry Intervention Trial, which led to reductions in worry and persecutory delusions. An agreement in iMAPS about six sessions assist both the therapist and the client to commence active techniques early on and keep a clear focus on the agenda in each session. It also allows for iMAPS to be considered as module which could be included as part of a wider course of theoretically based therapy for psychosis. In the interests of flexibility, there is an option to offer an additional few sessions where the formulation and progress in therapy would indicate it would be of benefit.

We recommend practitioners familiarise themselves with the general guidance from existing full CBT for Psychosis therapy manuals which offer guidance on how to modify CBT for this client group (Haddock & Slade, 1996; Fowler et al. 1995; Morrison et al. 2004). Adaptations include taking account that engagement might take longer, distress from psychotic experiences may be very high, in some cases sessions may need to be shorter in duration, but more frequent. Other adaptations might include written copies of between session tasks, session summary sheets, and shorter agenda.

Five participants (three men and two women) meeting criteria for a schizophrenia spectrum disorder under the care of an NHS early intervention psychosis service were recruited. Participant ages ranged from 19 years to 34 years ($M = 23.40$; $SD = 6.42$). One participant met criteria for schizophrenia, one for delusional disorder, one for schizoaffective disorder and two had no formal diagnosis but were experiencing psychosis and met criteria for entry to receive care from an early intervention psychosis service. In terms of ethnicity, all

five described themselves as White British. Participants had a variety of living arrangements including living in supported accommodation, in a bail hostel, with their partner and parents, and with parents and their child. Four participants were single and one was living with their partner. Two participants were studying in higher education and three were unemployed. Four of the five participants were experiencing auditory hallucinations at initial assessment. All five participants were experiencing persecutory delusions at initial assessment and all had been prescribed at least one or more antidepressant medication previously and three continued with antipsychotics and other medications during the study (see Taylor et al. (Under Review) for more details). Therapy was delivered by the first author who met BABCP (British Association for Behavioural and Cognitive Psychotherapies) minimum training standards for CBT, had previous experience of working as a CBT therapist on a recovery focused CBT for psychosis clinical trial and extensive post qualification continuous professional development in psychosis. Fidelity to treatment was ensured through using the iMAPS therapy booklet and was supervised fortnightly by the third and last authors (JK and GH), both experienced clinicians in this field. Therapy sessions were audio recorded therapy sessions and reviewed in supervision to ensure therapy fidelity.

Psychosis Specific Imagery Assessment Issues

In this novel treatment approach, our definition of imagery is broader than just visual imagery. Imagery may involve any of the senses (Kosslyn, Ganis, & Thompson, 2001). This may involve sights, sounds, smells, tastes and feelings (of the somatic type) and so all should be explored in assessment.

For individuals who experience psychosis and persecutory delusions it is important to help to make a distinction between what may be a psychotic experience (e.g. hearing voices when there is no one around; auditory hallucinations) and sounds which are heard “in the mind’s ear”. This is an easier distinction to make when the individual reports hearing voices

“outside” their head, as there will be a clearer demarcation between voices outside, auditory images where they hear with the mind’s ear, and any internal stream of consciousness dialogue. We also used an adapted mental imagery in psychosis questionnaire (MIPQ) which consisted of visual analogue scales (Holmes et al. 2016) which ask individuals to rate various characteristics of imagery, such as how compelling, how real and how vivid. There were also questions which ask about “To what extent could you understand the role that the image plays in changing your mood?”. This was expected to demonstrate improvement after psychoeducation about images in the first session, and in later sessions when the imagery formulation and case conceptualisation had been developed. The other question rated was “To what extent could you find positive/helpful ways of using images?”. This was expected to improve as techniques to work with the images were introduced in the early sessions.

Sensitive discussion on the nature of internal mental imagery and “how real” this seems was important for engagement (i.e. it was important that the client feels the therapist is not questioning whether the client believes the image is real or not but is asking about the visual properties of the mental image, the visceral nature of it, rather than a “Is it real?” or “*all in your head*” judgement). The MIPQ measure was completed for each image, in each of the senses it presented in (e.g. auditory, visual, gustatory, olfactory and somatosensory) so change could be monitored and intervention strategies adjusted to achieve the change desired. People often have pictures or other sensory experiences which are involved with day to day flow of thoughts in difficult situations. The images can have important meanings and a powerful impact on how individuals feel and what they do. Even when individuals notice the images, they sometimes might not want to explore or engage with them in more detail, especially if concerned they might be upsetting. Despite this, it is worth exploring and testing in therapy, as the evocation of strong emotions can be a catalyst for change. We found that

this experience of imagery seemed no different for people with psychosis and that for many these images and beliefs were important in their day to day experience.

Session Structure for Imagery Intervention Sessions

Sessions should be structured to complete the intervention within the first 30 minutes of the session, to leave at least 20 minutes for debriefing, to ensure the client is grounded back in day to day setting. This is also to allow sufficient time for a between session task to be agreed, to reflect on the content of the session, and to consider imaginal practice of new skills. Hackmann et al. (2011) and Arntz and Jacob (2012) both advocate extending sessions to an hour or 80 minutes to allow sufficient time for the imagery work when first orienting clients to it. In our case series study, all of our participants were able to manage the longer sessions, although it is acknowledged that for some people with psychosis, shorter sessions to help with concentration issues or being distracted by voices may be more helpful.

We found spending sufficient time on the between session task was helpful for imagery focused therapy, particularly if clients had metacognitive beliefs and fears about the power or nature of imagery which made them reluctant to engage in between session tasks such as using an imagery diary. Other between session tasks included imagery practice techniques worked on in session. This might include practicing the safe place image in between early sessions, practicing manipulating distressing images and practicing imagery rescripts worked on in session.

Therapists frequently use empathy in their CBT work. In this imagery focused work, we found that empathy before and after the imagery work in session was helpful, but could be distracting during rescripting interventions. Therapists often empathise with the degree of distress experienced, and associate this with the individual meaning for the client. It may be unhelpful as it reminds the client that they are in a therapy session, and it reorients them to their therapist in the room, rather than more fully engaging with the imaginal exercises. One

of the reasons for engaging with an imagery intervention, is to allow an upsetting experience to be brought to the forefront of awareness and empathy expressions from a therapist tend to negatively influence this process.

We would recommend that therapists are mindful of this, even if it initially feels incongruent, or if it something therapists are not used to doing. Arntz and Jacob (2012) argue for empathy before and after the imaginal intervention, but not during as it can be distracting for the client while trying to rescript. Agreeing to an interrupt signal can also be important to help manage any fears or distress, either as a verbal or non-verbal cue, such as the client tapping their foot or raising their hand. All sessions were audio recorded for supervision, and to ensure adherence to the iMAPS therapy approach, with the offer of a copy to clients if they wished to listen the recording. Table 1 offers an overview of the therapy which is described in greater detail in the following sections.

Table 1. *iM*agery focused therapy for *PS*ychosis (*iMAPS*)

Phase of Treatment	Main approach
Assessment, Goals, Psychoeducation	Interview Imagery measures – Visual Analogue Scale, Spontaneous Use of imagery Scale (SUIS), Image Diaries, Assessing different types of imagery, Assessment of schema – core schema, early negative schema, schema modes
Formulation & Case Conceptualisation	Shared psychological formulation
Intervention	
Imagery CT Approaches	
Safe Place Image	A real or imaged safe place, described in detail, across each of the senses that gives a strong sense of safety and happiness
Image Suppression & Behavioural Experiments	Similar to thought suppression experiments and behavioural experiments within other areas of CBT but with a focus on images
Manipulation of Images	To show images are only a mental event – improve sense of control Test any beliefs or appraisals regarding an image meaning you are “going mad”
Working with upsetting memories	Transformation Provide a wider context by running image on past the worst point Updating aspects of the image Emotional bridge to past (also use as diagnostic imagery exercise – can identify key life events which link to core beliefs, current images and psychotic symptoms).
Imagery Rescripting Approaches	
Imagery Rescripting past events	Past events
Imagery Rescripting Flash-forwards	Future Flash-forwards Discussion of negative beliefs re self and others, schemas – Imagery rescripting to change future anticipated image
Working with night-time imagery	Updating aspects of the image, rescripting new endings
Creating Positive Imagery	Deliberately generating positive images of the future

Session 1: Assessment, Goals and Psychoeducation

The initial session involved defining mental imagery and giving everyday examples to ensure that clients and clinicians have a similar definition of mental images. People can sometimes be unaware, embarrassed or concerned about how a therapist or psychologist

might respond to the images they report. We utilised examples from the existing CBT imagery literature and found they were helpful for orienting people with psychosis:

“Most people, when they are upset have upsetting things going through their minds. Sometimes they are in the form of thoughts or words, and sometimes in the form of pictures or feelings in the body.” Does that happen for you? Do you sometimes get picture images or words?” (Hackmann et al. 2011)

When individuals struggled with understanding what was meant by the term mental imagery, we followed these statements and questions up with the following explanation:

“When we think in mental images, we imagine in pictures in our mind’s eye. A mental image of this assessment might be picturing in your mind’s eye what the room looks like with us sitting in it. Although mental images often take the form of pictures, they can actually include any of the five senses. For example, you could “hear” the sounds of us talking in your imagination. We can also have images that come in the form of smells, tastes, or bodily sensations. Images can be clear or unclear, fully formed or fleeting. When we talk about mental images, we are referring to all these types of imaging.” (Hales et al. 2014).

Two examples we used included *“Imagine eating a lemon – how does it feel in your mouth?”* and *“Think of your front room at home – how many windows does it have?”* Hackmann et al (2011). Examples such as these often generate gustatory and visual images which can be discussed with clients to help them understand that imagery is part of day-to-day life (*“lemon – did you get a sense of the bitter taste, the texture of the lemon with its bumpy surface, the sharp smell?”*). We also found the Spontaneous Use of Imagery Scale (SUIS; Reisberg, Pearson, & Kosslyn, 2003) a useful measure to help orient people to examples of everyday use of imagery. Examples of items include *“When I hear a radio announcer or DJ I’ve never actually seen, I usually find myself picturing what they might look like”*. This can also generate examples of non-threatening, day-to-day examples of how imagery is used.

Imagery assessment involves first establishing which modality the image was present in (e.g. visual, auditory, somatic, tactile, gustatory) “Do you see it with your mind’s eye, or hearing with the mind’s ear or another sense?” (Hackmann et al., 2011).

Discussion of mental images may also involve clients highlighting images from past distressing or traumatic events or future anticipated events, both of which are experienced as intrusive and unwanted. Intrusive images or flashbacks are often experienced as a common feature of post-traumatic stress disorder (PTSD; American Psychiatric Association, 2000; Ehlers & Clark, 2000). Flash-forwards are future oriented mental images, first described in depression and associated with suicidal ideation (Holmes, Crane, Fennell, & Williams, 2007). Some examples of flash-forward imagery, often associated with negative schematic beliefs and persecutory delusions are illustrated in Table 2.

Table 2. Examples of images and persecutory delusions

	Description of Persecutory Belief	Content of Intrusive Images	Associated Memories	Affect/ Emotions	Schematic belief(s)	Impact / Power of Image
1	Fear of being hurt; fear of others being out to get me	Visual Image: Friend lying there, covered in blood Blood all around her when I see her Gustatory Image: A taste of blood in my mouth and feeling it on my hands	Finding friend covered in blood	Emptiness 70 /100 Distress 85/100	Others are out to get me I am vulnerable	Is this a sign? If I get rid of the bad memory, will the good memory go too? It (the image) is there, it strongly appears It doesn't die down
2	Fear that featureless figures will attack and hurt me	Usually 1 st Person Perspective, sometimes 3 rd person perspective) Featureless Figures, no faces,	Memory of Hallucinatory Visual Experience (hallucination) of seeing Featureless Figures) but which was also a visual image in mind's eye afterwards	Malice 100/100 Fear 85/100 Distress 95/100	I am vulnerable I am bad Others are harsh, nasty, bad	Awful sense of foreboding and malice Impossible to dismiss Powerful
3	Fear I am going to die (be killed)	Scene of Death Image: Lots of people running across lawn to attack me	Night Out – memory of being grabbed, punched, thrown on floor, feeling strangled	Fear 70/100 Dread Feeling 60/100 Sickness 70/100	I am vulnerable Others are dangerous/ hostile	Meaning: That's what's coming / the imminent future Fills me with Fear Power: I don't know? Feels very real and vivid
4	Strangers who I don't know are out to get me	Image of being assaulted	Memory of assault happening on a night out	Anger 50/100 Guilt 100/100 Anxiety 100/100	"I'm not safe" Loss sense of self Vulnerable/ Victimised	Image takes positive feelings away. Loss of Libido Don't feel I can start living properly again
5	Fear of something bad happening (to me; to my family)	Trauma related intrusions to a sexual assault Night time flash-forward imagery of partner and family being killed by burglars Images of Possessed Cats	Flash-forward Images	Upset 100/100 Vulnerable 100/100 Scared 100/100 Anger 100/100 Hate 100/100 Disgust 100/100	Abandonment Mistrust/Abuse Social isolation Failure Pessimism Self Punitiveness Vulnerability to Harm	Night-time imagery: Feels so real and vivid I'm going to die (gut feeling) I don't want to lose people (fear of being on my own) I deserve to be punished (don't know why)

A number of questions regarding imagery can be frequently used in the initial assessment to aid formulation. If an image is reported, information on context of image, content, image distress, vividness, threat, uncontrollability and frequency is also elicited. Threat and uncontrollability are important to further clarify for people with psychosis, as these aspects of images can also be linked with persecutory delusions about the source of the threat and intent for a persecutor to intend harm to happen to them. Emotions and metacognitive beliefs are also assessed to potentially be included in the collaborative formulation.

Table 3 offers a number of assessments which can be used to assess psychotic experiences and core beliefs and schematic beliefs. The initial assessment can give a lot of useful information including an overview of distressing images reported by the client, also including psychotic experiences, particularly persecutory delusions and voices, core schemas, early maladaptive schemas and schema modes. In addition to identifying negative core schema, we were also interested in the wider early maladaptive schemas and schema modes which people with psychosis also often endorse. The identification of specific highly scoring schemas generated discussions about the origin of these beliefs (e.g. vulnerability to harm, abandonment) and intrusive images which were associated with them. Where these detailed measures were used, the assessment was spread over 1-2 sessions (in the case series study, the design meant that initial assessment and baseline visits took place before session one). The aim of the iMAPS assessment is to identify a target for intervention, an image or negative schematic belief that is distressing in its own right but also may have impact on the persecutory delusion or distress.

Table 3

Table of measures which can be useful for Initial Assessment

Measure	Details
The Spontaneous Use of Imagery Scale (SUIS; Reisberg, Pearson, & Kosslyn, 2003)	This is a measure of current everyday use of imagery. It assessed imagery use by participants at assessment.
The Psychotic Symptom Rating Scales (PSYRATS; Haddock et al. 1999)	This is a multi-dimensional measure of voices and unusual (delusional) beliefs.
PANSS positive symptom scale	This is a measure of “Positive” symptoms of psychosis – hallucinations and delusions.
Imagery Interview	Interview schedule to assess images related to suspicious beliefs, associated memories, meaning related to the image and memory, distress, controllability, subjective units of distress (SUD)s 0-100. (adapted from Hackmann et al. 2011). It also assesses any images related to imagined future events and persecutory beliefs.
Mental Imagery in Psychosis Questionnaire (MIPQ; adapted from Holmes et al. 2016)	Imagery characteristics are recorded in order to test if reductions in psychotic symptoms during therapy are mediated by reductions in levels of problematic imagery during treatment.
Brief Core Schema Scales (BCSS; Fowler et al. 2006)	Assesses core beliefs about self and others in psychosis.
Young Schema Questionnaire-Short Form (YSQ-S; Young & Brown, 2003)	Measures 18 early maladaptive schemas, which are broad pervasive themes, comprised of memories, emotions and cognitions, developed in childhood or adolescence, and helpful to a significant degree. This is a descriptive measure of trait like beliefs.
Schema Mode Inventory (SMI; Young et al. 2007)	Assess 14 schema modes - four categories: child modes, dysfunctional coping modes, dysfunctional parent modes, and the healthy adult mode. This is a descriptive measure of state like schema modes.

We gave clients a brief handout which reiterated some of the topics discussed above, including definitions of imagery and how imagery can be present in any of the senses. If willing, some clients were also given an adapted imagery diary, with an example completed in session to complete as a between session task to help raise awareness of the images, how

frequently they were experienced and their wider psychological impact on thoughts, feelings and behaviour. The session concluded with the therapist summarising the major issues discussed, the between session task agreed in session and the eliciting of feedback.

Session 2: Formulation and Safe Place Image

In session two, the main session target was to use information from the assessment and any between session task (e.g. an imagery diary) to develop a collaborative formulation. This was based on a model which we adapted and developed for the case series study. The adapted imagery formulation is outlined in Figure 1.

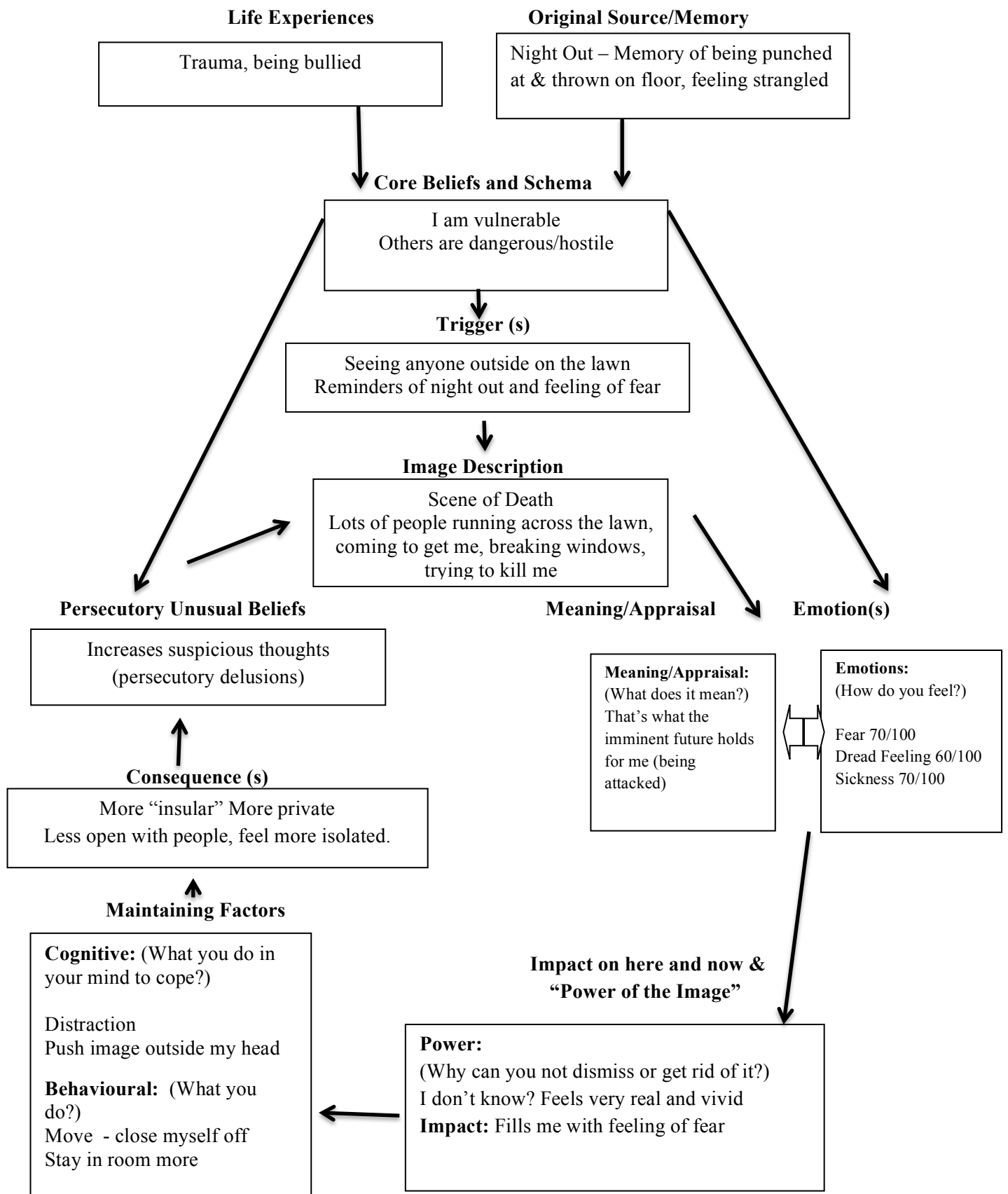


Figure 1: Imagery Formulation

Adapted from Hales, S., Blackwell, S. E., DiSimplico, M., Iyadurai, L., Young, K., & Holmes, E. A. (2014). Imagery Based Cognitive Behavioural Assessment. In G. P. Brown & D. A. Clark (Eds.), *Assessment in Cognitive Therapy* (pp. 69-93). New York: Guilford Press.

The model begins with outlining life experiences which may have had an impact on the client's core belief development. Several of the themes of life experiences which were identified in our qualitative study of core beliefs (Taylor et al., In Press) were also identified in these clinical discussions with clients. These included participants reflecting on a number of life experiences which they associated with the content of their voices and associated with paranoid beliefs and negative beliefs about the self, others and the world. A number of participants mentioned traumatic experiences. This included both childhood bullying and physical assaults that were more recent. A number of participants reported bullying as past life experiences which led to negative beliefs about others, and persecutory paranoia. A number of participants reported disappointment in their interpersonal relationships, with family, friends and in romantic relationships. This could include beliefs about lost sense of trust in others, pessimism about future relationships and negative beliefs about others and the world. There did appear to be a relationship with beliefs and symptoms of psychosis. The associations with core beliefs, imagery and psychotic symptoms are thus reflected in the heuristic model (in Figure 1) with which schema and images were formulated. Common experiences which led to the development of core beliefs included trauma and bullying which resulted in negative self and negative other beliefs. In addition, we know from our experience sampling method (ESM) study that there are negative and positive schema in psychosis which are associated with hallucinations and delusions in the moment (Taylor et al., 2018; Under Review-b). Experience sampling studies, are similar to diary studies, and allow repeated measurement over the course of a day, over several days using a booklet and watch or using a mobile phone application with brief questionnaires. In the study, we found that negative-self and negative-other core schema predicted the severity of hallucinatory and delusional psychotic experiences, their associated distress and functioning problems. This demonstrates

their important role in various aspects of delusions and hallucinations and justifies their inclusion in our iMAPS model.

For some clients, these core beliefs and schema can be traced to a specific source or memory. This can then be a trigger for an intrusive mental image. The details of the image are assessed as part of the imagery interview and includes the perspective (either observer /1st person perspective, or field/3rd person perspective), and any movement or change in the image. It is important to focus not just on visual imagery, but assess other senses too including tactile, auditory, olfactory and gustatory. The image can then generate a number of emotional responses for the individual. These may be reported as emotions that could be defined as basic emotions (such as sadness, happiness, anger, disgust and fear; Power & Dalgleish, 2016) or more personalised emotional descriptions. Getting further clarification on what each of these mean to the person is important. These can be rated for intensity on a 0 - 100 scale. We have also found it useful to ask clients to rate their overall sense of distress associated with the image here too. Closely linked with the emotions generated is the meaning or appraisal related to the image. Helpful questions from the existing imagery CBT literature (Hales et al., 2014) can include “Why does this image make you feel scared?”. Asking the client to ‘hold the image in mind’, can help to clarify the appraisals which may or may not be complementary or contradictory appraisals. These can then influence the power of the image and a useful question to ask here is “why the image cannot be dismissed?” and “what keeps the image going?” These can then influence the responses the person has to the image, both in terms of cognitive responses (e.g. such as image suppression), hypervigilance and behavioural responses (such as isolating oneself or not checking things out with others). Finally, we propose that these responses maintain the psychotic experiences such as persecutory paranoia and other psychotic symptoms which then feed back into the generation and maintenance of the distressing image.

In addition, the imagery formulation can be expanded to include a longitudinal component. The model outlines where life experiences can be identified and development of particular positive or negative schema about the self or others which have been identified. This can add to client's shared understanding of the origins and schema links with intrusive mental images. The schema can also directly link with the same feelings or emotions that the current images generate. This discussion of schema in the model and subsequent personalised formulations for clients was helpful for increasing client understanding of the role of images. Schema are targeted with the imagery rescripting intervention, and the formulation helps provide a rationale for this as sessions proceed. In the case series, there were also examples of a variety and different types of mental imagery which included images, memories, daytime, night-time imagery, distinct negative intrusive imagery and deliberately constructed positive imagery (Hackmann et al. 2011).

The interventions utilised in the remaining sessions depended on the collaborative formulation and goals agreed. Usually, the formulation was detailed in the session, any image diaries reviewed and then imagery work began with identifying a safe place image (see next paragraph). Example goals included 1) a better understanding of images and responses 2) increased sense of control over images 3) reducing distress associated with the images 4) working with meaning of image or an underlying negative belief (using rescripting).

The third session involved experiments during the session to demonstrate control over the images, and behavioural experiments when appropriate. In addition to interview questions about images and memories, a further technique which was used is a diagnostic imagery exercise, where the image is evocated in session. The participant wipes the image and stayed with the feeling and may make links with an earlier fragment of memory. When work commenced in sessions, it was important to outline the rationale for imagery work. This included a statement like: *“Practising safe place or more compassionate imagery will help*

you develop and reinforce a new way of relating to yourself, just like weight lifting builds muscle strength”, or mentioning functional equivalence theory *“this theoretical approach suggests that the same neural processes are involved in imaging carrying out a skill are the same which we use if we actually perform an action or a skill”* (Kosslyn et al. 2001) and psychological enhancement approach, that imagery could widen one’s personal perspective to access additional resources. After this discussion, a useful introduction to imagery work was to begin with Safe Place imagery exercises.

Safe Place Imagery

Safe place imagery introduced individuals to imagery work and the goal was to provide a place of comfort, support and relaxation. In our case series, we found that the safe places people with psychosis chose do not seem to be unusual or vary from the places chosen by individuals with other mental health diagnoses.

Individuals varied in their preference for eyes open or eyes closed exercises and it was helpful to create anchors in the room (e.g. feel the texture of a chair, notice features of the room) so they were able to return to the here and now of where therapy is happening. Examples of potential safe place images included a place of refuge with warm, pleasant associations (e.g., a holiday from the past, a warm embrace from a grandparent). If individuals were struggling to identify a positive safe place from the past, then an imagined safe place, or a scene from a film was used instead.

An example from the existing imagery literature introduced the safe place exercise as follows:

“Imagine that you are in a place where you feel safe, secure and comfortable, where you feel relaxed, can be yourself, and feel calm and at peace. Let this safe place float into your mind, coming into focus more and more. Can you see it? Where is it? Is there anyone else present? Describe what you see and what you feel?” (Hackmann et al. 2011).

Examples of safe place imagery chosen from our participants with psychosis varied from standing on “a peaceful hill in the Lake District” to imagining a “Respite Pool” with water and a feeling of warmth. Other safe place images were based on real life memories, such as being at an aunt’s house practising piano with a smell of baking in the air, to playing in a childhood bedroom with favourite toys, music in background, feeling relaxed and happy and with a favourite soft drink nearby. Some clients struggle to articulate or identify a safe place image. One participant struggled to identify such a safe place, and this meant more time was spent in earlier sessions attempting to work with him to identify this. He had experienced a difficult life history and reported trauma, which may have meant he found it hard to identify a period or place when he felt totally safe. However, we collaboratively agreed to proceed more cautiously to the rescripting stage.

Sessions Three, Four and Five

The content of sessions three, four and five were informed by the collaborative formulation developed with the client. This highlighted cognitive and behavioural strategies being used by clients to manage their intrusive images, which may have been contributing to their difficulties. Also, the presence of “flash-forward” future intrusive images related to persecutory delusions was explored and worked with using imagery rescripting (see next section). Key approaches used are described below.

Image Suppression & Responding Differently

A frequently reported strategy from our assessment and formulation of clients reporting imagery difficulties was the use of image suppression as an approach to try and reduce the frequency of the intrusive image. It was often included in the individualised formulations as a cognitive strategy that participants were using, which was unhelpful and keeping images in mind. Wegner’s (1994) work on ironic processes of mental control and the white polar bear experiment (widely used in the context of thought suppression experiments,

and can be adapted for imagery) was also used for people with psychosis. An experiment was carried out to demonstrate that suppressing images could cause them to occur more frequently. In the experiment, the therapist asked the client to imagine something unusual, for example, *“imagine a white polar bear in front of us ... can you try that now?” Can you describe it to me, some of the features of the polar bear? Great – can you try very hard for a few minutes not to think of the white polar bear. You can think of anything else you prefer, except for the white polar bear”*. The majority of clients found that this was very difficult to suppress fairly quickly. Demonstrating this in session helped to show that this cognitive strategy may have been worsening the frequency of the image intrusions. Discussions of other strategies used to engage less with such images were also practiced in session, for example, stepping back from engaging with thoughts (e.g. a transport metaphor - letting the bus go past the stop, rather than getting on the bus - observing the image in one’s mind, but not engaging with it).

Manipulation of Images

A number of clients reported a number of beliefs related to the significance or power of the image. These involved metacognitive beliefs with examples such as “the image is real, in the external world”, “allowing the image into my mind could kill me, make me mad or unwell, overwhelm me or mean that my distress will go on forever” and “If I have the image in mind, I will act on it or it will affect reality for (better or worse)”. Manipulating an image helped to demonstrate that the image was simply a mental event and practising doing this in session was beneficial. An existing imagery in psychosis case study outlined asking individuals with psychosis to imagine the intrusive image on a television screen and to turn it off or change the volume or channel (Morrison, 2004). In our case series, we updated this and some participants imagined a “YouTube channel” screen. The image was manipulated on the imagined screen adding such things as introducing advert breaks (which flashed up for five

seconds, can be skipped), products they liked or a video or clip that reminded them of something positive.

Michael reported frequent distressing visual images of a devil/demon face which would appear to him. He appraised this as meaning that he was “a devil puppet” and he was cursed in some way, evocating strong feelings of fear and associated with a belief that being cursed meant that others could read his thoughts. The therapist and Michael formulated this image and worked in session for Michael to bring the image of the devil to mind and put it on a You Tube screen. Michael was encouraged to introduce another character to the image and he chose a dolphin. The dolphin then proceeded to slap the devil in the face with its flipper. Michael reported a substantial drop in the fear associated with the image, the power of the devil and the reported threat as the devil was now “humiliated” by the dolphin. His persecutory beliefs about the devil reduced on PSYRATS delusions from 18 to 14.

Imagery related Behavioural Experiments

Behavioural experiment approaches were also used in imagery focused therapy for psychosis. For some clients, this included making a prediction, for example, asking a client to carefully outline and predict what will happen if a feared image is generated and brought to mind, and safety behaviours are dropped. This was used to test appraisals, such as holding an image in mind can make you ill or go mad. Similar to work in obsessive compulsive disorders, beliefs related to thought-event fusion (images make events happen) and thought-action fusion (images lead to involuntary actions) were also tested using behavioural experiments.

Imagery Rescripting and Flash-forwards

Imagery rescripting of both past events and future flash-forwards related to paranoia was conducted. The imagery rescripting approach has been developed and refined over recent years. It was utilised to help clients develop new meanings by mentally transforming a

problematic image into a new non-threatening or positive image (Arntz and Weertman, 1999; Arntz & Jacob, 2012). It was also used to help modify negative schema and promote positive beliefs.

The rescripting began with identifying a problematic intrusive image. Firstly, the client used relaxation techniques, possibly with safe place image. Secondly, the intrusive image and the associated negative emotion was brought to mind. The third stage was to conduct an affect bridge, to keep the feeling but remove the image from the mind's eye and explore an image which was spontaneously generated from the past (e.g. memories). In the fourth stage, the therapist explored details of the situation ("Who is in the image, what is happening?") and asked the client about their feelings from the time and any unmet needs (which are proposed to lead to the development of negative schema). In the fifth stage, the client introduced into the image, an imagined "helpful figure" who could have intervened in the situation and help the client have their needs met. Feelings of safety were strengthened by this and by asking the client about other ways they could be made to "feel safe". A final optional stage was to transfer this transformed emotional moment in the past to the current intrusive image (Arntz and Jacob, 2012). This imagery rescripting work was conducted in a three-stage process, where stage one involved imaging the image and experience, stage two imagining the scene as adult self (from observer perspective and intervenes as adult self) and stage three, the client imagined the situation as a child to see interventions of themselves as an adult and their own needs being met (Arntz and Weertman, 1999). In using this approach for people with psychosis, we found we might practice first with a less threatening image or memory associated with a schema, to help familiarise them with the approach.

Steve reported a flash-forward image of a scene of him being attacked and being killed. This began with an image of seeing lots of people outside the window running across the lawn towards him and breaking in. He interpreted this as meaning that his death was

imminent and he reported a persecutory belief that he was going to be killed. Negative beliefs about self and others included “I am vulnerable” and “Others are dangerous/hostile”. Steve and the therapist worked to rescript this image with Steve. Steve introduced a positive character to help rescue him from the situation and chose the superhero character of Superman. In the new image, Superman appeared and protected Steve from the mob and together they flew off into the sky together. They then arrived at a tropical island, which had a paradise feel to it, with sandy beaches, beautiful scenery with palm trees. Steve reported feeling safe and secure in this new image and less distressed when the image occurred (MIPQ characteristics reduced from 30 to 23). He also experienced an associated reduction in his persecutory delusions.

Adaptations for Imagery Rescripting Work in Psychosis

The therapists considered the high levels of affect that can be generated when people are experiencing voices or paranoia. Rescripting from a first-person observer perspective could sometimes feel too threatening to begin with, so describing from a field (3rd person) perspective can help reduce this initially. Ensuring that clients were familiar with grounding techniques and that the safe place image was been well practiced was also important to ensure they had tools to diffuse the situation if the images became too distressing in the session. Arntz and Van Genderen (2009) outlined several commonly reported challenges with imagery rescripting, which we also found and describe in relation to psychosis from our case series below. This included a fear of closing their eyes, so instead, some clients chose to focus on a fixed point in the room. Fears about closing their eyes were explored, such as being judged by the therapist or a fear of being looked at. The therapist offered to close their eyes too, or to move physically further away from the client to another part of the room. A further option was to set a time limit on how long their eyes are closed for, such as one or two minutes and then gradually increasing this. The continual repetition of the same memories being reported

suggested that key experiences from the past (linked with core beliefs and sometimes represented in mental imagery) had not been successfully worked with. Focusing on imagery related memories, beliefs and reworking the events helped to resolve this and resulted in schema change. Some of the clients with whom we worked found they could access memories from their childhood, possibly as a result of many years of suppressing them. It was important to be aware of times where fear of the memories or a sense of punishment was potentially contributing, particularly if this was associated with the persecutory delusions. To work with this, it was important to acknowledge these fears of the memories or images and explore how they were involved in their current experiences. We were fortunate that no clients dissociated in session. However, the procedure prepared was to stop the intervention, and return the client to the room. The next strategy to be used would have been the strengthening of the therapeutic relationship before further work on that specific memory or image could take place. Other examples are discussed by Arntz and van Genderen (2009).

Night Time Imagery

Nightmares have been defined as waking from rapid eye movement sleep with memory of upsetting mental experiences (Levin & Nielsen, 2007; Sheaves, Onwumere, Keen, Stahl, & Kuipers, 2015). A recent study examined the prevalence of nightmares in forty people with psychosis and found that 55% reported nightmares as a weekly problem. The distress linked with the nightmares was associated with more severe delusional beliefs, anxiety, depression and working memory difficulties (Sheaves et al., 2015). Some participants in the iMAPS imagery case series investigation did report distressing nightmares which were associated with poor sleep and bad dreams. Clients reported avoiding going to sleep to avoid experiencing nightmares. In order to work with night time imagery, we began with assessing the dream reported in session, and asked the client to describe the dream and explore any themes which arose (which may or may not have had some overlap with themes from their

day to day life). The client was then asked how they would like to feel in the situation depicted in the dream and how they would like it to play out and their revised role. Imagery approaches such as rescripting were then used to change the dream in various ways, with the aim of achieving change in emotion and associated schema and a reduction in persecutory beliefs.

Rebecca had a recurrent nightmare of her one-year son Andrew being punched and attacked by an unknown assailant outside her flat and experiencing watching this from an observer perspective and the sensation of being held back by another person. This contributed to her fear that something bad was going to happen and that strangers were talking about her. She would often wake in a panic, get out of bed and then bring her son into her room in her bed with her. Rebecca would try to suppress the night-time imagery and emotion using distraction. The therapist and Rebecca formulated this and predicted that the distraction may be contributing to the nightmare returning. They used imagery approaches to allow Rebecca to demonstrate some control over the image and try to respond differently to the nightmare. They also worked together to develop a rescript of the nightmare, first where Rebecca left her flat with her son and safely went for a walk and returned home, then with a flatmate accompanying them on the walk. After practicing this and being familiar with the approach a further rescript was developed where Rebecca was in the nightmare scene and broke away from the person holding her, rescued her son Andrew from his attacker and was able to run away. Slowly, she began to experience the nightmare less and be less distressed by it. Her persecutory beliefs on the PSYRATS delusions reduced from 14 to zero.

Deliberately generating positive images of the future

The creation of positive imagery had some similarities to working to change negative imagery, but with a greater focus on generating new images, which have not been experienced before. Negative imagery broadly was considered as being negative, spontaneous, involuntary

and individuals reported avoiding it. Positive imagery, on the other hand, was positive, constructed by the client, voluntary and the client was more keen to engage with this new image. This also included positive emotions, and helped promote new ways of relating or being.

John described intrusive images of featureless figures, with no face who he felt a strong sense of malice and contributed to his persecutory belief that something bad was going to happen to him. There were also links with a 'vulnerability to harm' schematic belief. The therapist suggested John generate some ways of trying to reduce the feeling of threat from the figures by introducing new things into the image. John suggested visualising some sort of "body cell" or protective casing to enclose the figures and introduced some positive aspects to the image, a "respite floating orb". When introducing the body cell, the sense of malice decreased but was still present, with John reporting that cracks in the body cell were letting the sense of malice escape. The therapist suggested that the suit could become completely sealed, and this further reduced the sense of malice. John introduced a positive respite orb, which floated in the image and created light and removed the featureless figure with the body cell. The orb also created positive associations linked with his safe place image of a respite pool, and reduced the sense of malice to zero. John reported finding this very helpful and as he practiced over the subsequent weeks, found the frequency image and the distress reduced substantially and he felt confident he had tools to cope with it when it returned. His persecutory beliefs reduced on PSYRATS delusions from 12 to zero.

Therapy Summary

In the sixth and final session, we reviewed the imagery characteristics (and image diary, if completed) and discussed each of the strategies which had been found to be helpful in the previous sessions. For some clients, this might also have included discussion of any anxieties of images returning or new unwanted or intrusive images developing. Some clients

found that discussing other possible safe place images was reassuring, as were the further adaptations to the imagery techniques or generating additional new positive imagery. The process of imagery rescripting, and other possible rescripts were also discussed with some participants. This was usually summarised in therapy summary booklet, collaboratively developed with the clients, the imagery formulations, and the client's own tailored imagery rescripts. There was also a discussion of any early warning signs of intrusive imagery returning. A joint appointment with the client's care coordinator was sometimes carried out to explain the progress in therapy and work that could be taken forward. The therapy summary, was also shared if the client agreed, and felt this would be helpful. Feedback was also asked for at the end of each session and at the end of the overall intervention. Clients were offered copies of sessions on CD, but uptake of this varied.

Conclusion

The prevalence and severity of images and negative schema in psychosis has been established previously, but there have not been any detailed interventions to address this psychologically. In this article, we have outlined clinical issues and adaptations of an imagery focused approach for persecutory delusions. Assessing and formulating images and core beliefs can then inform opportunities to use imagery techniques to transform images and negative schema. The approach includes the use of safe place images, image suppression and behavioural experiments, manipulation of images, working upsetting memories, imagery rescripting of past events, imagery rescripting flash forwards, working with night time imagery and creating positive imagery. This article has provided specific examples of implementing the above techniques with clients with persecutory delusions. We hope this article will generate additional interest, and help other clinicians working in psychosis to use evidence based therapy approaches for distressing images and negative schema in psychosis.

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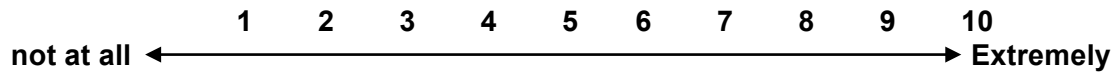
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Supplementary Material

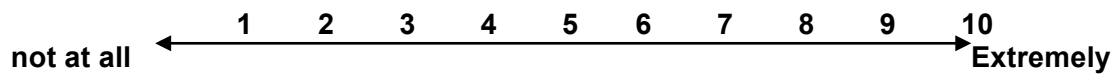
Mental Imagery in Psychosis Questionnaire

Please rate how your images have been over the past week

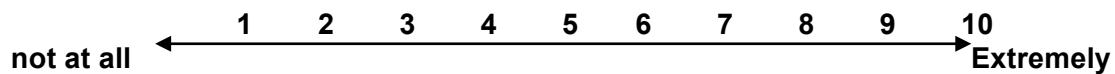
1. How compelling was the image?



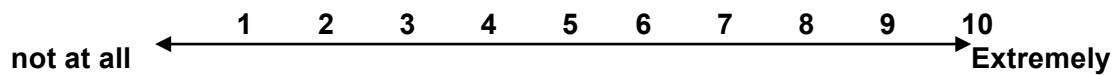
2. How real was the image?*



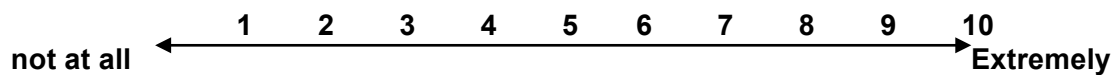
3. How vivid was the image?



4. How absorbing was the image?



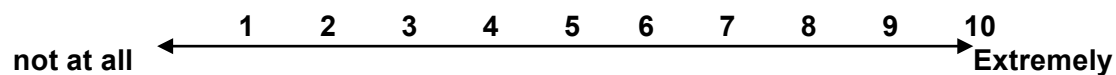
5. How preoccupying was the image?



- *Please see manuscript for details of discussing “how real” an image is with someone experiencing psychosis.*
- *We thank Professor Emily Holmes, Karolinska Institutet and University of Cambridge for sharing an earlier imagery characteristics Visual Analogue Scale (VAS).*

Additional Questions

To which extent could you understand the role that the image play in changing your mood?



To which extent could you find positive / helpful ways of using the image?

